

**Environmental & Engineering Services** 

February 15, 2016

## LIMITED PHASE II SUBSURFACE INVESTIGATION

## **Property Identification:**

Carlos Street at Sierra Street Moss Beach, San Mateo County, California 94038

AEI Project No. 350428

## Prepared for:

MidPen Housing Corporation 1970 Broadway, Suite 440 Oakland, California 94612

## Prepared by:

**AEI Consultants** 3880 S. Bascom Avenue, Suite 109 San Jose, California 95124 (408) 559-7600

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## **Environmental & Engineering Services**

February 15, 2016

Ms. Jennifer Liu Acquisitions Analyst MidPen Housing Corporation 1970 Broadway, Suite 440 Oakland, California 94612

Subject: Limited Phase II Subsurface Investigation

Carlos Street at Sierra Street

Moss Beach, San Mateo County, California 94038

AEI Project No. 350428

Dear Ms. Liu:

AEI Consultants (AEI) is pleased to provide this report which presents the results of the Limited Phase II Subsurface Investigation (Phase II) performed at the above referenced subject property. This investigation was completed in general accordance with the authorized scope of services outlined in our proposal dated November 19, 2015 (AEI Proposal No. 44236), as well as in accordance with the findings presented in AEI's DRAFT Phase I Environmental Site Assessment Report dated November 10, 2015. The location of the subject property is shown on Figure 1.

The purpose of this investigation is to assess whether or not subsurface conditions (i.e., soil) beneath the property have been impacted by the historical onsite operations. Information regarding the site description, background, scope of work, findings, conclusions, and recommendations for this investigation is provided in the following sections of this report.

## 1.0 SITE DESCRIPTION

The subject property comprises approximately 10.4 acres of vacant land, located to the north-northeast of the intersection between Carlos Street and Sierra Street in Moss Beach, an unincorporated community within San Mateo County, California. As shown on Figure 2, the property is bounded by residential properties along 16<sup>th</sup> Street (in Montara), and vacant land to the north, residential properties along Carlos, Sierra, and Stetson Streets to the south, residential properties along Lincoln and Buena Vista Street to the east, and one residential property and vacant land along Carlos Street to the west. Numerous concrete slab-on-grade building foundations, along with foundation retaining walls having scattered areas of graffiti, are present within the western and southwestern portions of the property. In some areas, these foundations are covered by thick vegetation consisting of trees and shrubs. Heavy vegetation also covers the majority of the property outside the areas of the building foundations. Unpaved roadways extend northwest-southeast across the north and central portions of the property. As shown on an Old Republic Title Company Preliminary Title Report Map dated October 8, 2015,

easements for Montara Water and Sanitary District (MWSD) and Pacific Gas and Electric (PG&E) utilities extend along the unpaved roadways within the property. MWSD infrastructure consisting of water storage tanks, a booster pumping system, and distribution facilities are located within a small, fenced-in parcel of land (known as Schoolhouse) adjacent to and west of the intersection of Lincoln Street and Buena Vista Street near the eastern boundary of the property. Another MWSD easement also extends southward form this parcel to Sierra Street, as shown on the Preliminary Title Report Map.

Topographically, the property generally slopes to the west-southwest with the exception of a steeply inclined, north-facing slope along the northern property boundary. Localized, relatively flat areas or topographic benches are present near the west and southwest boundaries of the property, as well as adjacent to Lincoln Street along the northeast corner of the property. Surface elevations at the property generally range between approximately 100 and 200 feet above mean sea level. The closest surface water body includes an unnamed, east-west trending, ephemeral drainage which parallels 16<sup>th</sup> Street to the north of the property.

Based on our review of a United States Geological Survey (USGS) Open File Report 98-137 Map entitled *Geology of the Onshore Part of San Mateo County, California* (Brabb, et.al., 1998), the subject property is situated upon a marine terrace underlain by Quaternary-aged alluvial deposits, along with thin, scattered veneers of residual soils. These units are further underlain by Montara Mountain granitic bedrock of Cenozoic age. Artificial fill consisting of soils, construction debris, wood debris, and other miscellaneous materials were scattered along the ground surface across the property.

The current estimated depth to groundwater beneath the property is unknown; however, well yield report information associated with a water supply well installed on the property in 1986 showed a static water level of 168 feet below ground surface (bgs). Based on the local site topography, the direction of groundwater flow is inferred to generally flow to the west-southwest, but also is inferred to flow to the north into the drainage adjacent to 16<sup>th</sup> Street.

### 2.0 BACKGROUND

As described in AEI's Phase I ESA report, historical sources indicated that the subject property was part of a large World War II training area circa 1945. Numerous military buildings had been present on the subject property, as shown on a drawing entitled *Map of Anti-Aircraft Training Center, Point Montara, California, Twelfth Naval District, Showing Conditions on June 30, 1945*, which was presented in Appendix F of AEI's Phase I ESA report. These buildings included barracks, offices, a mess hall, a library, a garage, a boiler room, an incinerator, a "TDD hanger", and a "drill field". After the war was over, the mess hall building was converted into a grammar school, and was later abandoned after a new school site was built (date unknown). By the late 1960s, the property was used as a training ground for firefighters. During firefighter training, AEI assumed that accelerants, such as those containing gasoline, may have been used along concrete pad surfaces. Burned materials from the firefighter training may have been washed off the pads and into unpaved, surrounding areas. Between approximately 1968 and 1970, a controlled burn occurred, which resulted in the burning of the several remaining buildings, leaving only exposed concrete foundations. Since at least 1970, the property has been vacant with the exception of the scattered, older building foundations, as well as the



fenced area containing MWSD infrastructure to support current water storage and distribution operations.

Recognized environmental conditions (RECs) were identified during AEI's Phase I ESA. These included the potential presence of lead-based paint in soils surrounding the building foundations, the "drill field", which may have been used for weaponry or as a shooting range, concrete pad areas potentially used for firefighter training, and an incinerator. In addition, during the planning stages of this Phase II, a boiler room was noted and identified as a REC to be further investigated. Other environmental considerations included two (2) domestic water supply wells that were reportedly no longer in use. Prior to this investigation, the locations of these wells were unknown. It was also unknown if the wells were properly abandoned in accordance with local County regulations.

### 3.0 INVESTIGATION EFFORTS

The scope of work for this investigation focused on assessing the presence or absence of impacted subsurface conditions (i.e., soil) relative to the former historical operations. AEI's investigation efforts included a site reconnaissance and utility clearance to locate the water supply wells and to check for the presence of underground utilities around planned drilling locations, a drilling/soil sampling program, and laboratory analyses.

## 3.1 Pre-Field Activities

## 3.1.1 Health and Safety Plan

A site-specific health and safety plan was prepared, reviewed by onsite personnel, and kept onsite for the duration of the fieldwork.

## 3.1.2 Permitting and Utility Clearance

Based on the scope of work including only shallow soil sample collection, no drilling permit was required from San Mateo County Environmental Health Services (SMCEHS) for this investigation.

On December 17, 2015, the property was reconnoitered by AEI to attempt to locate the former water supply wells. In addition, planned boring locations were staked and marked with white paint. Upon marking the boring locations, Underground Services Alert (USA) North was contacted, who, in turn, notified subscribing utility companies in order for their underground utility locations to be marked along property boundaries and around planned boring locations.

On December 21, 2015, a limited geophysical survey and utility clearance was performed by Foresite Engineering Surveys (Foresite) of Pleasant Hill, California under subcontract to AEI. The geophysical survey was performed to support site reconnaissance efforts in locating the water supply wells. The utility clearance was performed to check for the presence of underground utilities around planned boring locations and to shift boring locations, as appropriate.

## 3.1.3 Review of Water Supply Well Information

During December 2015 and January 2016, SMCEHS was contacted on numerous occasions to gather more information about the former water supply wells at the subject property. To date, no



information regarding these wells has been provided by SMCEHS other than the information provided during AEI's Phase I ESA. However, one (1) of the wells appears to have been located during the investigation, as further discussed in Section 4.1.

#### 3.2 Field Activities

## 3.2.1 Exploratory Borings

The drilling program for this investigation was conducted on December 22 and 23, 2015. Thirty-three exploratory borings (B-1 and B-3 through B-34) were advanced to depths between 2.0 and 9.5 feet bgs. Of these total borings, twenty-seven (27) borings were advanced to the 2.0-foot depth for the collection of soil samples at the 0.0- and 1.5-foot depths. These locations included Boring B-1, which was advanced around the former incinerator area, and Borings B-4 through B-11, B-14, B-16, and B-18 through B-34, which were advanced to the 2.0-foot depth around former concrete foundation areas and "drill field" area. The other five (5) borings were advanced to depths between 5.5 and 9.5 feet bgs with soil samples for laboratory analyses obtained at depths between 2.0 and 7.0 feet bgs. These locations included Boring B-3, which was advanced along the west side of the concrete foundation for the former boiler room, and Borings B-12, B-13, B-15, and B-17, which were advanced to the 9.5-foot depth around the former locations of concrete pads suspected of using accelerants during firefighter training. Four attempts were made to advance Boring B-2; however, this location was abandoned due to drilling refusal encountered just below the ground surface at each attempted location. The locations of these borings are shown on Figure 3.

The borings were drilled by a State of California C-57 licensed company, Environmental Control Associates, Inc. (ECA) of Aptos, California, under subcontract to AEI. Because of difficult, heavily-vegetated, soft terrain caused by recent rainy weather, the borings were advanced with a track-mounted drilling rig equipped with direct push technology. Upon completion of drilling, the borings were backfilled with soil cuttings generated during the drilling program.

The borings were continuously sampled throughout their entire depths for the purposes of lithologic logging, field screening (headspace testing), and selection of samples for laboratory analyses. Soil samples were obtained using a single-walled coring system approximately 2.25 inches in diameter and 4 feet in length containing plastic liners. The coring system was connected to 1-inch diameter, flush-jointed drill rod that was hydraulically driven (pushed) by the rig to each target sample depth. Upon retrieval from each sample depth interval, the coring system was opened, and the liners were removed and cut for preparing samples for laboratory analyses, as well as for visual inspection and lithologic logging purposes. Recovered soil samples were examined for soil classification and described on detailed boring logs in general conformance with the Unified Soil Classification System (USCS). Headspace tests were performed with a photoionization detector (PID) used for detecting the presence of volatile organic compounds (VOCs) in the soil samples. Headspace tests only were conducted in soil samples obtained from Borings B-3, B-12, B-13, B-15, and B-17, which were advanced around the former locations of concrete pads used for firefighter training and the former boiler room. The boring logs are presented in Appendix A.

Soil samples selected for laboratory analyses were sealed, labeled, and entered onto chain of custody documentation for transportation to a California state-certified laboratory for analyses.



Upon collection, the ends of the plastic tubes were covered with Teflon tape and capped. The samples were labeled with the project name, project number, boring number, sample depth, and sampling date/time of sampling. After labeling, the samples were placed into a chilled ice chest for transport to the analytical laboratory.

## 3.3.2 Headspace Testing

Headspace testing was performed during drilling activities with a photo-ionization detector (PID) for detecting the presence of VOCs in recovered soil samples. Headspace testing was generally performed at every 2-foot interval of the recovered sample cores from Borings B-3, B-12, B-13, B-15, and B-17. To initiate the headspace testing procedure, soil samples were removed from the liners, placed into labeled, plastic bags, and sealed for conducting the tests. After sufficient time elapsed for vapor build-up inside the bags, the bags were punctured with the probe tip of the PID to allow for measurement of the headspace. Measurements of the headspace were obtained in the parts per million (ppm) range for total VOCs. During this investigation, none of the headspace test measurements exceeded ambient air background concentrations, which were generally measured at 0.0 ppm.

## 3.3.3 Decontamination and Investigation-Derived Wastes

Drilling and sampling equipment were cleaned prior to and after drilling each boring. The equipment also was cleaned between core intervals using a triple rinse method. The initial rinse consisted of an Alconox and water solution, followed by two (2) tap water rinses (second and final rinses). No investigation-derived wastes were generated during this investigation.

## 3.4 Laboratory Analyses

Soil samples were submitted McCampbell Analytical, Inc. of Pittsburg, California for laboratory analyses. Additional samples also were submitted to the analytical laboratory and initially placed on hold. Additional laboratory analyses for lead were run on soil samples obtained from the 1.5-foot depth at Borings B-7, B-20, and B-21 on the basis of the initial analytical results.

The types and numbers of soil analyses included the following:

The samples were analyzed over a standard turnaround time (TAT) except for the additional soil samples, which were analyzed over a 1-day TAT. Chain-of-custody documentation and certified analytical reports are provided in Appendix B.



#### 4.0 FINDINGS

## 4.1 Water Supply Wells

During AEI's Phase I ESA, it was found that two (2) former domestic water supply wells were located on the property. To gather more information about these wells, AEI attempted to contact SMCEHS; however, no additional information regarding these wells has been provided to date.

Based upon our review of preliminary information appended to AEI's Phase I ESA report, it was noted that at least one (1) domestic well permit (Permit No. W-43-86) was issued to California School Employee Association by San Mateo County Department of Public Health & Welfare on May 28, 1986. On June 18, 1986, a well yield test was performed, which included the well depth, standing and static water levels, and time versus drawdown testing over an approximate 5-hour period of time. As shown on a Well Yield Report Information form dated June 19, 1986, the owner was identified as Farrallon Vista Association under Permit No. DRW #149554. The total depth of the well is 400 feet. Static and standing water levels were measured at depths of 168 and 35 feet bas, respectively. No information was provided regarding the well construction details other than the recorded well depth. On July 9, 1986, water quality testing for bacteriology and chemistry purposes had been performed at this well. As described under some telephone notes dated December 19, 1990, shown on a County Septic and Well Check-Off List, it was stated that the two (2) wells were installed under one permit and that both wells "would be repaired so that the aguifers were adequately protected." In addition, on this same Check-Off List, it was stated that the "upper well has been sealed by welded steel; lower well has been sealed flush with pad with bolted steel plate."

On the basis of the information provided to date, it appears that information for only one (1) well and its approximate location, instead of two (2) wells, was shown on the well construction application. The locations of the well shown on the application appeared to be the "upper well". No information on the location of the lower well was shown on the application.

During the site reconnaissance, it is believed that the location of the "upper well" was found. It is located upslope and to the east of Boring B-1, as shown on Figure 3. The surface completion for this well consists of a rectangular-shaped concrete pad which surrounds rusted, welded steel cover. The lower well was not located during the site reconnaissance. It is unknown if either of these wells were properly abandoned (i.e., backfilled with a new cement grout using tremie methods) in accordance with local regulations.

### 4.2 Subsurface Conditions

The results from the drilling program show that the subject property is underlain by alluvial and residual soils primarily consisting of sandy clays and clayey sands to the depths explored. No groundwater was encountered during drilling operation. No visual or olfactory evidence (i.e., soil discoloration, odor) of impacted soils was observed in any of the recovered soil cores during drilling operations. No PID readings above background levels above 0.0 ppm were measured during headspace testing.



## 4.3 Soil Analytical Results

Soil analytical results are presented on Table 1. Chain-of-custody documentation and certified analytical reports are provided in Appendix B.

Analytical results for soil obtained during this investigation are as follows:

- Lead was detected at concentrations between 4.5 and 230 milligrams per kilogram (mg/kg) in surface soils at each of the borings advanced around the concrete foundation and "drill field" areas.
- No TPH-g or VOCs were detected at concentrations at or above the laboratory reporting limits in any of the soil samples obtained from borings advanced around concrete pad areas used for firefighting purposes.
- TPH-d was detected at a concentration of 1.3 mg/kg at the 2.0-foot depth in Boring B-3, located around the former boiler room. No TPH-d was detected at a concentration at or above the laboratory reporting limit at the 5.0-foot depth in Boring B-3. No TPH-mo was detected at concentrations at or above the laboratory reporting limits in Boring B-3.
- Metals, including arsenic, barium, chromium, cobalt, copper, molybdenum, nickel, vanadium, and zinc, were detected at concentrations between 1.0 and 44 mg/kg at the 1.5-foot depth in Boring B-1, which is located around the former incinerator. No other metals were detected at concentrations at or above the laboratory reporting limits at that location.
- Total hexafurans were detected at a concentration of 2.78 picograms per gram (which is equivalent to 2.78 x 10<sup>-6</sup> mg/kg) at the 1.5-foot depth in Boring B-1. No other dioxins/furans were detected at concentrations at or above the laboratory reporting limits.
- No PCBs were detected at concentrations at or above the laboratory reporting limits in any of the soil sample obtained from the one boring advanced around the area of the former incinerator.

For the purpose of providing context to the data obtained during this investigation, analytical results for soil were compared to established regulatory screening levels, including California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, Environmental Screening Levels (RWQCB ESLs) for residential land use for shallow soils (less than approximately 10 feet deep) assuming groundwater is a current or potential drinking water resource and USEPA Regional Screening Levels (RSLs) for resident soils. Of the chemical constituents analyzed, lead was found to exceed its RWQCB ESL within surface soils (0.0-foot depth) only at two (2) locations (Borings B-7 and B-21) adjacent to concrete foundation area. Subsequent analytical results for soils at the 1.5-foot depths at Borings B-7 and B-21 showed lead concentrations at one to two orders of magnitude below the RWQCB ESL. Arsenic was detected at a concentration slightly above its RWQCB ESL and USEPA RSL at the 1.5-foot depth in Boring B-1, located around the former incinerator area.

In summary, none of the detected chemical constituents in soil, including TPH-d and other metals, were found to exceed their respective RWQCB ESLs and USEPA RSLs. With respect to the low concentration of the total hexafurans, no regulatory screening levels are established for this constituent.



### 5.0 CONCLUSIONS AND RECOMMENDATIONS

AEI has completed a Phase II investigation at the subject property. The purpose of the Phase II at the subject property was to assess whether release(s) have occurred into the subsurface relative to the environmental concerns identified at the subject property. Thirty-three (33) exploratory soil borings were advanced the collection and analyses of soil samples during this investigation. Select samples were analyzed for one or more of the following: Lead, TPHs, VOCs, PCBs, CAM Metals, and Dioxins/Furans.

Detected concentrations of the various chemical constituents in soil were compared with their respective RWQCB ESLs and USEPA RSLs for those regulatory screening levels already established. None of the detected chemical constituents were found to exceed their respective RWQCB ESLs and USEPA RSLs except for lead detected within surface soils at two locations and arsenic detected at the 1.5-foot depth at one location. Additional laboratory analyses were run on soil samples obtained from the 1.5-foot depth to assess the vertical extent of lead-impacted soils at these two locations. Analytical results for the soil samples at the 1.5-foot depth showed lead concentrations below the RWQCB ESL and USEPA RSL. With respect to the presence of arsenic at the one location, its detected concentration is representative of naturally-occurring background conditions, which is within the range of arsenic concentrations found in soils within the San Francisco Bay Area (Bradford, et.al.).

Analytical results generated during this investigation suggest that the lead detected in soils may have originated from lead-based paint on former building exteriors. Furthermore, analytical results also suggest that lead concentrations, where elevated, are localized and appear to be restricted to surface soils at the two (2) identified locations. The vertical extent of lead-impacted soils at these two locations has been delineated on the basis of the lead concentrations not exceeding their RWQCB ESLs. The horizontal extent of lead-impacted soils at these two locations is undefined.

On the basis of the information, presented above, AEI recommends that a limited soil sampling program be performed to further assess the horizontal extent of lead-impacted surface soils around the two identified locations. AEI also recommends that the steel cover for the "upper well" be removed an experienced water well driller under subcontract to AEI to measure the well depth, as well as whether the well has been properly abandoned in accordance with County regulations.

#### 6.0 REFERENCES

- AEI Consultants, 2015, *Phase I Environmental Site Assessment, Carlos Street at Sierra Street, Moss Beach, San Mateo County, California 94038*, report prepared for MidPen Housing Corporation dated November 10, 2015.
- Brabb, E.E., Graymer, R.W., and Jones, D.L., 1998, *Geology of the Onshore Part of San Mateo County, California: A digital database*, USGS Open-File Report 98-137
- Bradford, G.R., Chang, A.C., Page, A.L., Bakhtar, D., Frampton, J.A., and Wright, H., 1996, Background Concentrations of Trace and Major Elements in California Soils, Kearney Foundation Special Report, Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California Riverside (UCR), dated March 1996.



California Regional Water Quality Control Board, San Francisco Bay Region, 2013, *User's Guide:*Derivation and Application of Environmental Screening Levels and Detailed Lookup

Tables, Interim Final 2013.

Pampeyan, E.H., 1994, *Geologic Map of the Montara Mountain and San Mateo 7-1/2' Quadrangles, San Mateo County, California*, USGS Map I-2390.

## 7.0 REPORT LIMITATIONS AND RELIANCE

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the requested information, subject to scope of work for which AEI was retained and limitations inherent in this type of work, but it cannot be assumed that they are representative of areas not sampled. This report should not be regarded as a guarantee that no further contamination beyond that which could have been detected within the scope of this investigation is present beneath the subject property. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation.

Any conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work. No other warranty, either expressed or implied, has been made.

This investigation was prepared for the sole use and benefit of MidPen Housing Corporation. All reports, both verbal and written, whether in draft or final, are for the benefit of Seagate Properties, Inc. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's Proposal and Standard Terms & Conditions executed by MidPen Housing Corporation. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.



## **County Review Draft**

If there are any questions regarding our investigation, please do not hesitate to contact AEI at (408) 559-7600.

Sincerely,

**AEI Consultants** 

Timothy G. Bodkin, PG (4706), CEG (EG-1551)

Twickly & Booking

Senior Geologist – Site Mitigation

Peter McIntyre, PG Executive Vice President

## **FIGURES**



## **County Review Draft**





## Figure 1: TOPOGRAPHIC MAP

Carlos Street at Sierra Street, Moss Beach, California, 94038 Project Number: 350428





Legend

Estimated Groundwater Flow Direction Approximate Property Boundary
Approximate Water Tank Parcel

Water Well Location
Approximate Drill Field Boundary
Approximate Building Boundary
Approximate Incinerator Location





## Figure 2: SITE MAP

Carlos Street at Sierra Street, Moss Beach, California, 94038 Project Number: 350428





Legend

**Approximate Property Boundary** 

Approximate Water Tank Parcel

Estimated Groundwater Flow Direction

Boring Location Approximate Dri

Approximate Drill Field Boundary
Approximate Building Boundary
Approximate Incinerator Location





## Figure 3: **BORING LOCATION** MAP

Carlos Street at Sierra Street, Moss Beach, California, 94038 Project Number: 350428



## **TABLES**



## TABLE 1: SOIL SAMPLE DATA SUMMARY Carlos Street at Sierra Street, Moss Beach, CA

Location ID	Date	Depth (feet bgs)	Lead (mg/kg)	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	VOCs (mg/kg)	PCBs (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Molybdenu (mg/kg)	Nickel (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Remaining Metals (mg/kg)	Total Hexafurans (mg/kg)	Other Dioxins/Furans (mg/kg)
B-1-1.5	12/22/2015	1.5	4.5					<mrl< td=""><td>2.3</td><td>44</td><td>15</td><td>3.9</td><td>2.2</td><td>1.0</td><td>13</td><td>36</td><td>29</td><td><mrl< td=""><td>2.78 x 10<sup>-6</sup></td><td></td></mrl<></td></mrl<>	2.3	44	15	3.9	2.2	1.0	13	36	29	<mrl< td=""><td>2.78 x 10<sup>-6</sup></td><td></td></mrl<>	2.78 x 10 <sup>-6</sup>	
B-3-2.0	12/23/2015	2			1.3	< 5.0														
B-3-5.0	12/23/2015	5			<1.0	< 5.0														
B-4-0.0	12/23/2015	0	29																	
B-5-0.0	12/23/2015	0	54																	
B-6-0.0	12/23/2015	0	8.4																	
B-7-0.0	12/23/2015	0	230																	
B-7-1.5	12/23/2015	1.5	7																	
B-8-0.0	12/23/2015	0	23																	
B-9-0.0	12/22/2015	0	6.5																	
B-10-0.0	12/22/2015	0	45																	
B-11-0.0	12/22/2015	0	6.2																	
B-12-5.0	12/23/2015	5		<1.0			<mrl< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></mrl<>													
B-13-6.0	12/23/2015	6		<1.0			<mrl< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></mrl<>													
B-14-2.0	12/23/2015	2		<1.0			<mrl< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></mrl<>													
B-15-0.0	12/22/2015	0	25																	
B-15-7.0	12/23/2015	7		<1.0			<mrl< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></mrl<>													
B-16-0.0	12/22/2015	0	15																	
B-17-4.0	12/22/2015	4		<1.0			<mrl< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></mrl<>													
B-18-0.0	12/22/2015	0	12																	
B-19-0.0	12/22/2015	0	7.9																	
B-20-0.0	12/22/2015	0	41																	
B-20-1.5	12/22/2015	1.5	8.1																	
B-21-0.0	12/22/2015	0	88																	
B-21-1.5	12/22/2015	1.5	8.8																	
B-22-0.0	12/22/2015	0	19																	
B-23-0.0	12/22/2015	0	15																	
B-24-0.0	12/22/2015	0	16																	
B-25-0.0	12/22/2015	0	8.9																	
B-26-0.0	12/22/2015	0	7.4																	
B-27-0.0	12/22/2015	0	6.3																	
B-28-0.0	12/22/2015	0	9.7																	
B-29-0.0	12/22/2015	0	8.7																	
B-30-0.0	12/22/2015	0	9.1																	
B-31-0.0	12/22/2015	0	7.8																	
B-32-0.0	12/22/2015	0	7.0																	
B-33-0.0	12/22/2015	0	39																	
B-34-0.0	12/22/2015	0	34																	
Regulatory RWQCB ESL <sub>re</sub>	Screening Le	vels	80	100	100	100	varies	varies	0.39	750	750	23	230	40	150	200	600	N/A	N/A	N/A
USEPA RSL <sub>res</sub>	esidential		400	82 - 520		2500 - 230000		varies	0.68	15,000	120,000	23	3,100	390	NE	390	23,000	N/A	N/A	N/A
OJLI A NJL <sub>res</sub>	sidential		400	32 320	75 110	200000	varios	varios	0.00	10,000	120,000	20	5,100	370	141	370	25,000	14//1	14//1	14//1

#### Notes:

mg/kg milligrams per kilogram

<MRL less than the method reporting limit

bgs below ground surface

TPH-g Total Petroleum Hydrocarbons as Gasoline

TPH-d Total Petroleum hydrocarbons as Diesel

VOCs Volatile Organic Compounds

PCBs Polychlorinated biphenyls

**Bold** Result exceeds applicable Comparison Value

-- Not analyzed

N/A Not applicable

NE Not established

#### Regulatory Screening Levels:

RWOCB ESL<sub>residential</sub>: California Regional Water Quality Control Board Environmental Screening Level for residential land use for shallow soils (<3 meters bgs) assuming groundwater is a current or potential drinking water resource RWQCB, 2013, Table A-1). USEPA RSL<sub>residential</sub>: United States Environmental Protection Agency (USEPA) Regional Screening Level for resident soil (USEPA, June 2015 revised)

# APPENDIX A BORING LOGS





# BORING NUMBER B-1 PAGE 1 OF 1

Environm	ental & Engineering	Services									
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra St	reets				
PROJ	ECT NUMBE	<b>R</b> 350428				PROJECT LOCATION Moss Beach, California					
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE	2.25 inches			
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:					
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING					
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING					
NOTE	s					AFTER DRILLING No groundwater encountered					
O DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	(	COMPLETION			
	B-1-0.0				YELLOW BROWN (	10 YR 5/6) SILTY CLAY (CL) , soft, moi	st,				
	B-1-1.5				2.0 BROWNISH YELLO	W (10YR 6/6) GRAVELLY CLAY (CL),	/				
					medium stiff, moist, r	no odor.					

Bottom of boring at 2.0 feet.



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PAGE 1 OF 1

Environm	ental & Engineering	Services									
CLIEN	IT MidPen F	Housing				PROJECT NAME Carlos at Sierra Street	S				
PROJ	ECT NUMBE	<b>R</b> <u>350428</u>				PROJECT LOCATION Moss Beach, California					
DATE	STARTED _	12/23/15		COM	PLETED 12/23/15	GROUND ELEVATION	HOLE SIZE 2.25 inches				
DRILL	ING CONTRA	ACTOR E	nvironme	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:					
DRILL	ING METHO	D Hand A	uger			AT TIME OF DRILLING					
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING					
NOTE	s					AFTER DRILLING					
DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	М	ATERIAL DESCRIPTION	COMPLETION				
					0.0 Hand auger refusal	at ground surface (driller attempted hand					

0.0 Hand auger refusal at ground surface (driller attempted hand augering at four locations)



PROJECT NUMBER 350428

NOTES

DRILLING METHOD Direct Push

### **AEI Consultants**

**DATE STARTED** 12/23/15 **COMPLETED** 12/23/15

DRILLING CONTRACTOR Environmental Control Associates, Inc.

LOGGED BY Tim Bodkin CHECKED BY Tim Bodkin

County Review Draft
BORING NUMBER B-3

PROJECT NAME Carlos at Sierra Streets

PROJECT LOCATION Moss Beach, California

GROUND ELEVATION HOLE SIZE 2.25 inches

**GROUND WATER LEVELS:** 

AT TIME OF DRILLING \_--AT END OF DRILLING ---

AFTER DRILLING \_--- No groundwater encountered

B-3-0.0 VERY DARK BROWN (10YR 2/2) SILTY CLAY (CL), soft, moist, no odor. VERY DARK BROWN (10YR 2/2) CLAYEY SAND (SC), medium dense, moist, no odor.  5 B-3-1.5  B-3-5.0  5.5		o DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
	OSS BEACH LOGS.GPJ		⊠ B-3-1.5				moist, no odor.  VERY DARK BROWN (10YR 2/2) CLAYEY SAND (SC), medium dense, moist, no odor.	

Bottom of boring at 5.5 feet.



# BORING NUMBER B-4 PAGE 1 OF 1

Environm	ental & Engineering	Services									
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets					
PROJ	ECT NUMBE	R 350428				PROJECT LOCATION Moss Beach, California					
DATE	STARTED _	12/23/15		COM	PLETED 12/23/15	GROUND ELEVATION	HOLE SIZE 2.25 inches				
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:					
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING					
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING					
NOTE	s					AFTER DRILLING No groundwater encountered					
OEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION				
	X B-4-0.0				medium stiff, moist, r	/N (10 YR 5/6) GRAVELLY CLAY (CL), no odor, some fine gravel.	_/				
	<u>≅</u> B-4-1.5	<u> </u>		<u> </u>	odor.	'R 3/3/) SILTY CLAY (CL), soft, moist, no					

Bottom of boring at 2.0 feet.



PROJECT NUMBER 350428

NOTES

DRILLING METHOD Direct Push

### **AEI Consultants**

**DATE STARTED** 12/23/15 **COMPLETED** 12/23/15

DRILLING CONTRACTOR Environmental Control Associates, Inc.

LOGGED BY Tim Bodkin CHECKED BY Tim Bodkin

County Review Draft
BORING NUMBER B-3

PROJECT NAME Carlos at Sierra Streets

PROJECT LOCATION Moss Beach, California

GROUND ELEVATION HOLE SIZE 2.25 inches

**GROUND WATER LEVELS:** 

AT TIME OF DRILLING \_--AT END OF DRILLING ---

AFTER DRILLING \_--- No groundwater encountered

B-3-0.0 VERY DARK BROWN (10YR 2/2) SILTY CLAY (CL), soft, moist, no odor. VERY DARK BROWN (10YR 2/2) CLAYEY SAND (SC), medium dense, moist, no odor.  5 B-3-1.5  B-3-5.0  5.5		o DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
	OSS BEACH LOGS.GPJ		⊠ B-3-1.5				moist, no odor.  VERY DARK BROWN (10YR 2/2) CLAYEY SAND (SC), medium dense, moist, no odor.	

Bottom of boring at 5.5 feet.



County Review Draft
BORING NUMBER B-5
PAGE 1 OF 1

Environmental & Engineering Services			
CLIENT MidPen Housing		PROJECT NAME Carlos at Sierra Street	S
PROJECT NUMBER 350428		PROJECT LOCATION Moss Beach, Cali	fornia
DATE STARTED 12/23/15	<b>COMPLETED</b> 12/23/15	GROUND ELEVATION	HOLE SIZE 2.25 inches
DRILLING CONTRACTOR Environm	ental Control Associates, Inc.	GROUND WATER LEVELS:	
DRILLING METHOD Direct Push		AT TIME OF DRILLING	
LOGGED BY Tim Bodkin	CHECKED BY Tim Bodkin	AT END OF DRILLING	
NOTES		AFTER DRILLING No groundwa	ater encountered
SAMPLE TYPE NUMBER COUNTS	GRAPHIC LOG LOG	ATERIAL DESCRIPTION	COMPLETION
B-5-0.0 - B-5-1.5	1.0 stiff, moist, no odor. 2.0 YELLOWISH BROW	(R 3/3) SILTY CLAY (CL), soft to medium (N (10YR 5/6) SANDY CLAY (CL), medium	<i></i>

Bottom of boring at 2.0 feet.



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Environm	ental & Engineering	Services									
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets	3				
PROJ	ECT NUMBE	<b>R</b> _350428				PROJECT LOCATION Moss Beach, California					
DATE	STARTED _	12/23/15		COM	PLETED 12/23/15	GROUND ELEVATION H	HOLE SIZE 2.25 inches				
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	control Associates, Inc.	GROUND WATER LEVELS:					
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING					
LOGG	ED BY Tim	Bodkin		CHE	CKED BY _Tim Bodkin	AT END OF DRILLING					
NOTE	s					AFTER DRILLING No groundwa	ter encountered				
о ОЕРТН (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION				
	B-6-0.0  B-6-1.5					(R 3/3) SANDY SILTY CLAY (CL), soft to no odor, trace of fine sand.					
		,		<i>,,,,,</i>	Bot	tom of boring at 2.0 feet	-				



County	Davia	v Droft	
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PAGE 1 OF 1

Environm	ental & Engineering	Services						
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets		
PROJ	PROJECT NUMBER 350428					PROJECT LOCATION Moss Beach, Ca	lifornia	
DATE	STARTED _	12/23/15		COM	PLETED 12/23/15	GROUND ELEVATION	HOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	Control Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING		
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING		
NOTE	s					AFTER DRILLING No groundwater encountered		
о ОЕРТН (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION	
	B-7-0.0  B-7-1.5				YELLOWISH BROW stiff, moist, no odor.	/N (10YR 5/6) SANDY CLAY (CL), mediun	1	
	ν <sub>1</sub> υ-1-1.0			V/////	Rot	tom of horing at 2.0 feet		

Bottom of boring at 2.0 feet.



## BORING NUMBER B-8 PAGE 1 OF 1

Environm	ental & Engineering	Services						
CLIEN	IT MidPen F	Housing				PROJECT NAME Carlos at Sierra Streets		
PROJ	ECT NUMBE	<b>R</b> _350428				PROJECT LOCATION Moss Beach, Cal	ifornia	
DATE	STARTED _	12/23/15		СОМ	PLETED 12/23/15	GROUND ELEVATION	HOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING		
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING		
NOTE	s					AFTER DRILLING No groundwa	ater encountered	
O DEPTH	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG		ATERIAL DESCRIPTION	COMPLETION	
	B-8-0.0  B-8-1.5				moist, no odor.  2.0 YELLOWISH BROW	/R 4/3) SANDY CLAY (CL), medium stiff, /N (10YR 5/6) SANDY CLAY (CL), medium		
					stiff, moist, no odor.		J	

Bottom of boring at 2.0 feet.



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Environm	ental & Engineering	Services						
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets	3	
PROJ	ECT NUMBE	<b>R</b> _350428				PROJECT LOCATION Moss Beach, Calif	ornia	
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION H	HOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHOI	D Direct P	ush			AT TIME OF DRILLING		
LOGG	LOGGED BY Tim Bodkin CHECKED BY Tim Bodkin AT END OF DRILLING							
NOTE	s					AFTER DRILLING No groundwa	ter encountered	
о ОЕРТН (#)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	M	ATERIAL DESCRIPTION	COMPLETION	
	B-9-0.0			DARK BROWN (10YR 3/3) SANDY CLAY (CL), medium stiff, moist, no odor.				
	⊠ B-9-1.5			V/////	2.0	there of herina at 0.0 feet		

Bottom of boring at 2.0 feet.



## County Review Draft BORING NUMBER B-10 PAGE 1 OF 1

Environm	iental & Engineering	Services						
CLIEN	IT MidPen F	Housing				PROJECT NAME Carlos at Sierra Streets		
PROJ	ECT NUMBEI	<b>R</b> _350428				PROJECT LOCATION Moss Beach, California	ornia	
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION H	OLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR Er	nvironme	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING		
LOGG	LOGGED BY _Tim Bodkin CHECKED BY _Tim Bodkin AT END OF DRILLING							
NOTE	s					AFTER DRILLING No groundwater encountered		
o DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	Мл	ATERIAL DESCRIPTION	COMPLETION	
-	B-10-0.0  B-10-1.5				DARK BROWN (7.5 medium dense, mois 2.0	YR 3/2) CLAYEY SAND (SC), loose to st, no odor.		

Bottom of boring at 2.0 feet.



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Environm	ental & Engineering	Services						
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets		
PROJ	PROJECT NUMBER 350428					PROJECT LOCATION Moss Beach, C	California	
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	Control Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING		
LOGG	ED BY Tim	Bodkin		CHE	CKED BY _Tim Bodkin	AT END OF DRILLING		
NOTE	s					AFTER DRILLING No groundwater encountered		
о DЕРТН (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION	
	B-11-0.0  B-11-1.5				DARK BROWN (7.5° SAND (SC), soft, mo	YR 3/2) SANDY CLAY (CL) and CLAYEY ist, no odor.	,	
	D 11-1.0			V/////	Bot	tom of horing at 2.0 feet		

Bottom of boring at 2.0 feet.



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	IT MidDen I					PROJECT NAME OF THE STATE OF THE	_
						PROJECT NAME Carlos at Sierra Streets	
PROJ	ECT NUMBE	R <u>350428</u>				PROJECT LOCATION Moss Beach, Cali	fornia
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION I	HOLE SIZE 2.25 inches
DRILL	LING CONTRA	ACTOR Er	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:	
DRILL	LING METHO	D Direct P	ush			AT TIME OF DRILLING	
LOGG	SED BY Tim	Bodkin		CHE	CKED BY _Tim Bodkin	AT END OF DRILLING	
NOTE	:s					AFTER DRILLING No groundwa	ter encountered
O DEPTH (ft)	SAMPLE TYPE NUMBER Pg-0.0	BLOW	PID DATA (ppm)	GRAPHIC LOG		ATERIAL DESCRIPTION  YR 4/3) CLAYEY SAND (SC), loose, moist,	COMPLETION
5 	B-12-5.0  B-12-9.0				no odor.  3.0  STRONG BROWN ( medium stiff, moist,	7.5YR 5/6) SANDY CLAY (CL), soft to no odor.  7.5YR 5/6) CLAYEY SAND (SC), medium	

Bottom of boring at 9.5 feet.



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CLIENT MidDon Housing	F NAME Carlos at Sierra Streets
CLIENT MidPen Housing PROJEC	Canos at Sierra Streets
PROJECT NUMBER 350428 PROJECT	T LOCATION Moss Beach, California
DATE STARTED         12/23/15         COMPLETED         12/23/15         GROUND	ELEVATION HOLE SIZE 2.25 inches
DRILLING CONTRACTOR Environmental Control Associates, Inc. GROUND	WATER LEVELS:
DRILLING METHOD _Direct Push AT	TIME OF DRILLING
	END OF DRILLING
NOTES AF	FER DRILLING No groundwater encountered
HL(t)  SAMPLE TYPE  SAMPLE TYPE	ESCRIPTION COMPLETION  CLAYEY SAND (SC), medium

Bottom of boring at 9.5 feet.



County	Daviou	v Droft	
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Environm	ental & Engineering	Services						
CLIEN	IT MidPen F	Housing				PROJECT NAME Carlos at Sierra Streets		
PROJ	ECT NUMBE	<b>R</b> _350428				PROJECT LOCATION Moss Beach, Calif	ornia	
DATE	STARTED _	12/23/15		COM	PLETED 12/23/15	GROUND ELEVATION H	IOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING		
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING		
NOTE	s					AFTER DRILLING No groundwater encountered		
о рертн	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	Ми	ATERIAL DESCRIPTION	COMPLETION	
	X B-14-2.0					YR 3/3) CLAYEY SILTY SAND (SM), loose, ng refusal encountered at 2 feet.		
		,				tom of boring at 2.0 feet.		



BORING NUMBER B-15
PAGE 1 OF 1

Environmental a Engineering Services			
CLIENT MidPen Housing		PROJECT NAME Carlos at Sierra Streets	
PROJECT NUMBER 350428		PROJECT LOCATION Moss Beach, Califo	rnia
DATE STARTED 12/22/15	<b>COMPLETED</b> 12/23/15	GROUND ELEVATION HO	OLE SIZE 2.25 inches
DRILLING CONTRACTOR Environn	mental Control Associates, Inc.	GROUND WATER LEVELS:	
DRILLING METHOD Direct Push		AT TIME OF DRILLING	
LOGGED BY _ Tim Bodkin	CHECKED BY _Tim Bodkin	AT END OF DRILLING	
NOTES		AFTER DRILLING No groundwate	er encountered
B-15-1.5  B-15-1.5  B-15-1.5  B-15-1.5  B-15-1.5  B-15-1.5	DARK BROWN (7.5' moist, no odor. Colo	ATERIAL DESCRIPTION  YR 3/3/) SANDY CLAY (CL), medium stiff, r changes to STRONG BROWN at 1.0 feet.  GRAVELLY CLAYEY SAND (SC), medium or, with occasional pockets of sandy clay.	COMPLETION
P-10-9.0	V / / /	tom of horing at 9.5 feet	<u> </u>



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CLIENT MidPen Housing						PROJECT NAME Carlos at Sierra Streets		
PROJECT NUMBER 350428						PROJECT LOCATION Moss Beach, California		
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches	
DRILLING CONTRACTOR Environmental Control Associates, Inc.					ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILLING METHOD Direct Push						AT TIME OF DRILLING		
LOGGED BY _Tim Bodkin CHECKED BY _Tim Bodkin					CKED BY Tim Bodkin	AT END OF DRILLING		
NOTES						AFTER DRILLING No groundwater encountered		
O DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	N	COMPLETION		
	X B-16-0.0	ı	I	1111		EVD 2/4) CLAVEV SAND (SC) modium	I	

dense, moist, no odor.

Bottom of boring at 2.0 feet.



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EHVITOHIHI	iental & Engineering	Services					
CLIEN	NT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets	
PROJ	ECT NUMBE	R 350428				PROJECT LOCATION Moss Beach, California	ornia
<b>DATE STARTED</b> 12/22/15 <b>COMPLETED</b> 12/22/15						GROUND ELEVATION H	OLE SIZE 2.25 inches
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:	
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING	
LOGG	ED BY Tim	Bodkin		CHEC	CKED BY Tim Bodkin	AT END OF DRILLING	
NOTE	s					AFTER DRILLING No groundwat	er encountered
O DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG		ATERIAL DESCRIPTION	COMPLETION
5	B-17-4.0  B-17-8.0				moist, no odor.  4.5  STRONG BROWN G	GRAVELLY CLAYEY SAND (SC), medium stiff, GRAVELLY CLAYEY SAND (SC), medium or, some fine to coarse gravel.	

Bottom of boring at 9.5 feet.

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:13 - PXCOMPANYWIDE PROJECTS/350000 SERIES/350428 MOSS BEACH, CAISM/BORING LOGS/MOSS BEACH LOGS/GPJ



Caust	$\mathbf{L} \mathbf{D} \mathbf{o} \mathbf{L}$	riour E	)roft	
<del>Count</del> BO		16M F	MB LD	D 10
DU	CINC	יוטאו פ	NDER	D-10

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Environm	ental & Engineering	Services						
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Str	eets	
PROJ	ECT NUMBE	R _350428				PROJECT LOCATION Moss Beach, California		
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	control Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHOI	D Direct P	ush			AT TIME OF DRILLING		
LOGG	ED BY Tim	Bodkin		CHE	CKED BY _Tim Bodkin	AT END OF DRILLING		
NOTE	s					AFTER DRILLING No ground	dwater encountered	
о DЕРТН (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION	
	B-18-0.0  B-18-1.5				DARK BROWN (10Y stiff, moist, no odor.	'R 3/3) SILTY CLAY (CL), soft to mediur	n	
	Z D 10-1.0			V/////	Rot.	tom of horing at 2.0 feet		

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB. GDT - 1/19/16 08:13 - P.\COMPANYWIDE PROJECTS\\350000 SERIES\\350428 MOSS BEACH, CA\SM\BORING LOGS\\MOSS BEACH, CA\SM\BORING LOGS\\MOSS BEACH, CA\SM\BORING LOGS\\MOSS BEACH LOGS\\MOSS BEACH A CA\SM\BORING LOGS\MBORING LOGS\MOSS BEACH A CA\SM\BORING LOGS\MBORING LOGS\MBORING LOGS\MBORING



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			PAGE	1 OF 1

CLIENT MidPen Housing PROJECT NAME Carlos at Sierra Streets PROJECT NUMBER 350428 PROJECT LOCATION Moss Beach, California **DATE STARTED** 12/22/15 **COMPLETED** 12/22/15 GROUND ELEVATION \_\_\_\_\_\_ HOLE SIZE 2.25 inches **DRILLING CONTRACTOR** Environmental Control Associates, Inc. **GROUND WATER LEVELS:** DRILLING METHOD Direct Push AT TIME OF DRILLING \_---LOGGED BY Tim Bodkin CHECKED BY \_Tim Bodkin AT END OF DRILLING \_---NOTES AFTER DRILLING \_--- No groundwater encountered PID DATA (ppm) SAMPLE TYPE NUMBER GRAPHIC LOG BLOW DEPTH (ft) MATERIAL DESCRIPTION COMPLETION X B-19-0.0 DARK BROWN (10YR 3/3/) SANDY SILTY CLAY (CL), medium stiff, moist, no odor. grades to CLAYEY SAND at 1.8 feet. B-19-1.5

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:13 - P./COMPANYWIDE PROJECTS/350000 SERIES/356428 MOSS BEACH, CAISM/BORING LOGS/MOSS BEACH LOGS.GPJ



X B-20-0.0

B-20-1.5

#### **AEI Consultants**

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onmental & Engineering Services CLIENT MidPen Housing PROJECT NAME Carlos at Sierra Streets PROJECT NUMBER 350428 PROJECT LOCATION Moss Beach, California **DATE STARTED** 12/22/15 **COMPLETED** 12/22/15 GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2.25 inches DRILLING CONTRACTOR Environmental Control Associates, Inc. **GROUND WATER LEVELS:** DRILLING METHOD Direct Push AT TIME OF DRILLING \_---LOGGED BY Tim Bodkin CHECKED BY \_Tim Bodkin AT END OF DRILLING \_---NOTES AFTER DRILLING \_--- No groundwater encountered PID DATA (ppm) SAMPLE TYPE NUMBER GRAPHIC LOG BLOW COUNTS DEPTH (ft) MATERIAL DESCRIPTION COMPLETION

> STRONG BROWN (7.5YR 5/6) SANDY CLAY (CL), medium Bottom of boring at 2.0 feet.

DARK BROWN (10YR 3/3) CLAYEY SAND (SC), medium

dense, moist, no odor.

stiff, moist.

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:13 - P.:COMPANYWIDE PROJECTS\\350000 SERIES\\350428 MOSS BEACH, CA\SM\BORING LOGS\\MOSS BEACH LOGS\\GRIDARY



## County Review Draft BORING NUMBER B-21 PAGE 1 OF 1

Environm	ental & Engineering !	Services						
CLIEN	IT MidPen H	lousing				PROJECT NAME Carlos at Sierra Streets		
PROJECT NUMBER 350428						PROJECT LOCATION Moss Beach, California		
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING		
LOGG	ED BY Tim	Bodkin		CHEC	CKED BY Tim Bodkin	AT END OF DRILLING		
NOTES						AFTER DRILLING No groundwater encountered		
O DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	M <i>A</i>	ATERIAL DESCRIPTION	COMPLETION	
B-21-0.0 DARK BROWN (7.5 3/4) SANDY SIL						3/4) SANDY SILTY CLAY (CL), medium Color changes to STRONG BROWN eased sand content below 1.5 feet.		

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB. GDT - 1/19/16 08:13 - PXCOMPANYWIDE PROJECTS/350000 SERIES/356428 MOSS BEACH, CAISMBORING LOGS/MOSS BEACH LOGS/GPJ



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Environm	ental & Engineering	Services					
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Stree	ts
PROJ	ECT NUMBE	R 350428				PROJECT LOCATION Moss Beach, Ca	lifornia
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	control Associates, Inc.	GROUND WATER LEVELS:	
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING	
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING	
NOTE	s					AFTER DRILLING No groundw	ater encountered
о ОЕРТН (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG		ATERIAL DESCRIPTION	COMPLETION
	B-22-0.0 B-22-1.5				moist, no odor.	YR 3/6) SILTY CLAY (CL), medium stiff, 7.5YR 5/6) SANDY CLAY (CL), medium	
/I							

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:13 - PXCOMPANYWIDE PROJECTS/350000 SERIES/350428 MOSS BEACH, CAISM/BORING LOGS/MOSS BEACH LOGS/GPJ



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Environmental & Engineerin	g Services					
CLIENT MidPen						
PROJECT NUMBE	ER <u>350428</u>				PROJECT LOCATION Moss Beach, Calif	ornia
DATE STARTED	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION H	IOLE SIZE 2.25 inches
DRILLING CONTR	RACTOR E	nvironme	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:	
DRILLING METHO	Direct P	ush			AT TIME OF DRILLING	
LOGGED BY _Tin	n Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING	
NOTES					AFTER DRILLING No groundwater encountered	
O DEPTH (ft) SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION
B-23-0.0 B-23-1.5					3/3) CLAYEY SAND (SC), loose to st, no odor, with STRONG BROWN et.	

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:13 - PXCOMPANYWIDE PROJECTS/350000 SERIES/350428 MOSS BEACH, CAISM/BORING LOGS/MOSS BEACH LOGS/GPJ



B-24-1.5

#### **AEI Consultants**

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		PAGE	1 OF 1

onmental & Engineering Services CLIENT MidPen Housing PROJECT NAME Carlos at Sierra Streets PROJECT NUMBER 350428 PROJECT LOCATION Moss Beach, California GROUND ELEVATION HOLE SIZE 2.25 inches **DATE STARTED** 12/22/15 **COMPLETED** 12/22/15 **DRILLING CONTRACTOR** Environmental Control Associates, Inc. **GROUND WATER LEVELS:** DRILLING METHOD Direct Push AT TIME OF DRILLING \_---LOGGED BY Tim Bodkin CHECKED BY \_Tim Bodkin AT END OF DRILLING \_---NOTES AFTER DRILLING \_--- No groundwater encountered SAMPLE TYPE NUMBER PID DATA (ppm) GRAPHIC LOG BLOW DEPTH (ft) MATERIAL DESCRIPTION COMPLETION X B-24-0.0 DARK BROWN (7.5YR 3/3) SILTY CLAY (CL), soft to medium stiff, moist, no odor. Trace fine sand, color changed to BROWN

(7.5YR 5/4), increased sand content.

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:13 - P.:COMPANYWIDE PROJECTS\\350000 SERIES\\350428 MOSS BEACH, CA\SM\BORING LOGS\\MOSS BEACH LOGS\\GRIDARY



B-25-1.5

#### **AEI Consultants**

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CLIENT MidPen Housing PROJECT NAME Carlos at Sierra Streets PROJECT NUMBER 350428 PROJECT LOCATION Moss Beach, California GROUND ELEVATION HOLE SIZE 2.25 inches **DATE STARTED** 12/22/15 **COMPLETED** 12/22/15 DRILLING CONTRACTOR Environmental Control Associates, Inc. **GROUND WATER LEVELS:** DRILLING METHOD Direct Push AT TIME OF DRILLING \_---LOGGED BY Tim Bodkin CHECKED BY Tim Bodkin AT END OF DRILLING \_---NOTES AFTER DRILLING \_--- No groundwater encountered PID DATA (ppm) SAMPLE TYPE NUMBER GRAPHIC LOG BLOW DEPTH (ft) MATERIAL DESCRIPTION COMPLETION X B-25-0.0 DARK BROWN (7.5YR 3/4) SILTY CLAY (CL), medium stiff, moist, no odor, trace fine sand.

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB GDT - 1/19/16 08:14 - P:COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CAISMIBORING LOGS\MOSS BEACH LOGS\GPJ



CLIENT MidPen Housing

LOGGED BY Tim Bodkin

SAMPLE TYPE NUMBER

X B-26-0.0

B-26-1.5

NOTES

DEPTH (ft)

PROJECT NUMBER 350428

DRILLING METHOD Direct Push

#### **AEI Consultants**

PID DATA (ppm)

BLOW COUNTS

Caup	by Day	i ou L	\roft_	
COB!	RING	NUM	IBER	B-26
			PAGE	1 OF 1

PROJECT NAME Carlos at Sierra Streets PROJECT LOCATION Moss Beach, California GROUND ELEVATION HOLE SIZE 2.25 inches **DATE STARTED** 12/22/15 **COMPLETED** 12/22/15 DRILLING CONTRACTOR Environmental Control Associates, Inc. **GROUND WATER LEVELS:** AT TIME OF DRILLING \_---CHECKED BY Tim Bodkin AT END OF DRILLING \_---AFTER DRILLING \_--- No groundwater encountered GRAPHIC LOG MATERIAL DESCRIPTION COMPLETION

Bottom of boring at 2.0 feet.

DARK BROWN (7.5YR 3/4) CLAYEY SAND (SC), medium dense, moist, no odor. increased sand content with depth.

AEI BORING - GINT STD US LAB GDT - 1/19/16 09:05 - P:COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SM\BORING LOGS\MOSS BEACH LOGS\GPJ



County Review Draft	
BORING NUMBER B-2	7

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Environini	ental & Engineering	Services					
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Str	eets
PROJ	ECT NUMBEI	<b>R</b> _350428				PROJECT LOCATION Moss Beach, 0	California
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches
DRILL	ING CONTRA	ACTOR E	nvironme	ental C	control Associates, Inc.	GROUND WATER LEVELS:	
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING	
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING	
NOTE	s					AFTER DRILLING No ground	dwater encountered
SAMPLE TYPE NUMBER COUNTS PID DATA (ppm) GRAPHIC LOG						ATERIAL DESCRIPTION	COMPLETION
	B-27-0.0  B-27-1.5					YR 4/3) CLAYEY SAND (SC), loose oist, no odor, with fine to coarse sand.	
					Boti	tom of boring at 2.0 feet	•

AEI BORING - GINT STD US LAB GDT - 1/19/16 08:14 - P:\COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SM\BORING LOGS\MOSS BEACH LOGS\\$05.GPJ



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Environm	ental & Engineering	Services						
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Stree	ets	
PROJ	ECT NUMBE	R 350428				PROJECT LOCATION Moss Beach, Ca	lifornia	
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches	
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING		
LOGGED BY _Tim Bodkin CHECKED BY _Tim Bodkin AT END OF DRILLING								
NOTE	s					AFTER DRILLING No groundy	vater encountered	
SAMPLE TYPE NUMBER COUNTS PID DATA (ppm) GRAPHIC LOG						ATERIAL DESCRIPTION	COMPLETION	
	B-28-0.0				CLAYEY SILTY SAN	7.5 5/6) to DARK BROWN (7.5 4/4) ND (SM), medium dense, moist, no		
	⊠ B-28-1.5			[24][27][42]	2.0	tom of boring at 2.0 feet.		

AEI BORING - GINT STD US LAB GDT - 1/19/16 08:14 - P:\COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SM\BORING LOGS\MOSS BEACH LOGS\\$05.GPJ



B-29-1.5

#### **AEI Consultants**

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		PAGE 1 OF 1

onmental & Engineering Services CLIENT MidPen Housing PROJECT NAME Carlos at Sierra Streets PROJECT NUMBER 350428 PROJECT LOCATION Moss Beach, California GROUND ELEVATION HOLE SIZE 2.25 inches **DATE STARTED** 12/22/15 **COMPLETED** 12/22/15 DRILLING CONTRACTOR Environmental Control Associates, Inc. **GROUND WATER LEVELS:** DRILLING METHOD Direct Push AT TIME OF DRILLING \_---LOGGED BY Tim Bodkin CHECKED BY Tim Bodkin AT END OF DRILLING \_---NOTES AFTER DRILLING \_--- No groundwater encountered SAMPLE TYPE NUMBER PID DATA (ppm) GRAPHIC LOG BLOW DEPTH (ft) MATERIAL DESCRIPTION COMPLETION X B-29-0.0

coarse sand.

Bottom of boring at 2.0 feet.

DARK BROWN (7.5YR 4/4) to STRONG BROWN (7.5YR 5/6) SILTY SAND (SM), medium dense, moist, no odor, fine to

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:14 - P.:COMPANYWIDE PROJECTS\\350000 SERIES\\350428 MOSS BEACH, CA\SM\BORING LOGS\\MOSS BEACH LOGS\\GRIDARY



County Review Draft
BORING NUMBER B-30
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Environini	ental & Engineering :	services						
CLIEN	IT MidPen H	lousing			PROJECT NAME Carlos at Sierra Street	S		
PROJ	ECT NUMBER	<b>R</b> 350428				PROJECT LOCATION Moss Beach, Cali	fornia	
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE	2.25 inches
DRILL	ING CONTRA	ACTOR Er	nvironme	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:		
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING		
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING		
NOTE	s					AFTER DRILLING No groundwa	iter encount	ered
O DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	Ми	ATERIAL DESCRIPTION	(	COMPLETION
	B-3-0.0  B-30-1.5			YR 4/4) SANDY SILTY CLAY (CL), mediur at 1 foot, color change to STRONG BROWN as stiff with increased sand content.				

Bottom of boring at 2.0 feet.

AEI BORING - GINT STD US LAB. GDT - 1/19/16 08:14 - P.\COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SIMBORING LOGS\MOSS BEACH LOGS\GPJ



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Environm	ental & Engineering	Services									
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets	3				
PROJ	ECT NUMBEI	<b>R</b> _350428				PROJECT LOCATION Moss Beach, Calif	fornia				
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION I	HOLE SIZE 2.25 inches				
DRILL	ING CONTRA	ACTOR Er	nvironm	ental C	control Associates, Inc.	GROUND WATER LEVELS:					
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING					
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING					
NOTE	s					AFTER DRILLING No groundwa	ter encountered				
о ОЕРТН (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION				
	B-31-0.0				medium dense, mois	YR 4/4) CLAYEY SAND (SC), loose to st, no odor. Color changes to STRONG at 1.0 feet, fine to coarse sand.					
	B-31-1.5 BROWN (7.51R 5/6) at 1.0 feet, fine to coarse sand.  Bottom of boring at 2.0 feet										

AEI BORING - GINT STD US LAB GDT - 1/19/16 08:14 - P:\COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SM\BORING LOGS\MOSS BEACH LOGS\\$05.GPJ



# BORING NUMBER B-32 PAGE 1 OF 1

Environm	ental & Engineering	Services					
CLIEN	IT MidPen F	Housing				PROJECT NAME Carlos at Sierra Streets	3
PROJ	ECT NUMBE	<b>R</b> _350428				PROJECT LOCATION Moss Beach, Calif	fornia
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION H	HOLE SIZE 2.25 inches
DRILL	ING CONTRA	ACTOR Er	nvironme	ental C	control Associates, Inc.	GROUND WATER LEVELS:	
DRILL	ING METHO	D Direct P	ush			AT TIME OF DRILLING	
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING	
NOTE	s					AFTER DRILLING No groundwa	ter encountered
о ОЕРТН (ft)	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	M	ATERIAL DESCRIPTION	COMPLETION
	B-32-0.0  B-32-1.5					YR 4/3) to STRONG BROWN (7.5yr 5/6) Y (CL) with CLAYEY SAND (SC), medium	
		,		<u> </u>	Bot	ttom of boring at 2.0 feet.	•

AEI BORING - GINT STD US LAB.GDT - 1/19/16 08:14 - P.\COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SM\BORING LOGS\MOSS BEACH LOGS\GPJ



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Environm	ental & Engineering	Services					
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Streets	<b>:</b>
PROJ	ECT NUMBE	<b>R</b> 350428				PROJECT LOCATION Moss Beach, Calif	ornia
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION H	HOLE SIZE 2.25 inches
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	Control Associates, Inc.	GROUND WATER LEVELS:	
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING	
LOGG	ED BY Tim	Bodkin		CHE	CKED BY _Tim Bodkin	AT END OF DRILLING	
NOTE	s					AFTER DRILLING No groundwa	ter encountered
SAMPLE TYPE NUMBER COUNTS PID DATA (ppm) GRAPHIC LOG						ATERIAL DESCRIPTION	COMPLETION
	B-33-0.0 B-33-1.5				DARK BROWN (7.5° moist, stiff.	YR 4/4) SANDY CLAY (CL), medium stiff,	
	<u>ν</u> υ υυ-1.υ			V/////	Bot	tom of boring at 2.0 feet.	

AEI BORING - GINT STD US LAB GDT - 1/19/16 08:14 - P:\COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SM\BORING LOGS\MOSS BEACH LOGS\\$05.GPJ



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Environm	ental & Engineering	Services					
CLIEN	IT MidPen F	lousing				PROJECT NAME Carlos at Sierra Street	s
PROJ	ECT NUMBEI	<b>R</b> 350428				PROJECT LOCATION Moss Beach, Cali	fornia
DATE	STARTED _	12/22/15		COM	PLETED 12/22/15	GROUND ELEVATION	HOLE SIZE 2.25 inches
DRILL	ING CONTRA	ACTOR E	nvironm	ental C	ontrol Associates, Inc.	GROUND WATER LEVELS:	
DRILL	ING METHO	Direct P	ush			AT TIME OF DRILLING	
LOGG	ED BY Tim	Bodkin		CHE	CKED BY Tim Bodkin	AT END OF DRILLING	
NOTE	s					AFTER DRILLING No groundwa	ater encountered
O DEPTH	SAMPLE TYPE NUMBER	BLOW	PID DATA (ppm)	GRAPHIC LOG	MA	ATERIAL DESCRIPTION	COMPLETION
	B-34-0.0  B34-1.5				DARK BROWN (7.5° moist, no odor.	YR) SANDY CLAY (CL), medium stiff,	
	DOT 1.0			V/////	Bot	tom of boring at 2.0 feet.	-

AEI BORING - GINT STD US LAB GDT - 1/19/16 08:15 - P:\COMPANYWIDE PROJECTS\350000 SERIES\350428 MOSS BEACH, CA\SM\BORING LOGS\MOSS BEACH LOGS\\$05.GPJ

# APPENDIX **B**LABORATORY ANALYTICAL REPORTS





# McCampbell Analytical, Inc.

"When Quality Counts"

## **Analytical Report**

WorkOrder: 1512A77

**Report Created for:** AEI Consultants

3880 S. Bascom Ave, Suite 109

San Jose, CA 95124

**Project Contact:** Tim Bodkin

**Project P.O.:** 

**Project Name:** 350428; Carlos & Sierra Streets, Moss Beach, CA

**Project Received:** 12/28/2015

Analytical Report reviewed & approved for release on 01/11/2016 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.



1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com NELAP: 4033ORELAP ♦ ELAP: 1644 ♦ ISO/IEC: 17025:2005 ♦ WSDE: C972-11 ♦ ADEC: UST-098 ♦ UCMR3

## **Glossary of Terms & Qualifier Definitions**

**Client:** AEI Consultants

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

#### **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)

DLT Dilution Test
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.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure
TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

#### **Analytical Qualifiers**

S spike recovery outside accepted recovery limits

e2 diesel range compounds are significant; no recognizable pattern

e7 oil range compounds are significant

## **Glossary of Terms & Qualifier Definitions**

**Client:** AEI Consultants

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

## **Quality Control Qualifiers**

F8 MS/MSD recovery and/or RPD was out of acceptance criteria; PDS validated the prep batch. If PDS recovery

was out of acceptance criteria, DLT validated the prep batch.



## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:E1613Date Prepared:12/31/15Analytical Method:E1613Project:350428; Carlos & Sierra Streets, Moss Beach, CAUnit:pg/g

Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans									
Client ID		Lab ID	Matrix	Date C	ollected	Instru	ument		Batch ID
B-1-1.5		1512A77-002A	Soil	12/22/20	15 10:20	GC36			114978
Analytes	<u>TEF</u> WHO '05	Result		<u>RL</u>	<u>DF</u>	<u>lon</u> Ratio	<u>RRT</u>	TEQ	Date Analyzed
2,3,7,8-TCDD		ND		0.500	1				01/08/2016 14:29
1,2,3,7,8-PeCDD		ND		2.50	1				01/08/2016 14:29
1,2,3,4,7,8-HxCDD		ND		2.50	1				01/08/2016 14:29
1,2,3,6,7,8-HxCDD		ND		2.50	1				01/08/2016 14:29
1,2,3,7,8,9-HxCDD		ND		2.50	1				01/08/2016 14:29
1,2,3,4,6,7,8-HpCDD		ND		2.50	1				01/08/2016 14:29
OCDD		ND		5.00	1				01/08/2016 14:29
2,3,7,8-TCDF		ND		0.500	1				01/08/2016 14:29
1,2,3,7,8-PeCDF		ND		2.50	1				01/08/2016 14:29
2,3,4,7,8-PeCDF		ND		2.50	1				01/08/2016 14:29
1,2,3,4,7,8-HxCDF		ND		2.50	1				01/08/2016 14:29
1,2,3,6,7,8-HxCDF		ND		2.50	1				01/08/2016 14:29
2,3,4,6,7,8-HxCDF		ND		2.50	1				01/08/2016 14:29
1,2,3,7,8,9-HxCDF		ND		2.50	1				01/08/2016 14:29
1,2,3,4,6,7,8-HpCDF		ND		2.50	1				01/08/2016 14:29
1,2,3,4,7,8,9-HpCDF		ND		2.50	1				01/08/2016 14:29
OCDF		ND		5.00	1				01/08/2016 14:29
Total-Tetradioxins		ND		0.500	1				01/08/2016 14:29
Total-Heptadioxins		ND		2.50	1				01/08/2016 14:29
Total-Hexadioxins		ND		2.50	1				01/08/2016 14:29
Total-Pentadioxins		ND		2.50	1				01/08/2016 14:29
Total-Tetrafurans		ND		0.500	1				01/08/2016 14:29
Total-Heptafurans		ND		2.50	1				01/08/2016 14:29
Total-Hexafurans		2.78		2.50	1				01/08/2016 14:29
Total-Pentafurans		ND		2.50	1				01/08/2016 14:29
						Tota	al TEQ:	0	
Cleanup Standard		REC (%)		<u>Limits</u>					
37Cl-2,3,7,8-TCDD		85		35-197					01/08/2016 14:29
Labeled Compound Recovery									
13C-2,3,7,8-TCDD		78		25-164					01/08/2016 14:29
13C-1,2,3,7,8-PeCDD		99		25-181					01/08/2016 14:29
13C-1,2,3,4,7,8-HxCDD		86		32-141					01/08/2016 14:29
13C-1,2,3,6,7,8-HxCDD		77		28-130					01/08/2016 14:29
13C-1,2,3,4,6,7,8-HpCDD		97		23-140					01/08/2016 14:29

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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:E1613Date Prepared:12/31/15Analytical Method:E1613Project:350428; Carlos & Sierra Streets, Moss Beach, CAUnit:pg/g

Poly	chlorinate	d Dibenzo-p-	Dioxins ar	nd Polyc	hlor	inated	Dibei	nzofur	ans	
Client ID		Lab ID	Matrix	D	ate C	Collected	Instr	ument		Batch ID
B-1-1.5		1512A77-002A	Soil	12	2/22/2	015 10:20	GC36			114978
<u>Analytes</u>	<u>TEF</u> WHO '05	Result		<u>R</u>	<u>L</u>	<u>DF</u>	<u>lon</u> Ratio	<u>RRT</u>	TEQ	Date Analyzed
13C-OCDD		117		17	7-157					01/08/2016 14:29
13C-2,3,7,8-TCDF		74		24	4-169					01/08/2016 14:29
13C-1,2,3,7,8-PeCDF		88		24	4-185					01/08/2016 14:29
13C-2,3,4,7,8-PeCDF		92		2	1-178					01/08/2016 14:29
13C-1,2,3,4,7,8-HxCDF		76		26	3-152					01/08/2016 14:29
13C-1,2,3,6,7,8-HxCDF		71		26	6-123					01/08/2016 14:29
13C-2,3,4,6,7,8-HxCDF		73		28	3-136					01/08/2016 14:29
13C-1,2,3,7,8,9-HxCDF		78		29	9-147					01/08/2016 14:29
13C-1,2,3,4,6,7,8-HpCDF		88		28	3-143					01/08/2016 14:29
13C-1,2,3,4,7,8,9-HpCDF		94		26	6-138					01/08/2016 14:29
Analyst(s): MG										



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW3550BDate Prepared:12/28/15Analytical Method:SW8082

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

## Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID Matrix	Date Collected Instrument	Batch ID
B-1-1.5	1512A77-002A Soil	12/22/2015 10:20 GC5A	114732
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed
Aroclor1016	ND	0.050 1	12/28/2015 23:35
Aroclor1221	ND	0.050 1	12/28/2015 23:35
Aroclor1232	ND	0.050 1	12/28/2015 23:35
Aroclor1242	ND	0.050 1	12/28/2015 23:35
Aroclor1248	ND	0.050 1	12/28/2015 23:35
Aroclor1254	ND	0.050 1	12/28/2015 23:35
Aroclor1260	ND	0.050 1	12/28/2015 23:35
PCBs, total	ND	0.050 1	12/28/2015 23:35
Surrogates	<u>REC (%)</u>	<u>Limits</u>	
Decachlorobiphenyl	90	70-130	12/28/2015 23:35
Analyst(s): SS			



## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/kg

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

Client ID	Lab ID	Matrix	Date Co	llected Instrument	Batch ID	
B-12-5.0	1512A77-021A	Soil	12/23/201	5 10:15 GC18	114716	
Analytes	Result		<u>RL</u>	<u>DF</u>	Date Analyzed	
Acetone	ND		0.10	1	12/31/2015 00:37	
tert-Amyl methyl ether (TAME)	ND		0.0050	1	12/31/2015 00:37	
Benzene	ND		0.0050	1	12/31/2015 00:37	
Bromobenzene	ND		0.0050	1	12/31/2015 00:37	
Bromochloromethane	ND		0.0050	1	12/31/2015 00:37	
Bromodichloromethane	ND		0.0050	1	12/31/2015 00:37	
Bromoform	ND		0.0050	1	12/31/2015 00:37	
Bromomethane	ND		0.0050	1	12/31/2015 00:37	
2-Butanone (MEK)	ND		0.020	1	12/31/2015 00:37	
t-Butyl alcohol (TBA)	ND		0.050	1	12/31/2015 00:37	
n-Butyl benzene	ND		0.0050	1	12/31/2015 00:37	
sec-Butyl benzene	ND		0.0050	1	12/31/2015 00:37	
tert-Butyl benzene	ND		0.0050	1	12/31/2015 00:37	
Carbon Disulfide	ND		0.0050	1	12/31/2015 00:37	
Carbon Tetrachloride	ND		0.0050	1	12/31/2015 00:37	
Chlorobenzene	ND		0.0050	1	12/31/2015 00:37	
Chloroethane	ND		0.0050	1	12/31/2015 00:37	
Chloroform	ND		0.0050	1	12/31/2015 00:37	
Chloromethane	ND		0.0050	1	12/31/2015 00:37	
2-Chlorotoluene	ND		0.0050	1	12/31/2015 00:37	
4-Chlorotoluene	ND		0.0050	1	12/31/2015 00:37	
Dibromochloromethane	ND		0.0050	1	12/31/2015 00:37	
1,2-Dibromo-3-chloropropane	ND		0.0040	1	12/31/2015 00:37	
1,2-Dibromoethane (EDB)	ND		0.0040	1	12/31/2015 00:37	
Dibromomethane	ND		0.0050	1	12/31/2015 00:37	
1,2-Dichlorobenzene	ND		0.0050	1	12/31/2015 00:37	
1,3-Dichlorobenzene	ND		0.0050	1	12/31/2015 00:37	
1,4-Dichlorobenzene	ND		0.0050	1	12/31/2015 00:37	
Dichlorodifluoromethane	ND		0.0050	1	12/31/2015 00:37	
1,1-Dichloroethane	ND		0.0050	1	12/31/2015 00:37	
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	12/31/2015 00:37	
1,1-Dichloroethene	ND		0.0050	1	12/31/2015 00:37	
cis-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 00:37	
trans-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 00:37	
1,2-Dichloropropane	ND		0.0050	1	12/31/2015 00:37	
1,3-Dichloropropane	ND		0.0050	1	12/31/2015 00:37	
2,2-Dichloropropane	ND		0.0050	1	12/31/2015 00:37	

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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
B-12-5.0	1512A77-021A	Soil	12/23/201	15 10:15 GC18	114716
Analytes	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.0050	1	12/31/2015 00:37
cis-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 00:37
trans-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 00:37
Diisopropyl ether (DIPE)	ND		0.0050	1	12/31/2015 00:37
Ethylbenzene	ND		0.0050	1	12/31/2015 00:37
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	12/31/2015 00:37
Freon 113	ND		0.0050	1	12/31/2015 00:37
Hexachlorobutadiene	ND		0.0050	1	12/31/2015 00:37
Hexachloroethane	ND		0.0050	1	12/31/2015 00:37
2-Hexanone	ND		0.0050	1	12/31/2015 00:37
Isopropylbenzene	ND		0.0050	1	12/31/2015 00:37
4-Isopropyl toluene	ND		0.0050	1	12/31/2015 00:37
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	12/31/2015 00:37
Methylene chloride	ND		0.0050	1	12/31/2015 00:37
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	12/31/2015 00:37
Naphthalene	ND		0.0050	1	12/31/2015 00:37
n-Propyl benzene	ND		0.0050	1	12/31/2015 00:37
Styrene	ND		0.0050	1	12/31/2015 00:37
1,1,1,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 00:37
1,1,2,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 00:37
Tetrachloroethene	ND		0.0050	1	12/31/2015 00:37
Toluene	ND		0.0050	1	12/31/2015 00:37
1,2,3-Trichlorobenzene	ND		0.0050	1	12/31/2015 00:37
1,2,4-Trichlorobenzene	ND		0.0050	1	12/31/2015 00:37
1,1,1-Trichloroethane	ND		0.0050	1	12/31/2015 00:37
1,1,2-Trichloroethane	ND		0.0050	1	12/31/2015 00:37
Trichloroethene	ND		0.0050	1	12/31/2015 00:37
Trichlorofluoromethane	ND		0.0050	1	12/31/2015 00:37
1,2,3-Trichloropropane	ND		0.0050	1	12/31/2015 00:37
1,2,4-Trimethylbenzene	ND		0.0050	1	12/31/2015 00:37
1,3,5-Trimethylbenzene	ND		0.0050	1	12/31/2015 00:37
Vinyl Chloride	ND		0.0050	1	12/31/2015 00:37
Xylenes, Total	ND		0.0050	1	12/31/2015 00:37





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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID	
B-12-5.0	1512A77-021A Soil	12/23/2015 10:15 GC18	114716	
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed	
<u>Surrogates</u>	REC (%)	<u>Limits</u>		
Dibromofluoromethane	89	70-130	12/31/2015 00:37	
Toluene-d8	89	70-130	12/31/2015 00:37	
4-BFB	81	70-130	12/31/2015 00:37	
Benzene-d6	83	60-140	12/31/2015 00:37	
Ethylbenzene-d10	86	60-140	12/31/2015 00:37	
1,2-DCB-d4	85	60-140	12/31/2015 00:37	



## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/kg

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

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID	
B-13-6.0	1512A77-026A	Soil	12/23/20	15 10:43 GC16	114716	
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>	
Acetone	ND		0.10	1	12/31/2015 01:30	
tert-Amyl methyl ether (TAME)	ND		0.0050	1	12/31/2015 01:30	
Benzene	ND		0.0050	1	12/31/2015 01:30	
Bromobenzene	ND		0.0050	1	12/31/2015 01:30	
Bromochloromethane	ND		0.0050	1	12/31/2015 01:30	
Bromodichloromethane	ND		0.0050	1	12/31/2015 01:30	
Bromoform	ND		0.0050	1	12/31/2015 01:30	
Bromomethane	ND		0.0050	1	12/31/2015 01:30	
2-Butanone (MEK)	ND		0.020	1	12/31/2015 01:30	
t-Butyl alcohol (TBA)	ND		0.050	1	12/31/2015 01:30	
n-Butyl benzene	ND		0.0050	1	12/31/2015 01:30	
sec-Butyl benzene	ND		0.0050	1	12/31/2015 01:30	
tert-Butyl benzene	ND		0.0050	1	12/31/2015 01:30	
Carbon Disulfide	ND		0.0050	1	12/31/2015 01:30	
Carbon Tetrachloride	ND		0.0050	1	12/31/2015 01:30	
Chlorobenzene	ND		0.0050	1	12/31/2015 01:30	
Chloroethane	ND		0.0050	1	12/31/2015 01:30	
Chloroform	ND		0.0050	1	12/31/2015 01:30	
Chloromethane	ND		0.0050	1	12/31/2015 01:30	
2-Chlorotoluene	ND		0.0050	1	12/31/2015 01:30	
4-Chlorotoluene	ND		0.0050	1	12/31/2015 01:30	
Dibromochloromethane	ND		0.0050	1	12/31/2015 01:30	
1,2-Dibromo-3-chloropropane	ND		0.0040	1	12/31/2015 01:30	
1,2-Dibromoethane (EDB)	ND		0.0040	1	12/31/2015 01:30	
Dibromomethane	ND		0.0050	1	12/31/2015 01:30	
1,2-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:30	
1,3-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:30	
1,4-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:30	
Dichlorodifluoromethane	ND		0.0050	1	12/31/2015 01:30	
1,1-Dichloroethane	ND		0.0050	1	12/31/2015 01:30	
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	12/31/2015 01:30	
1,1-Dichloroethene	ND		0.0050	1	12/31/2015 01:30	
cis-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 01:30	
trans-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 01:30	
1,2-Dichloropropane	ND		0.0050	1	12/31/2015 01:30	
1,3-Dichloropropane	ND		0.0050	1	12/31/2015 01:30	
2,2-Dichloropropane	ND		0.0050	1	12/31/2015 01:30	

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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/kg

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

Client ID	Lab ID	Matrix	Date Co	llected Instrument	Batch ID	
B-13-6.0	1512A77-026A Soil		12/23/201	I5 10:43 GC16	114716	
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>	
1,1-Dichloropropene	ND		0.0050	1	12/31/2015 01:30	
cis-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 01:30	
trans-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 01:30	
Diisopropyl ether (DIPE)	ND		0.0050	1	12/31/2015 01:30	
Ethylbenzene	ND		0.0050	1	12/31/2015 01:30	
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	12/31/2015 01:30	
Freon 113	ND		0.0050	1	12/31/2015 01:30	
Hexachlorobutadiene	ND		0.0050	1	12/31/2015 01:30	
Hexachloroethane	ND		0.0050	1	12/31/2015 01:30	
2-Hexanone	ND		0.0050	1	12/31/2015 01:30	
Isopropylbenzene	ND		0.0050	1	12/31/2015 01:30	
4-Isopropyl toluene	ND		0.0050	1	12/31/2015 01:30	
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	12/31/2015 01:30	
Methylene chloride	ND		0.0050	1	12/31/2015 01:30	
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	12/31/2015 01:30	
Naphthalene	ND		0.0050	1	12/31/2015 01:30	
n-Propyl benzene	ND		0.0050	1	12/31/2015 01:30	
Styrene	ND		0.0050	1	12/31/2015 01:30	
1,1,1,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 01:30	
1,1,2,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 01:30	
Tetrachloroethene	ND		0.0050	1	12/31/2015 01:30	
Toluene	ND		0.0050	1	12/31/2015 01:30	
1,2,3-Trichlorobenzene	ND		0.0050	1	12/31/2015 01:30	
1,2,4-Trichlorobenzene	ND		0.0050	1	12/31/2015 01:30	
1,1,1-Trichloroethane	ND		0.0050	1	12/31/2015 01:30	
1,1,2-Trichloroethane	ND		0.0050	1	12/31/2015 01:30	
Trichloroethene	ND		0.0050	1	12/31/2015 01:30	
Trichlorofluoromethane	ND		0.0050	1	12/31/2015 01:30	
1,2,3-Trichloropropane	ND		0.0050	1	12/31/2015 01:30	
1,2,4-Trimethylbenzene	ND		0.0050	1	12/31/2015 01:30	
1,3,5-Trimethylbenzene	ND		0.0050	1	12/31/2015 01:30	
Vinyl Chloride	ND		0.0050	1	12/31/2015 01:30	
Xylenes, Total	ND		0.0050	1	12/31/2015 01:30	



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID	
B-13-6.0	1512A77-026A Soil	12/23/2015 10:43 GC16	114716	
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed	
<u>Surrogates</u>	REC (%)	<u>Limits</u>		
Dibromofluoromethane	81	70-130	12/31/2015 01:30	
Toluene-d8	80	70-130	12/31/2015 01:30	
4-BFB	80	70-130	12/31/2015 01:30	
Benzene-d6	69	60-140	12/31/2015 01:30	
Ethylbenzene-d10	76	60-140	12/31/2015 01:30	
1,2-DCB-d4	60	60-140	12/31/2015 01:30	



## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/kg

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

Client ID	Lab ID	Matrix	Date Co	llected Instrument	Batch ID	
B-14-2.0	1512A77-028A	Soil	12/23/201	5 11:50 GC18	114716	
Analytes	Result		<u>RL</u>	<u>DF</u>	Date Analyzed	
Acetone	ND		0.10	1	12/31/2015 01:53	
tert-Amyl methyl ether (TAME)	ND		0.0050	1	12/31/2015 01:53	
Benzene	ND		0.0050	1	12/31/2015 01:53	
Bromobenzene	ND		0.0050	1	12/31/2015 01:53	
Bromochloromethane	ND		0.0050	1	12/31/2015 01:53	
Bromodichloromethane	ND		0.0050	1	12/31/2015 01:53	
Bromoform	ND		0.0050	1	12/31/2015 01:53	
Bromomethane	ND		0.0050	1	12/31/2015 01:53	
2-Butanone (MEK)	ND		0.020	1	12/31/2015 01:53	
t-Butyl alcohol (TBA)	ND		0.050	1	12/31/2015 01:53	
n-Butyl benzene	ND		0.0050	1	12/31/2015 01:53	
sec-Butyl benzene	ND		0.0050	1	12/31/2015 01:53	
tert-Butyl benzene	ND		0.0050	1	12/31/2015 01:53	
Carbon Disulfide	ND		0.0050	1	12/31/2015 01:53	
Carbon Tetrachloride	ND		0.0050	1	12/31/2015 01:53	
Chlorobenzene	ND		0.0050	1	12/31/2015 01:53	
Chloroethane	ND		0.0050	1	12/31/2015 01:53	
Chloroform	ND		0.0050	1	12/31/2015 01:53	
Chloromethane	ND		0.0050	1	12/31/2015 01:53	
2-Chlorotoluene	ND		0.0050	1	12/31/2015 01:53	
4-Chlorotoluene	ND		0.0050	1	12/31/2015 01:53	
Dibromochloromethane	ND		0.0050	1	12/31/2015 01:53	
1,2-Dibromo-3-chloropropane	ND		0.0040	1	12/31/2015 01:53	
1,2-Dibromoethane (EDB)	ND		0.0040	1	12/31/2015 01:53	
Dibromomethane	ND		0.0050	1	12/31/2015 01:53	
1,2-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:53	
1,3-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:53	
1,4-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:53	
Dichlorodifluoromethane	ND		0.0050	1	12/31/2015 01:53	
1,1-Dichloroethane	ND		0.0050	1	12/31/2015 01:53	
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	12/31/2015 01:53	
1,1-Dichloroethene	ND		0.0050	1	12/31/2015 01:53	
cis-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 01:53	
trans-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 01:53	
1,2-Dichloropropane	ND		0.0050	1	12/31/2015 01:53	
1,3-Dichloropropane	ND		0.0050	1	12/31/2015 01:53	
2,2-Dichloropropane	ND		0.0050	1	12/31/2015 01:53	

(Cont.)





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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/kg

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

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
B-14-2.0	1512A77-028A	Soil	12/23/201	I5 11:50 GC18	114716
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.0050	1	12/31/2015 01:53
cis-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 01:53
trans-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 01:53
Diisopropyl ether (DIPE)	ND		0.0050	1	12/31/2015 01:53
Ethylbenzene	ND		0.0050	1	12/31/2015 01:53
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	12/31/2015 01:53
Freon 113	ND		0.0050	1	12/31/2015 01:53
Hexachlorobutadiene	ND		0.0050	1	12/31/2015 01:53
Hexachloroethane	ND		0.0050	1	12/31/2015 01:53
2-Hexanone	ND		0.0050	1	12/31/2015 01:53
Isopropylbenzene	ND		0.0050	1	12/31/2015 01:53
4-Isopropyl toluene	ND		0.0050	1	12/31/2015 01:53
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	12/31/2015 01:53
Methylene chloride	ND		0.0050	1	12/31/2015 01:53
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	12/31/2015 01:53
Naphthalene	ND		0.0050	1	12/31/2015 01:53
n-Propyl benzene	ND		0.0050	1	12/31/2015 01:53
Styrene	ND		0.0050	1	12/31/2015 01:53
1,1,1,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 01:53
1,1,2,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 01:53
Tetrachloroethene	ND		0.0050	1	12/31/2015 01:53
Toluene	ND		0.0050	1	12/31/2015 01:53
1,2,3-Trichlorobenzene	ND		0.0050	1	12/31/2015 01:53
1,2,4-Trichlorobenzene	ND		0.0050	1	12/31/2015 01:53
1,1,1-Trichloroethane	ND		0.0050	1	12/31/2015 01:53
1,1,2-Trichloroethane	ND		0.0050	1	12/31/2015 01:53
Trichloroethene	ND		0.0050	1	12/31/2015 01:53
Trichlorofluoromethane	ND		0.0050	1	12/31/2015 01:53
1,2,3-Trichloropropane	ND		0.0050	1	12/31/2015 01:53
1,2,4-Trimethylbenzene	ND		0.0050	1	12/31/2015 01:53
1,3,5-Trimethylbenzene	ND		0.0050	1	12/31/2015 01:53
Vinyl Chloride	ND		0.0050	1	12/31/2015 01:53
Xylenes, Total	ND		0.0050	1	12/31/2015 01:53

Angela Rydelius, Lab Manager



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID B-14-2.0	Lab ID Matrix	Date Collected Instrument	Batch ID
	1512A77-028A Soil	12/23/2015 11:50 GC18	114716
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
Dibromofluoromethane	89	70-130	12/31/2015 01:53
Toluene-d8	89	70-130	12/31/2015 01:53
4-BFB	80	70-130	12/31/2015 01:53
Benzene-d6	92	60-140	12/31/2015 01:53
Ethylbenzene-d10	95	60-140	12/31/2015 01:53
1,2-DCB-d4	92	60-140	12/31/2015 01:53



## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/kg

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

B-15-7.0	Client ID	Lab ID	Matrix	<b>Date Collected Instrument</b>		Batch ID	
Acetone	B-15-7.0	1512A77-032A	Soil	12/23/20	15 09:50 GC18	114716	
tert-Amyl methyl ether (TAME)         ND         0.0050         1         12/31/2015 01:15           Benzene         ND         0.0050         1         12/31/2015 01:15           Bromobenzene         ND         0.0050         1         12/31/2015 01:15           Bromochloromethane         ND         0.0050         1         12/31/2015 01:15           Bromodichloromethane         ND         0.0050         1         12/31/2015 01:15           Bromomethane         ND         0.0050         1         12/31/2015 01:15           Bromomethane         ND         0.0050         1         12/31/2015 01:15           Butyl Lanche         ND         0.0050         1         12/31/2015 01:15           Beturyl Lanche         ND         0.0050         1         12/31/2015 01:15           Beturyl benzene         ND         0.0050         1         12/31/2015 01:15           Carbon Disuffide         ND         0.0050	<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed	
Benzene	Acetone	ND		0.10	1	12/31/2015 01:15	
Bromobenzene   ND	tert-Amyl methyl ether (TAME)	ND		0.0050	1	12/31/2015 01:15	
Bromochloromethane	Benzene	ND		0.0050	1	12/31/2015 01:15	
Bromodichloromethane   ND	Bromobenzene	ND		0.0050	1	12/31/2015 01:15	
Bromoform   ND	Bromochloromethane	ND		0.0050	1	12/31/2015 01:15	
Bromomethane   ND	Bromodichloromethane	ND		0.0050	1	12/31/2015 01:15	
2-Butanone (MEK)         ND         0.020         1         12/31/2015 01:15           t-Butyl alcohol (TBA)         ND         0.050         1         12/31/2015 01:15           n-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           sec-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           tert-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           Carbon Disulfide         ND         0.0050         1         12/31/2015 01:15           Carbon Disulfide         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chloroferm         ND         0.0050         1         12/31/2015 01:15           Chloroferme         ND         0.0050         1         12/31/2015 01:15           Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1	Bromoform	ND		0.0050	1	12/31/2015 01:15	
E-Butyl alcohol (TBA)	Bromomethane	ND		0.0050	1	12/31/2015 01:15	
n-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           sec-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           tert-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           Carbon Disulfide         ND         0.0050         1         12/31/2015 01:15           Carbon Tetrachloride         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chlorotethane         ND         0.0050         1         12/31/2015 01:15           Chlorotethane         ND         0.0050         1         12/31/2015 01:15           Chlorotethane         ND         0.0050         1         12/31/2015 01:15           Chlorototluene         ND         0.0050         1         12/31/2015 01:15           4-Chiorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chiorotoluene         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromochloromethane         ND         0.0040	2-Butanone (MEK)	ND		0.020	1	12/31/2015 01:15	
sec-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           tert-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           Carbon Disulfide         ND         0.0050         1         12/31/2015 01:15           Carbon Tetrachloride         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chlorotenae         ND         0.0050         1         12/31/2015 01:15           Chlorotemae         ND         0.0050         1         12/31/2015 01:15           Chlorotemae         ND         0.0050         1         12/31/2015 01:15           Chlorotelure         ND         0.0050         1         12/31/2015 01:15           C-Chlorotoluree         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluree         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromoe-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040	t-Butyl alcohol (TBA)	ND		0.050	1	12/31/2015 01:15	
tert-Butyl benzene         ND         0.0050         1         12/31/2015 01:15           Carbon Disulfide         ND         0.0050         1         12/31/2015 01:15           Carbon Tetrachloride         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chlorotethane         ND         0.0050         1         12/31/2015 01:15           Chloroform         ND         0.0050         1         12/31/2015 01:15           Chlorotethane         ND         0.0050         1         12/31/2015 01:15           Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           1-Chloromethane         ND         0.0050         1         12/31/2015 01:15           1-Z-Dibromoethane         ND         0.0050         1         12/31/2015 01:15           1-2-Dibromoethane         ND         0.0040         1	n-Butyl benzene	ND		0.0050	1	12/31/2015 01:15	
Carbon Disulfide         ND         0.0050         1         12/31/2015 01:15           Carbon Tetrachloride         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chloroethane         ND         0.0050         1         12/31/2015 01:15           Chloroform         ND         0.0050         1         12/31/2015 01:15           Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromoethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromoethane         ND         0.0040         1	sec-Butyl benzene	ND		0.0050	1	12/31/2015 01:15	
Carbon Tetrachloride         ND         0.0050         1         12/31/2015 01:15           Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chloroethane         ND         0.0050         1         12/31/2015 01:15           Chloroform         ND         0.0050         1         12/31/2015 01:15           Chloromethane         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromoethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050	tert-Butyl benzene	ND		0.0050	1	12/31/2015 01:15	
Chlorobenzene         ND         0.0050         1         12/31/2015 01:15           Chloroethane         ND         0.0050         1         12/31/2015 01:15           Chloroform         ND         0.0050         1         12/31/2015 01:15           Chloromethane         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND	Carbon Disulfide	ND		0.0050	1	12/31/2015 01:15	
Chloroethane         ND         0.0050         1         12/31/2015 01:15           Chloroform         ND         0.0050         1         12/31/2015 01:15           Chloromethane         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           Dibromoethane (EDB)         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND	Carbon Tetrachloride	ND		0.0050	1	12/31/2015 01:15	
Chloroform         ND         0.0050         1         12/31/2015 01:15           Chloromethane         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,1-Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichlorodthane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichlorothane <t< td=""><td>Chlorobenzene</td><td>ND</td><td></td><td>0.0050</td><td>1</td><td>12/31/2015 01:15</td></t<>	Chlorobenzene	ND		0.0050	1	12/31/2015 01:15	
Chloromethane         ND         0.0050         1         12/31/2015 01:15           2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane (1,2-DCA)         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane	Chloroethane	ND		0.0050	1	12/31/2015 01:15	
2-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene	Chloroform	ND		0.0050	1	12/31/2015 01:15	
4-Chlorotoluene         ND         0.0050         1         12/31/2015 01:15           Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromomethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene	Chloromethane	ND		0.0050	1	12/31/2015 01:15	
Dibromochloromethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           Dibromomethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dich	2-Chlorotoluene	ND		0.0050	1	12/31/2015 01:15	
1,2-Dibromo-3-chloropropane         ND         0.0040         1         12/31/2015 01:15           1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           Dibromomethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane	4-Chlorotoluene	ND		0.0050	1	12/31/2015 01:15	
1,2-Dibromoethane (EDB)         ND         0.0040         1         12/31/2015 01:15           Dibromomethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	Dibromochloromethane	ND		0.0050	1	12/31/2015 01:15	
Dibromomethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,2-Dibromo-3-chloropropane	ND		0.0040	1	12/31/2015 01:15	
1,2-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,2-Dibromoethane (EDB)	ND		0.0040	1	12/31/2015 01:15	
1,3-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	Dibromomethane	ND		0.0050	1	12/31/2015 01:15	
1,4-Dichlorobenzene         ND         0.0050         1         12/31/2015 01:15           Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,2-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:15	
Dichlorodifluoromethane         ND         0.0050         1         12/31/2015 01:15           1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,3-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:15	
1,1-Dichloroethane         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         12/31/2015 01:15           1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,4-Dichlorobenzene	ND		0.0050	1	12/31/2015 01:15	
1,2-Dichloroethane (1,2-DCA)       ND       0.0040       1       12/31/2015 01:15         1,1-Dichloroethene       ND       0.0050       1       12/31/2015 01:15         cis-1,2-Dichloroethene       ND       0.0050       1       12/31/2015 01:15         trans-1,2-Dichloroethene       ND       0.0050       1       12/31/2015 01:15         1,2-Dichloropropane       ND       0.0050       1       12/31/2015 01:15         1,3-Dichloropropane       ND       0.0050       1       12/31/2015 01:15         1,3-Dichloropropane       ND       0.0050       1       12/31/2015 01:15	Dichlorodifluoromethane	ND		0.0050	1	12/31/2015 01:15	
1,1-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,1-Dichloroethane	ND		0.0050	1	12/31/2015 01:15	
cis-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	12/31/2015 01:15	
trans-1,2-Dichloroethene         ND         0.0050         1         12/31/2015 01:15           1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,1-Dichloroethene	ND		0.0050	1	12/31/2015 01:15	
1,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15           1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	cis-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 01:15	
1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	trans-1,2-Dichloroethene	ND		0.0050	1	12/31/2015 01:15	
1,3-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,2-Dichloropropane	ND		0.0050	1	12/31/2015 01:15	
2,2-Dichloropropane         ND         0.0050         1         12/31/2015 01:15	1,3-Dichloropropane	ND		0.0050	1	12/31/2015 01:15	
	2,2-Dichloropropane	ND		0.0050	1	12/31/2015 01:15	

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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected Instrument		Batch ID
B-15-7.0	1512A77-032A	Soil	12/23/2015	09:50 GC18	114716
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
1,1-Dichloropropene	ND		0.0050	1	12/31/2015 01:15
cis-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 01:15
trans-1,3-Dichloropropene	ND		0.0050	1	12/31/2015 01:15
Diisopropyl ether (DIPE)	ND		0.0050	1	12/31/2015 01:15
Ethylbenzene	ND		0.0050	1	12/31/2015 01:15
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	12/31/2015 01:15
Freon 113	ND		0.0050	1	12/31/2015 01:15
Hexachlorobutadiene	ND		0.0050	1	12/31/2015 01:15
Hexachloroethane	ND		0.0050	1	12/31/2015 01:15
2-Hexanone	ND		0.0050	1	12/31/2015 01:15
Isopropylbenzene	ND		0.0050	1	12/31/2015 01:15
4-Isopropyl toluene	ND		0.0050	1	12/31/2015 01:15
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	12/31/2015 01:15
Methylene chloride	ND		0.0050	1	12/31/2015 01:15
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	12/31/2015 01:15
Naphthalene	ND		0.0050	1	12/31/2015 01:15
n-Propyl benzene	ND		0.0050	1	12/31/2015 01:15
Styrene	ND		0.0050	1	12/31/2015 01:15
1,1,1,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 01:15
1,1,2,2-Tetrachloroethane	ND		0.0050	1	12/31/2015 01:15
Tetrachloroethene	ND		0.0050	1	12/31/2015 01:15
Toluene	ND		0.0050	1	12/31/2015 01:15
1,2,3-Trichlorobenzene	ND		0.0050	1	12/31/2015 01:15
1,2,4-Trichlorobenzene	ND		0.0050	1	12/31/2015 01:15
1,1,1-Trichloroethane	ND		0.0050	1	12/31/2015 01:15
1,1,2-Trichloroethane	ND		0.0050	1	12/31/2015 01:15
Trichloroethene	ND		0.0050	1	12/31/2015 01:15
Trichlorofluoromethane	ND		0.0050	1	12/31/2015 01:15
1,2,3-Trichloropropane	ND		0.0050	1	12/31/2015 01:15
1,2,4-Trimethylbenzene	ND		0.0050	1	12/31/2015 01:15
1,3,5-Trimethylbenzene	ND		0.0050	1	12/31/2015 01:15
Vinyl Chloride	ND		0.0050	1	12/31/2015 01:15
Xylenes, Total	ND		0.0050	1	12/31/2015 01:15



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID
B-15-7.0	1512A77-032A Soil	12/23/2015 09:50 GC18	114716
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed
<u>Surrogates</u>	REC (%)	<u>Limits</u>	
Dibromofluoromethane	90	70-130	12/31/2015 01:15
Toluene-d8	89	70-130	12/31/2015 01:15
4-BFB	80	70-130	12/31/2015 01:15
Benzene-d6	86	60-140	12/31/2015 01:15
Ethylbenzene-d10	89	60-140	12/31/2015 01:15
1,2-DCB-d4	88	60-140	12/31/2015 01:15



## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Co	llected Instrument	Batch ID
B-17-4.0	1512A77-036A	Soil	12/22/201	5 15:25 GC18	114716
Analytes	Result		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		0.10	1	12/30/2015 20:10
tert-Amyl methyl ether (TAME)	ND		0.0050	1	12/30/2015 20:10
Benzene	ND		0.0050	1	12/30/2015 20:10
Bromobenzene	ND		0.0050	1	12/30/2015 20:10
Bromochloromethane	ND		0.0050	1	12/30/2015 20:10
Bromodichloromethane	ND		0.0050	1	12/30/2015 20:10
Bromoform	ND		0.0050	1	12/30/2015 20:10
Bromomethane	ND		0.0050	1	12/30/2015 20:10
2-Butanone (MEK)	ND		0.020	1	12/30/2015 20:10
t-Butyl alcohol (TBA)	ND		0.050	1	12/30/2015 20:10
n-Butyl benzene	ND		0.0050	1	12/30/2015 20:10
sec-Butyl benzene	ND		0.0050	1	12/30/2015 20:10
tert-Butyl benzene	ND		0.0050	1	12/30/2015 20:10
Carbon Disulfide	ND		0.0050	1	12/30/2015 20:10
Carbon Tetrachloride	ND		0.0050	1	12/30/2015 20:10
Chlorobenzene	ND		0.0050	1	12/30/2015 20:10
Chloroethane	ND		0.0050	1	12/30/2015 20:10
Chloroform	ND		0.0050	1	12/30/2015 20:10
Chloromethane	ND		0.0050	1	12/30/2015 20:10
2-Chlorotoluene	ND		0.0050	1	12/30/2015 20:10
4-Chlorotoluene	ND		0.0050	1	12/30/2015 20:10
Dibromochloromethane	ND		0.0050	1	12/30/2015 20:10
1,2-Dibromo-3-chloropropane	ND		0.0040	1	12/30/2015 20:10
1,2-Dibromoethane (EDB)	ND		0.0040	1	12/30/2015 20:10
Dibromomethane	ND		0.0050	1	12/30/2015 20:10
1,2-Dichlorobenzene	ND		0.0050	1	12/30/2015 20:10
1,3-Dichlorobenzene	ND		0.0050	1	12/30/2015 20:10
1,4-Dichlorobenzene	ND		0.0050	1	12/30/2015 20:10
Dichlorodifluoromethane	ND		0.0050	1	12/30/2015 20:10
1,1-Dichloroethane	ND		0.0050	1	12/30/2015 20:10
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	12/30/2015 20:10
1,1-Dichloroethene	ND		0.0050	1	12/30/2015 20:10
cis-1,2-Dichloroethene	ND		0.0050	1	12/30/2015 20:10
trans-1,2-Dichloroethene	ND		0.0050	1	12/30/2015 20:10
1,2-Dichloropropane	ND		0.0050	1	12/30/2015 20:10
1,3-Dichloropropane	ND		0.0050	1	12/30/2015 20:10
2,2-Dichloropropane	ND		0.0050	1	12/30/2015 20:10

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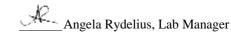
## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030BDate Prepared:12/28/15Analytical Method:SW8260B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
B-17-4.0	1512A77-036A	Soil	12/22/201	I5 15:25 GC18	114716
Analytes	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.0050	1	12/30/2015 20:10
cis-1,3-Dichloropropene	ND		0.0050	1	12/30/2015 20:10
trans-1,3-Dichloropropene	ND		0.0050	1	12/30/2015 20:10
Diisopropyl ether (DIPE)	ND		0.0050	1	12/30/2015 20:10
Ethylbenzene	ND		0.0050	1	12/30/2015 20:10
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	12/30/2015 20:10
Freon 113	ND		0.0050	1	12/30/2015 20:10
Hexachlorobutadiene	ND		0.0050	1	12/30/2015 20:10
Hexachloroethane	ND		0.0050	1	12/30/2015 20:10
2-Hexanone	ND		0.0050	1	12/30/2015 20:10
Isopropylbenzene	ND		0.0050	1	12/30/2015 20:10
4-Isopropyl toluene	ND		0.0050	1	12/30/2015 20:10
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	12/30/2015 20:10
Methylene chloride	ND		0.0050	1	12/30/2015 20:10
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	12/30/2015 20:10
Naphthalene	ND		0.0050	1	12/30/2015 20:10
n-Propyl benzene	ND		0.0050	1	12/30/2015 20:10
Styrene	ND		0.0050	1	12/30/2015 20:10
1,1,1,2-Tetrachloroethane	ND		0.0050	1	12/30/2015 20:10
1,1,2,2-Tetrachloroethane	ND		0.0050	1	12/30/2015 20:10
Tetrachloroethene	ND		0.0050	1	12/30/2015 20:10
Toluene	ND		0.0050	1	12/30/2015 20:10
1,2,3-Trichlorobenzene	ND		0.0050	1	12/30/2015 20:10
1,2,4-Trichlorobenzene	ND		0.0050	1	12/30/2015 20:10
1,1,1-Trichloroethane	ND		0.0050	1	12/30/2015 20:10
1,1,2-Trichloroethane	ND		0.0050	1	12/30/2015 20:10
Trichloroethene	ND		0.0050	1	12/30/2015 20:10
Trichlorofluoromethane	ND		0.0050	1	12/30/2015 20:10
1,2,3-Trichloropropane	ND		0.0050	1	12/30/2015 20:10
1,2,4-Trimethylbenzene	ND		0.0050	1	12/30/2015 20:10
1,3,5-Trimethylbenzene	ND		0.0050	1	12/30/2015 20:10
Vinyl Chloride	ND		0.0050	1	12/30/2015 20:10
Xylenes, Total	ND		0.0050	1	12/30/2015 20:10





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## **Analytical Report**

Client: AEI Consultants

Date Received: 12/28/15 17:55

Date Prepared: 12/28/15

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

**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	<b>Date Collected Instrument</b>	Batch ID
B-17-4.0	1512A77-036A Soil	12/22/2015 15:25 GC18	114716
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	<u>Date Analyzed</u>
Surrogates	REC (%)	<u>Limits</u>	
Dibromofluoromethane	89	70-130	12/30/2015 20:10
Toluene-d8	90	70-130	12/30/2015 20:10
4-BFB	82	70-130	12/30/2015 20:10
Benzene-d6	85	60-140	12/30/2015 20:10
Ethylbenzene-d10	87	60-140	12/30/2015 20:10
1,2-DCB-d4	85	60-140	12/30/2015 20:10



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW3050BDate Prepared:12/28/15Analytical Method:SW6020

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/Kg

#### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
B-1-1.5	1512A77-002A	Soil	12/22/20	15 10:20 ICP-MS2	114719
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed
Antimony	ND		0.50	1	12/29/2015 12:32
Arsenic	2.3		0.50	1	12/29/2015 12:32
Barium	44		5.0	1	12/29/2015 12:32
Beryllium	ND		0.50	1	12/29/2015 12:32
Cadmium	ND		0.25	1	12/29/2015 12:32
Chromium	15		0.50	1	12/29/2015 12:32
Cobalt	3.9		0.50	1	12/29/2015 12:32
Copper	2.2		0.50	1	12/29/2015 12:32
Lead	4.5		0.50	1	12/29/2015 12:32
Mercury	ND		0.050	1	12/29/2015 12:32
Molybdenum	1.0		0.50	1	12/29/2015 12:32
Nickel	13		0.50	1	12/29/2015 12:32
Selenium	ND		0.50	1	12/29/2015 12:32
Silver	ND		0.50	1	12/29/2015 12:32
Thallium	ND		0.50	1	12/29/2015 12:32
Vanadium	36		0.50	1	12/29/2015 12:32
Zinc	29		5.0	1	12/29/2015 12:32
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	103		70-130		12/29/2015 12:32
Analyst(s): DVH					



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## **Analytical Report**

**Client: AEI Consultants** WorkOrder: 1512A77 **Date Received:** 12/28/15 17:55 **Extraction Method: SW5030B** 

**Date Prepared:** 12/28/15-12/30/15 Analytical Method: SW8021B/8015Bm

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/Kg

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

Client ID	Lab ID Mati	rix Date Collected Instrument	Batch ID
B-12-5.0	1512A77-021A Soil	12/23/2015 10:15 GC19	114731
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	ND	1.0 1	12/29/2015 19:08
MTBE		0.050 1	12/29/2015 19:08
Benzene		0.0050 1	12/29/2015 19:08
Toluene		0.0050 1	12/29/2015 19:08
Ethylbenzene		0.0050 1	12/29/2015 19:08
Xylenes		0.015 1	12/29/2015 19:08
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
2-Fluorotoluene	114	70-130	12/29/2015 19:08
Analyst(s): IA			

Client ID	Lab ID Matrix	Date Collected Instrument	Batch ID
B-13-6.0	1512A77-026A Soil	12/23/2015 10:43 GC19	114731
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	ND	1.0 1	12/29/2015 19:38
MTBE		0.050 1	12/29/2015 19:38
Benzene		0.0050 1	12/29/2015 19:38
Toluene		0.0050 1	12/29/2015 19:38
Ethylbenzene		0.0050 1	12/29/2015 19:38
Xylenes		0.015 1	12/29/2015 19:38
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
2-Fluorotoluene	118	70-130	12/29/2015 19:38
Analyst(s): IA			



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## **Analytical Report**

**Client: AEI Consultants** WorkOrder: 1512A77 **Date Received:** 12/28/15 17:55 **Extraction Method: SW5030B** 

**Date Prepared:** 12/28/15-12/30/15 Analytical Method: SW8021B/8015Bm

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA Unit: mg/Kg

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

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID
B-14-2.0	1512A77-028A Soil	12/23/2015 11:50 GC19	114790
Analytes	Result	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	ND	1.0 1	12/30/2015 22:50
MTBE		0.050 1	12/30/2015 22:50
Benzene		0.0050 1	12/30/2015 22:50
Toluene		0.0050 1	12/30/2015 22:50
Ethylbenzene		0.0050 1	12/30/2015 22:50
Xylenes		0.015 1	12/30/2015 22:50
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
2-Fluorotoluene	120	70-130	12/30/2015 22:50
Analyst(s): IA			

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID
B-15-7.0	1512A77-032A Soil	12/23/2015 09:50 GC19	114731
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	ND	1.0 1	12/29/2015 22:07
MTBE		0.050 1	12/29/2015 22:07
Benzene		0.0050 1	12/29/2015 22:07
Toluene		0.0050 1	12/29/2015 22:07
Ethylbenzene		0.0050 1	12/29/2015 22:07
Xylenes		0.015 1	12/29/2015 22:07
<u>Surrogates</u>	REC (%)	<u>Limits</u>	
2-Fluorotoluene	118	70-130	12/29/2015 22:07
Analyst(s): IA			



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW5030B

**Date Prepared:** 12/28/15-12/30/15 **Analytical Method:** SW8021B/8015Bm

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA 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
B-17-4.0	1512A77-036A Soil	12/22/2015 15:25 GC19	114731
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	ND	1.0 1	12/29/2015 22:37
MTBE		0.050 1	12/29/2015 22:37
Benzene		0.0050 1	12/29/2015 22:37
Toluene		0.0050 1	12/29/2015 22:37
Ethylbenzene		0.0050 1	12/29/2015 22:37
Xylenes		0.015 1	12/29/2015 22:37
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
2-Fluorotoluene	119	70-130	12/29/2015 22:37
Analyst(s): IA			



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## **Analytical Report**

Client: AEI Consultants

Date Received: 12/28/15 17:55

Date Prepared: 12/28/15

WorkOrder: 1512A77
Extraction Method: SW3050B
Analytical Method: SW6010B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

		Lead			
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-4-0.0	1512A77-005A	Soil	12/23/2015 11:30	ICP-JY	114733
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	29		5.0 1		12/31/2015 12:24
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	108		70-130		12/31/2015 12:24
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-5-0.0	1512A77-007A	Soil	12/23/2015 11:45	ICP-JY	114733
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	54		5.0 1		12/31/2015 13:01
Surrogates	REC (%)		<u>Limits</u>		
Terbium	116		70-130		12/31/2015 13:01
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-6-0.0	1512A77-009A	Soil	12/23/2015 11:18	B ICP-JY	114733
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	8.4		5.0 1		12/31/2015 12:02
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	118		70-130		12/31/2015 12:02
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-8-0.0	1512A77-011A	Soil	12/23/2015 11:00	ICP-JY	114733
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	23		5.0 1		12/31/2015 12:10
Surrogates	REC (%)		<u>Limits</u>		
<u>carrogatoc</u>					
Terbium	115		70-130		12/31/2015 12:10



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1512A77

## **Analytical Report**

Client: AEI Consultants

Date Received: 12/28/15 17:55

Date Prepared: 12/28/15

**Extraction Method:** SW3050B **Analytical Method:** SW6010B

WorkOrder:

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

**Unit:** mg/Kg

-		Lead			
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-9-0.0	1512A77-013A	Soil	12/22/2015 13:00	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	6.5		5.0 1		12/31/2015 12:58
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	109		70-130		12/31/2015 12:58
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-10-0.0	1512A77-015A	Soil	12/22/2015 13:08	ICP-JY	114733
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	45		5.0 1		12/31/2015 11:52
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	110		70-130		12/31/2015 11:52
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-11-0.0	1512A77-017A	Soil	12/22/2015 13:17	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	6.2		5.0 1		12/31/2015 12:56
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	123		70-130		12/31/2015 12:56
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-7-0.0	1512A77-023A	Soil	12/23/2015 10:55	ICP-JY	114733
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	230		5.0 1		12/31/2015 11:55
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	112		70-130		12/31/2015 11:55
Analyst(s): DB					

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## **Analytical Report**

Client: AEI Consultants

Date Received: 12/28/15 17:55

Date Prepared: 12/28/15

WorkOrder: 1512A77
Extraction Method: SW3050B
Analytical Method: SW6010B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

		Lead			
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-15-0.0	1512A77-029A	Soil	12/22/2015 15:10	ICP-JY	114733
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	25		5.0 1		12/31/2015 12:12
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	113		70-130		12/31/2015 12:12
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-16-0.0	1512A77-034A	Soil	12/22/2015 15:00	ICP-JY	114733
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	15		5.0 1		12/31/2015 11:57
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	126		70-130		12/31/2015 11:57
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-18-0.0	1512A77-038A	Soil	12/22/2015 14:30	ICP-JY	114733
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	12		5.0 1		12/31/2015 12:34
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	119		70-130		12/31/2015 12:34
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-19-0.0	1512A77-040A	Soil	12/22/2015 16:00	ICP-JY	114733
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	7.9		5.0 1		12/31/2015 12:22
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	111		70-130		12/31/2015 12:22
Analyst(s): DB					



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## **Analytical Report**

Client: AEI Consultants

Date Received: 12/28/15 17:55

Date Prepared: 12/28/15

WorkOrder: 1512A77
Extraction Method: SW3050B
Analytical Method: SW6010B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

		Lead			
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-20-0.0	1512A77-042A	Soil	12/22/2015 13:35	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	41		5.0 1		12/31/2015 12:29
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	104		70-130		12/31/2015 12:29
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-21-0.0	1512A77-044A	Soil	12/22/2015 13:55	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> DF		Date Analyzed
Lead	88		5.0 1		12/31/2015 12:41
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	110		70-130		12/31/2015 12:41
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-22-0.0	1512A77-046A	Soil	12/22/2015 16:38	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	19		5.0 1		12/31/2015 12:14
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	115		70-130		12/31/2015 12:14
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-23-0.0	1512A77-048A	Soil	12/22/2015 16:20	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	15		5.0 1		12/31/2015 12:00
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	119		70-130		12/31/2015 12:00
Analyst(s): DB					



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## **Analytical Report**

Client: AEI Consultants

Date Received: 12/28/15 17:55

Date Prepared: 12/28/15

WorkOrder: 1512A77
Extraction Method: SW3050B
Analytical Method: SW6010B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

		Lead			
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-24-0.0	1512A77-050A	Soil	12/22/2015 16:30	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	16		5.0 1		12/31/2015 12:39
Surrogates	REC (%)		<u>Limits</u>		
Terbium	106		70-130		12/31/2015 12:39
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-25-0.0	1512A77-052A	Soil	12/22/2015 17:00	ICP-JY	114733
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	8.9		5.0 1		12/31/2015 12:31
Surrogates	REC (%)		<u>Limits</u>		
Terbium	110		70-130		12/31/2015 12:31
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-26-0.0	1512A77-054A	Soil	12/22/2015 16:47	CP-JY	114733
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	7.4		5.0 1		12/31/2015 12:05
Surrogates	REC (%)		<u>Limits</u>		
Terbium	102		70-130		12/31/2015 12:05
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-27-0.0	1512A77-056A	Soil	12/22/2015 09:15	ICP-JY	114733
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	6.3		5.0 1		12/29/2015 11:48
Surrogates	REC (%)		<u>Limits</u>		
Terbium	108		70-130		12/29/2015 11:48
Analyst(s): BBO					



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## **Analytical Report**

Client: AEI Consultants

Date Received: 12/28/15 17:55

Date Prepared: 12/28/15

**Project:** 

350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

**Extraction Method:** SW3050B **Analytical Method:** SW6010B

		Lead			
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-28-0.0	1512A77-058A	Soil	12/22/2015 08:45	i ICP-JY	114734
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	9.7		5.0 1		12/31/2015 12:07
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	105		70-130		12/31/2015 12:07
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-29-0.0	1512A77-060A	Soil	12/22/2015 08:30	ICP-JY	114734
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	8.7		5.0 1		12/31/2015 12:51
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	117		70-130		12/31/2015 12:51
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-30-0.0	1512A77-062A	Soil	12/22/2015 08:15	ICP-JY	114734
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	9.1		5.0 1		12/31/2015 12:44
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	104		70-130		12/31/2015 12:44
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-31-0.0	1512A77-064A	Soil	12/22/2015 09:30	ICP-JY	114734
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Lead	7.8		5.0 1		12/31/2015 12:53
Surrogates	REC (%)		<u>Limits</u>		
Terbium	112		70-130		12/31/2015 12:53
Analyst(s): DB					



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Extraction Method: SW3050B

1512A77

mg/Kg

## **Analytical Report**

WorkOrder:

**Client: AEI Consultants Date Received:** 12/28/15 17:55 **Date Prepared:** 12/28/15

Project:

Analyst(s):

BBO

Analytical Method: SW6010B 350428; Carlos & Sierra Streets, Moss Beach, CA Unit:

Lead Client ID Lab ID Matrix **Date Collected Instrument Batch ID** B-32-0.0 1512A77-066A 12/22/2015 09:45 ICP-JY Soil 114734 **Analytes** Result <u>RL</u> <u>DF</u> **Date Analyzed** Lead 7.0 5.0 1 12/31/2015 12:36 Surrogates **REC (%) Limits** Terbium 112 70-130 12/31/2015 12:36 Analyst(s): DB **Client ID** Lab ID Matrix **Date Collected Instrument Batch ID** B-33-0.0 12/22/2015 10:00 ICP-JY 1512A77-068A Soil 114734 <u>DF</u> **Analytes** Result <u>RL</u> **Date Analyzed** Lead 39 5.0 1 12/31/2015 12:27 Surrogates **REC (%) Limits** Terbium 108 70-130 12/31/2015 12:27 Analyst(s): Client ID Lab ID Matrix **Date Collected Instrument Batch ID** B-34-0.0 1512A77-070A 12/22/2015 14:10 ICP-JY 114734 Soil <u>DF</u> Result <u>RL</u> **Date Analyzed** <u>Analytes</u> Lead 34 5.0 1 12/29/2015 11:31 **REC (%)** Surrogates **Limits** Terbium 96 70-130 12/29/2015 11:31



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW3550BDate Prepared:12/28/15Analytical Method:SW8015B

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Unit:** mg/Kg

Client ID	Lab ID	Matrix	Date C	Collected Instrument	Batch ID
B-3-2.0	1512A77-003A	Soil	12/23/20	015 09:00 GC39B	114721
Analytes	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	1.3		1.0	1	12/29/2015 17:37
TPH-Motor Oil (C18-C36)	ND		5.0	1	12/29/2015 17:37
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
C9	100		70-130		12/29/2015 17:37
Analyst(s): RB			Analytical Com	nments: e7,e2	

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
B-3-5.0	1512A77-004A	Soil	12/23/20	015 09:15 GC39B	114721
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	ND		1.0	1	12/29/2015 18:55
TPH-Motor Oil (C18-C36)	ND		5.0	1	12/29/2015 18:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	100		70-130		12/29/2015 18:55
Analyst(s): RB			Analytical Com	ments: e7,e2	

**Date:** 11-Jan-16

**CLIENT: AEI Consultants** 

### ANALYTICAL QC SUMMARY REPORT

Work Order: 1512A77

BatchID: 114978 350428; Carlos & Sierra Streets, Moss Beach, CA

SampleID MB-114978	TestCode: 1613_FULL_S		Units	pg/g		Prep Date: 1	2/31/2015	
Batch ID: 114978	TestNo: E1613		Run ID:	GC36_	160111A	Analysis Date: 1	/8/2016	
Analyte	Result	PQL SPKValue	: SPKRefVal	%REC	Limits	RPDRefVal %RPD	RPDLimit	Qual
2,3,7,8-TCDD	ND	0.500			-			
1,2,3,7,8-PeCDD	ND	2.50			-			
1,2,3,4,7,8-HxCDD	ND	2.50			-			
1,2,3,6,7,8-HxCDD	ND	2.50			-			
1,2,3,7,8,9-HxCDD	ND	2.50			-			
1,2,3,4,6,7,8-HpCDD	ND	2.50			-			
OCDD	ND	5.00			-			
2,3,7,8-TCDF	ND	0.500			-			
1,2,3,7,8-PeCDF	ND	2.50			-			
2,3,4,7,8-PeCDF	ND	2.50			-			
1,2,3,4,7,8-HxCDF	ND	2.50			-			
1,2,3,6,7,8-HxCDF	ND	2.50			-			
2,3,4,6,7,8-HxCDF	ND	2.50			-			
1,2,3,7,8,9-HxCDF	ND	2.50			-			
1,2,3,4,6,7,8-HpCDF	ND	2.50			-			
1,2,3,4,7,8,9-HpCDF	ND	2.50			-			
OCDF	ND	5.00			-			
Cleanup Standard								
37Cl-2,3,7,8-TCDD	8.08	10	)	81	35 - 197			
Labeled Compound Recovery								
13C-2,3,7,8-TCDD	76.6	100	)	77	25 - 164			
13C-1,2,3,7,8-PeCDD	96.1	100	)	96	25 - 181			
13C-1,2,3,4,7,8-HxCDD	80.1	100	)	80	32 - 141			
13C-1,2,3,6,7,8-HxCDD	72.1	100	)	72	28 - 130			
13C-1,2,3,4,6,7,8-HpCDD	91.9	100	)	92	23 - 140			
13C-OCDD	225	200	)	112	17 - 157			
13C-2,3,7,8-TCDF	71.9	100	)	72	24 - 169			
13C-1,2,3,7,8-PeCDF	83.5	100	)	84	24 - 185			
13C-2,3,4,7,8-PeCDF	86.7	100	)	87	21 - 178			
13C-1,2,3,4,7,8-HxCDF	68.8	100	)	69	26 - 152			
13C-1,2,3,6,7,8-HxCDF	64.4	100	)	64	26 - 123			
13C-2,3,4,6,7,8-HxCDF	69.6	100	)	70	28 - 136			
13C-1,2,3,7,8,9-HxCDF	74.9	100	)	75	29 - 147			
13C-1,2,3,4,6,7,8-HpCDF	82.7	100	)	83	28 - 143			
13C-1,2,3,4,7,8,9-HpCDF	86.4	100	)	86	26 - 138			

**CLIENT:** AEI Consultants

## ANALYTICAL QC SUMMARY REPORT

Work Order: 1512A77

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA BatchID: 114978

SampleID LCS-114978	TestCode: 1613_FULL_S			Units	pg/g		Prep Date: 12	2/31/2015	
Batch ID: 114978	TestNo: E1613			Run ID:	GC36_	_160111B	Analysis Date: 1/	8/2016	
Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal %RPD	RPDLimit	Qual
2,3,7,8-TCDD	12.4	0.500	10	0	124	67 - 158			
1,2,3,7,8-PeCDD	55.2	2.50	50	1.14	110	70 - 142			
1,2,3,4,7,8-HxCDD	47.8	2.50	50	1.04	96	70 - 164			
1,2,3,6,7,8-HxCDD	48.7	2.50	50	1.04	97	76 - 134			
1,2,3,7,8,9-HxCDD	50.5	2.50	50	0.96	101	64 - 162			
1,2,3,4,6,7,8-HpCDD	47.1	2.50	50	0.68	94	70 - 140			
OCDD	85.5	5.00	100	0.48	86	78 - 144			
2,3,7,8-TCDF	12.6	0.500	10	0	126	75 - 158			
1,2,3,7,8-PeCDF	47.3	2.50	50	0.94	95	80 - 134			
2,3,4,7,8-PeCDF	50.0	2.50	50	0.86	100	68 - 160			
1,2,3,4,7,8-HxCDF	48.9	2.50	50	1.08	98	72 - 134			
1,2,3,6,7,8-HxCDF	50.3	2.50	50	1.14	101	84 - 130			
2,3,4,6,7,8-HxCDF	51.9	2.50	50	1.08	104	70 - 156			
1,2,3,7,8,9-HxCDF	47.3	2.50	50	0.56	95	78 - 130			
1,2,3,4,6,7,8-HpCDF	67.5	2.50	50	0.68	135	82 - 122			S
1,2,3,4,7,8,9-HpCDF	51.9	2.50	50	0.48	104	78 - 138			
OCDF	63.1	5.00	100	0.36	63	63 - 170			
Cleanup Standard									
37Cl-2,3,7,8-TCDD	8.28		10		83	31 - 191			
Labeled Compound Recovery									
13C-2,3,7,8-TCDD	71.1		100		71	20 - 175			
13C-1,2,3,7,8-PeCDD	93.2		100		93	21 - 227			
13C-1,2,3,4,7,8-HxCDD	55.6		100		56	21 - 193			
13C-1,2,3,6,7,8-HxCDD	52.7		100		53	25 - 163			
13C-1,2,3,4,6,7,8-HpCDD	69.3		100		69	26 - 166			
13C-OCDD	122		200		61	13 - 199			
13C-2,3,7,8-TCDF	63.9		100		64	22 - 152			
13C-1,2,3,7,8-PeCDF	94.6		100		95	21 - 192			
13C-2,3,4,7,8-PeCDF	79.1		100		79	13 - 328			
13C-1,2,3,4,7,8-HxCDF	55.2		100		55	19 - 202			
13C-1,2,3,6,7,8-HxCDF	54.9		100		55	21 - 159			
13C-2,3,4,6,7,8-HxCDF	50.3		100		50	22 - 176			
13C-1,2,3,7,8,9-HxCDF	36.0		100		36	17 - 205			
13C-1,2,3,4,6,7,8-HpCDF	51.3		100		51	21 - 158			
13C-1,2,3,4,7,8,9-HpCDF	40.3		100		40	20 - 186			

**CLIENT:** AEI Consultants

## ANALYTICAL QC SUMMARY REPORT

Work Order: 1512A77

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA BatchID: 114978

SampleID 1512747-001AMS	TestCode: 1613_FULL_S			Units	pg/g		Prep Date: 12/31/201	5
Batch ID: 114978	TestNo: E1613			Run ID:	GC36_	160111A	Analysis Date: 1/8/2016	
Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal %RPD RPDLimi	t Qual
2,3,7,8-TCDD	94.2	5.00	100	0	94	67 - 158		
1,2,3,7,8-PeCDD	484	25.0	500	5.8	96	70 - 142		
1,2,3,4,7,8-HxCDD	476	25.0	500	8.2	94	70 - 164		
1,2,3,6,7,8-HxCDD	486	25.0	500	9	95	76 - 134		
1,2,3,7,8,9-HxCDD	497	25.0	500	7.4	98	64 - 162		
1,2,3,4,6,7,8-HpCDD	509	25.0	500	20.6	98	70 - 140		
OCDD	1090	50.0	1000	127.4	97	78 - 144		
2,3,7,8-TCDF	97.4	5.00	100	0	97	75 - 158		
1,2,3,7,8-PeCDF	457	25.0	500	5	90	80 - 134		
2,3,4,7,8-PeCDF	464	25.0	500	3.8	92	68 - 160		
1,2,3,4,7,8-HxCDF	464	25.0	500	7.8	91	72 - 134		
1,2,3,6,7,8-HxCDF	482	25.0	500	8.2	95	84 - 130		
2,3,4,6,7,8-HxCDF	488	25.0	500	8	96	70 - 156		
1,2,3,7,8,9-HxCDF	469	25.0	500	5	93	78 - 130		
1,2,3,4,6,7,8-HpCDF	470	25.0	500	8.4	92	82 - 122		
1,2,3,4,7,8,9-HpCDF	491	25.0	500	4.8	97	78 - 138		
OCDF	894	50.0	1000	14.2	88	63 - 170		
Cleanup Standard								
37Cl-2,3,7,8-TCDD	84.0		100		84	31 - 191		
Labeled Compound Recovery								
13C-2,3,7,8-TCDD	777		1000		78	20 - 175		
13C-1,2,3,7,8-PeCDD	1050		1000		105	21 - 227		
13C-1,2,3,4,7,8-HxCDD	856		1000		86	21 - 193		
13C-1,2,3,6,7,8-HxCDD	762		1000		76	25 - 163		
13C-1,2,3,4,6,7,8-HpCDD	994		1000		99	26 - 166		
13C-OCDD	2240		2000		112	13 - 199		
13C-2,3,7,8-TCDF	761		1000		76	22 - 152		
13C-1,2,3,7,8-PeCDF	934		1000		93	21 - 192		
13C-2,3,4,7,8-PeCDF	984		1000		98	13 - 328		
13C-1,2,3,4,7,8-HxCDF	748		1000		75	19 - 202		
13C-1,2,3,6,7,8-HxCDF	696		1000		70	21 - 159		
13C-2,3,4,6,7,8-HxCDF	769		1000		77	22 - 176		
13C-1,2,3,7,8,9-HxCDF	800		1000		80	17 - 205		
13C-1,2,3,4,6,7,8-HpCDF	850		1000		85	21 - 158		
13C-1,2,3,4,7,8,9-HpCDF	933		1000		93	20 - 186		

**CLIENT:** AEI Consultants

## ANALYTICAL QC SUMMARY REPORT

Work Order: 1512A77

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA BatchID: 114978

SampleID 1512747-001AMSD	TestCode: 1613_FULL_S			Units	pg/g		Prep D	)ate: 1	2/31/2015	
Batch ID: 114978	TestNo: E1613			Run ID:	GC36_	160111A	Analysis D	Date: 1	/8/2016	
Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal	%RPD	RPDLimit	Qual
2,3,7,8-TCDD	103	5.00	100	0	103	67 - 158	94.2	9.31	20	
1,2,3,7,8-PeCDD	482	25.0	500	5.8	95	70 - 142	483.6	0.373	20	
1,2,3,4,7,8-HxCDD	482	25.0	500	8.2	95	70 - 164	476.2	1.29	20	
1,2,3,6,7,8-HxCDD	478	25.0	500	9	94	76 - 134	485.6	1.58	20	
1,2,3,7,8,9-HxCDD	499	25.0	500	7.4	98	64 - 162	497	0.362	20	
1,2,3,4,6,7,8-HpCDD	489	25.0	500	20.6	94	70 - 140	509.2	4.01	20	
OCDD	958	50.0	1000	127.4	83	78 - 144	1093.2	13.1	20	
2,3,7,8-TCDF	98.0	5.00	100	0	98	75 - 158	97.4	0.614	20	
1,2,3,7,8-PeCDF	467	25.0	500	5	92	80 - 134	457	2.25	20	
2,3,4,7,8-PeCDF	488	25.0	500	3.8	97	68 - 160	464.2	5.00	20	
1,2,3,4,7,8-HxCDF	482	25.0	500	7.8	95	72 - 134	463.6	3.97	20	
1,2,3,6,7,8-HxCDF	501	25.0	500	8.2	98	84 - 130	482.2	3.74	20	
2,3,4,6,7,8-HxCDF	494	25.0	500	8	97	70 - 156	487.8	1.26	20	
1,2,3,7,8,9-HxCDF	468	25.0	500	5	93	78 - 130	469.4	0.213	20	
1,2,3,4,6,7,8-HpCDF	464	25.0	500	8.4	91	82 - 122	470.2	1.24	20	
1,2,3,4,7,8,9-HpCDF	501	25.0	500	4.8	99	78 - 138	491.2	1.94	20	
OCDF	861	50.0	1000	14.2	85	63 - 170	893.8	3.69	20	
Cleanup Standard										
37CI-2,3,7,8-TCDD	82.2		100		82	31 - 191				
Labeled Compound Recovery										
13C-2,3,7,8-TCDD	756		1000		76	20 - 175				
13C-1,2,3,7,8-PeCDD	1020		1000		102	21 - 227				
13C-1,2,3,4,7,8-HxCDD	855		1000		86	21 - 193				
13C-1,2,3,6,7,8-HxCDD	767		1000		77	25 - 163				
13C-1,2,3,4,6,7,8-HpCDD	974		1000		97	26 - 166				
13C-OCDD	2220		2000		111	13 - 199				
13C-2,3,7,8-TCDF	759		1000		76	22 - 152				
13C-1,2,3,7,8-PeCDF	919		1000		92	21 - 192				
13C-2,3,4,7,8-PeCDF	943		1000		94	13 - 328				
13C-1,2,3,4,7,8-HxCDF	721		1000		72	19 - 202				
13C-1,2,3,6,7,8-HxCDF	669		1000		67	21 - 159				
13C-2,3,4,6,7,8-HxCDF	755		1000		75	22 - 176				
13C-1,2,3,7,8,9-HxCDF	784		1000		78	17 - 205				
13C-1,2,3,4,6,7,8-HpCDF	845		1000		84	21 - 158				
13C-1,2,3,4,7,8,9-HpCDF	940		1000		94	20 - 186				

# **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114716Date Analyzed:12/28/15Extraction Method:SW5030BInstrument:GC18Analytical Method:SW8260B

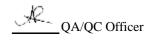
Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114716

1512A04-003AMS/MSD

#### **QC Summary Report for SW8260B**

Internal Content	Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Benzene	Acetone	ND	-	0.10	-	-	-	-
Bromobenzene   ND	tert-Amyl methyl ether (TAME)	ND	0.0468	0.0050	0.050	-	94	53-116
Permochloromethane	Benzene	ND	0.0494	0.0050	0.050	-	99	63-137
Bromodichloromethane   ND	Bromobenzene	ND	-	0.0050	-	-	-	-
Bromoform	Bromochloromethane	ND	-	0.0050	-	-	-	-
Permomethane   ND   -	Bromodichloromethane	ND	-	0.0050	-	-	-	-
2-Butlanone (MEK)   ND	Bromoform	ND	-	0.0050	-	-	-	-
Bettyl alcohol (TBA)   ND	Bromomethane	ND	-	0.0050	-	-	-	-
ND   ND   ND   ND   ND   ND   ND   ND	2-Butanone (MEK)	ND	-	0.020	-	-	-	-
ND   -	t-Butyl alcohol (TBA)	ND	0.181	0.050	0.20	-	90	41-135
ND   -	n-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide         ND         -         0.0050         -         -         -         -           Carbon Tetrachloride         ND         -         0.0050         -	sec-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride         ND         -         0.0050         - </td <td>tert-Butyl benzene</td> <td>ND</td> <td>-</td> <td>0.0050</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>	tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Chlorobenzene         ND         0.0474         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         -         -         -         -           1,2-Dibromoethane         ND         -         0.0040         -         -         -         -           1,2-Dichlorobenzene         ND         -         0.0050         -	Carbon Disulfide	ND	-	0.0050	-	-	-	-
Chloroethane         ND         -         0.0050         -         -         -         -           Chloroform         ND         -         0.0050         -         -         -         -           Chloromethane         ND         -         0.0050         -         -         -         -           2-Chlorotoluene         ND         -         0.0050         -         -         -         -           4-Chlorotoluene         ND         -         0.0050         -         -         -         -           4-Chlorotoluene         ND         -         0.0050         -         -         -         -           Dibromochloromethane         ND         -         0.0050         -         -         -         -           1,2-Dibromo-3-chloropropane         ND         -         0.0040         -	Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chloroform         ND         -         0.0050         -         -         -         -           Chloromethane         ND         -         0.0050         -         -         -         -           2-Chlorotoluene         ND         -         0.0050         -         -         -         -           4-Chlorotoluene         ND         -         0.0050         -         -         -         -           1,2-Dibromorethane         ND         -         0.0040         -         -         -         -         -           1,2-Dichlorobenzene         ND         -         0.0050         -	Chlorobenzene	ND	0.0474	0.0050	0.050	-	95	77-121
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         0.0457         0.0040         0.050         -         91         67-119           Dibromomethane         ND         -         0.0050         -         -         -         -         -           1,2-Dichlorobenzene         ND         -         0.0050         - <t< td=""><td>Chloroethane</td><td>ND</td><td>-</td><td>0.0050</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>	Chloroethane	ND	-	0.0050	-	-	-	-
ND	Chloroform	ND	-	0.0050	-	-	-	-
A-Chlorotoluene	Chloromethane	ND	-	0.0050	-	-	-	-
Dibromochloromethane         ND         -         0.0050         -         -         -           1,2-Dibromo-3-chloropropane         ND         -         0.0040         -         -         -           1,2-Dibromoethane (EDB)         ND         0.0457         0.0040         0.050         -         91         67-119           Dibromomethane (EDB)         ND         -         0.0050         -         -         -         -         -           1,2-Dichlorobenzene         ND         -         0.0050         -	2-Chlorotoluene	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	4-Chlorotoluene	ND	-	0.0050	-	-	-	-
1,2-Dibromoethane (EDB)	Dibromochloromethane	ND	-	0.0050	-	-	-	-
ND	1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dichlorobenzene	1,2-Dibromoethane (EDB)	ND	0.0457	0.0040	0.050	-	91	67-119
ND	Dibromomethane	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane         ND         -         0.0050         -         -         -         -           1,1-Dichloroethane         ND         -         0.0050         -         -         -         -         -           1,2-Dichloroethane (1,2-DCA)         ND         0.0440         0.0040         0.050         -         88         58-135           1,1-Dichloroethene         ND         0.0441         0.0050         0.050         -         88         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         -         -         -         -         -         -	1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane       ND       -       0.0050       -       -       -       -         1,2-Dichloroethane (1,2-DCA)       ND       0.0440       0.0040       0.050       -       88       58-135         1,1-Dichloroethene       ND       0.0441       0.0050       0.050       -       88       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       -       -       -       -	1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)       ND       0.0440       0.0040       0.050       -       88       58-135         1,1-Dichloroethene       ND       0.0441       0.0050       0.050       -       88       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       -       -       -       -	Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethene     ND     0.0441     0.0050     0.050     -     88     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     -     -     -     -	1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethene     ND     0.0441     0.0050     0.050     -     88     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     -     -     -     -	1,2-Dichloroethane (1,2-DCA)	ND	0.0440		0.050	-	88	58-135
ND         -         0.0050         -         -         -         -           trans-1,2-Dichloroethene         ND         -         0.0050         -         -         -         -           1,2-Dichloropropane         ND         -         0.0050         -         -         -         -           1,3-Dichloropropane         ND         -         0.0050         -         -         -         -	1,1-Dichloroethene	ND	0.0441			-	88	42-145
1,2-Dichloropropane     ND     -     0.0050     -     -     -     -       1,3-Dichloropropane     ND     -     0.0050     -     -     -     -	cis-1,2-Dichloroethene		-		-	-	-	_
1,2-Dichloropropane     ND     -     0.0050     -     -     -     -       1,3-Dichloropropane     ND     -     0.0050     -     -     -     -	trans-1,2-Dichloroethene		-		-	-	-	-
1,3-Dichloropropane ND - 0.0050	1,2-Dichloropropane		-		-	-	-	-
	1,3-Dichloropropane		-		-	-	-	-
	2,2-Dichloropropane	ND	-	0.0050	-	-	-	_



# **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114716Date Analyzed:12/28/15Extraction Method:SW5030BInstrument:GC18Analytical Method:SW8260B

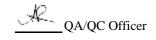
Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114716

1512A04-003AMS/MSD

#### **QC Summary Report for SW8260B**

		inity itepolol					
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0485	0.0050	0.050	-	97	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0475	0.0050	0.050	-	95	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	0.0463	0.0050	0.050	-	93	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	0.0472	0.0050	0.050	-	94	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	0.0489	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	-	-	-	-



## **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114716Date Analyzed:12/28/15Extraction Method:SW5030BInstrument:GC18Analytical Method:SW8260B

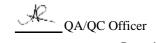
Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114716

1512A04-003AMS/MSD

	QC Sumn	nary Report f	or SW8260E	3			
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	0.110	0.110		0.12	88	88	70-130
Toluene-d8	0.131	0.120		0.12	105	96	70-130
4-BFB	0.00919	0.0111		0.012	74	89	70-130
Benzene-d6	0.103	0.105		0.10	103	105	60-140
Ethylbenzene-d10	0.101	0.104		0.10	101	104	60-140
1,2-DCB-d4	0.0989	0.105		0.10	99	105	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)	0.0433	0.0441	0.050	ND	87	88	70-130	1.83	20
Benzene	0.0439	0.0445	0.050	ND	88	89	70-130	1.36	20
t-Butyl alcohol (TBA)	0.166	0.166	0.20	ND	83	83	70-130	0	20
Chlorobenzene	0.0424	0.0433	0.050	ND	85	87	70-130	1.95	20
1,2-Dibromoethane (EDB)	0.0430	0.0432	0.050	ND	86	86	70-130	0	20
1,2-Dichloroethane (1,2-DCA)	0.0401	0.0410	0.050	ND	80	82	70-130	2.18	20
1,1-Dichloroethene	0.0396	0.0402	0.050	ND	79	80	70-130	1.49	20
Diisopropyl ether (DIPE)	0.0437	0.0444	0.050	ND	87	89	70-130	1.58	20
Ethyl tert-butyl ether (ETBE)	0.0434	0.0445	0.050	ND	87	89	70-130	2.52	20
Methyl-t-butyl ether (MTBE)	0.0426	0.0433	0.050	ND	85	87	70-130	1.55	20
Toluene	0.0413	0.0424	0.050	ND	83	85	70-130	2.60	20
Trichloroethene	0.0434	0.0439	0.050	ND	87	88	70-130	1.22	20
Surrogate Recovery									
Dibromofluoromethane	0.112	0.110	0.12		89	88	70-130	1.09	20
Toluene-d8	0.119	0.120	0.12		95	96	70-130	0.570	20
4-BFB	0.0106	0.0107	0.012		85	85	70-130	0	20
Benzene-d6	0.0930	0.0943	0.10		93	94	60-140	1.37	20
Ethylbenzene-d10	0.0916	0.0931	0.10		92	93	60-140	1.67	20
1,2-DCB-d4	0.0979	0.0985	0.10		98	99	60-140	0.625	20



# **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114719Date Analyzed:12/29/15Extraction Method:SW3050BInstrument:ICP-MS2Analytical Method:SW6020

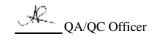
Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114719

1512A70-001AMS/MSD 1512A70-001APDS

#### **QC Summary Report for Metals**

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	54.3	0.50	50	-	109	75-125
Arsenic	ND	52.3	0.50	50	-	105	75-125
Barium	ND	534	5.0	500	-	107	75-125
Beryllium	ND	52.5	0.50	50	-	105	75-125
Cadmium	ND	52.2	0.25	50	-	104	75-125
Chromium	ND	53.1	0.50	50	-	106	75-125
Cobalt	ND	52.3	0.50	50	-	105	75-125
Copper	ND	55.2	0.50	50	-	110	75-125
Lead	ND	53.4	0.50	50	-	107	75-125
Mercury	ND	1.33	0.050	1.25	-	106	75-125
Molybdenum	ND	53.0	0.50	50	-	106	75-125
Nickel	ND	55.0	0.50	50	-	110	75-125
Selenium	ND	52.8	0.50	50	-	106	75-125
Silver	ND	55.3	0.50	50	-	111	75-125
Thallium	ND	50.3	0.50	50	-	101	75-125
Vanadium	ND	52.9	0.50	50	-	106	75-125
Zinc	ND	547	5.0	500	-	109	75-125
Surrogate Recovery							
Terbium	535	531		500	107	106	70-130



## **Quality Control Report**

**Client: AEI Consultants** 

**Date Prepared:** 12/28/15 Date Analyzed: 12/29/15 **Instrument:** ICP-MS2

**Matrix:** Soil

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA WorkOrder: 1512A77

**BatchID:** 114719 **Extraction Method: SW3050B** 

**Analytical Method: SW6020** 

Unit: mg/Kg

Sample ID: MB/LCS-114719

> 1512A70-001AMS/MSD 1512A70-001APDS

#### **QC Summary Report for Metals**

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Antimony	54.0	53.6	50	0.6766	107	106	75-125	0.763	20
Arsenic	53.6	56.0	50	3.241	101	105	75-125	4.27	20
Barium	647	669	500	84.53	113	117	75-125	3.25	20
Beryllium	52.5	52.4	50	ND	104	104	75-125	0	20
Cadmium	51.8	52.8	50	0.3813	103	105	75-125	2.06	20
Chromium	95.2	99.0	50	32.66	125	133,F8	75-125	3.92	20
Cobalt	57.5	57.0	50	10.72	94	93	75-125	0.890	20
Copper	89.2	92.4	50	29.55	119	126,F8	75-125	3.62	20
Lead	238	258	50	177.9	119	160,F8	75-125	8.24	20
Mercury	1.44	1.49	1.25	0.1659	102	106	75-125	3.89	20
Molybdenum	52.6	52.2	50	0.6537	104	103	75-125	0.725	20
Nickel	81.0	84.1	50	23.98	114	120	75-125	3.74	20
Selenium	50.6	52.2	50	ND	101	104	75-125	3.09	20
Silver	54.5	54.7	50	ND	108	109	75-125	0.403	20
Thallium	48.1	48.6	50	ND	96	97	75-125	0.972	20
Vanadium	130	112	50	60.27	139,F8	104	75-125	14.2	20
Zinc	646	664	500	91.55	111	115	75-125	2.86	20
Surrogate Recovery									

Surrogate	Recovery
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Terbium 532 532 500 106 106 70-130 0 20

Analyte	PDS Result	SPK Val	SPKRef Val	PDS %REC	PDS Limits
Chromium	84.7	50	32.66	104	80-120
Copper Lead	85.2	50	29.55	111	80-120
Lead	251	50	177.9	146	80-120
Vanadium	114	50	60.27	108	80-120

Analyte	DLT Result	DLTRef Val	RPD	RPD Limit
Lead	172	177.9	3.43	10

NR

NR

## **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114721Date Analyzed:12/29/15Extraction Method:SW3550BInstrument:GC39A, GC39BAnalytical Method:SW8015B

Matrix: Soil Unit: mg/Kg

NR

NR

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA **Sample ID:** MB/LCS-114721

1512A70-001AMS/MSD

#### QC Report for SW8015B w/out SG Clean-Up **Analyte** MB **LCS** RL SPK MB SS **LCS** LCS %REC %REC Result Result Val Limits TPH-Diesel (C10-C23) ND 34.5 1.0 40 86 70-130 TPH-Motor Oil (C18-C36) ND 5.0 **Surrogate Recovery** 25.0 23.8 25 100 C9 95 70-130 MS MSD **SPK SPKRef** MS **MSD** MS/MSD RPD RPD **Analyte** %REC Result Result Val Val %REC Limits Limit NR TPH-Diesel (C10-C23) NR 110 NR NR NR **Surrogate Recovery**

NR

C9

## **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114731Date Analyzed:12/29/15Extraction Method:SW5030B

**Instrument:** GC19 Analytical Method: SW8021B/8015Bm

Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114731

1512A83-001AMS/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	0.619	0.40	0.60	-	103	70-130
MTBE	ND	0.0913	0.050	0.10	-	91	70-130
Benzene	ND	0.111	0.0050	0.10	-	111	70-130
Toluene	ND	0.113	0.0050	0.10	-	113	70-130
Ethylbenzene	ND	0.116	0.0050	0.10	-	116	70-130
Xylenes	ND	0.373	0.015	0.30	-	124	70-130

2-Fluorotoluene 0.104 0.126 0.10 104 126 70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.575	0.591	0.60	ND	96	99	70-130	2.85	20
MTBE	0.0811	0.0789	0.10	ND	81	79	70-130	2.69	20
Benzene	0.0993	0.106	0.10	ND	99	106	70-130	6.68	20
Toluene	0.102	0.109	0.10	ND	100	107	70-130	6.50	20
Ethylbenzene	0.106	0.116	0.10	ND	106	116	70-130	9.02	20
Xylenes	0.340	0.382	0.30	ND	113	127	70-130	11.6	20
Surrogate Recovery									
2-Fluorotoluene	0.118	0.127	0.10		118	127	70-130	7.09	20

## **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114732Date Analyzed:12/28/15Extraction Method:SW3550BInstrument:GC5AAnalytical Method:SW8082

Matrix: Soil Unit: mg/kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114732

1512A77-002AMS/MSD

#### QC Summary Report for SW8082 **Analyte** MB LCS RL **SPK** MB SS LCS LCS %REC %REC Result Result Val Limits Aroclor1016 ND 0.050 Aroclor1221 ND 0.050 Aroclor1232 ND 0.050 Aroclor1242 ND 0.050 Aroclor1248 ND 0.050 Aroclor1254 ND 0.050 Aroclor1260 ND 0.173 0.050 0.15 115 70-130 PCBs, total ND 0.050 **Surrogate Recovery** Decachlorobiphenyl 0.0458 0.0462 0.050 92 92 70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aroclor1260	0.173	0.164	0.15	ND	115	109	70-130	5.26	30
Surrogate Recovery Decachlorobiphenyl	0.0457	0.0469	0.050		91	94	70-130	2.56	30

## **Quality Control Report**

 Client:
 AEI Consultants
 WorkOrder:
 1512A77

 Date Prepared:
 12/29/15
 BatchID:
 114790

 Date Analyzed:
 12/30/15
 Extraction Method:
 SW5030B

**Instrument:** GC19 Analytical Method: SW8021B/8015Bm

Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114790

1512B46-011AMS/MSD

#### QC Summary Report for SW8021B/8015Bm **Analyte** MB **LCS** RL **SPK** MB SS **LCS LCS** %REC %REC Result Result Val Limits TPH(btex) ND 0.600 0.40 0.60 100 70-130 **MTBE** ND 0.0813 0.050 0.10 81 70-130 ND 0.109 0.0050 0.10 109 70-130 Benzene Toluene ND 0.111 0.0050 0.10 111 70-130 Ethylbenzene ND 0.115 0.0050 0.10 115 70-130 Xylenes ND 0.368 0.015 0.30 123 70-130 Surrogate Recovery

2-Fluorotoluene	0.128	0.129	0.10	128	129	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.459	0.482	0.60	ND	76	80	70-130	4.89	20
MTBE	0.0906	0.0967	0.10	ND	91	97	70-130	6.56	20
Benzene	0.0962	0.0941	0.10	ND	96	94	70-130	2.31	20
Toluene	0.0947	0.0926	0.10	ND	95	93	70-130	2.19	20
Ethylbenzene	0.0965	0.0940	0.10	ND	97	94	70-130	2.69	20
Xylenes	0.295	0.297	0.30	ND	98	99	70-130	0.597	20
Surrogate Recovery									
2-Fluorotoluene	0.112	0.109	0.10		112	109	70-130	2.62	20

## **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114733Date Analyzed:12/29/15Extraction Method:SW3050BInstrument:ICP-JYAnalytical Method:SW6010B

Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114733

1512A77-056AMS/MSD

	QC Su	mmary l	Report f	for Lead						
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %RE0		.CS imits
Lead	ND	51.0		5.0	50	-		102	7	5-125
Surrogate Recovery										
Terbium	526	542			500	10	)5	108	7	0-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit	-	RPD	RPD Limit
Lead	54.9	55.1	50	6.260	97	98	75-12	25	0.318	25
Surrogate Recovery										
Terbium	521	503	500		104	101	70-13	30	3.42	20

## **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:12/28/15BatchID:114734Date Analyzed:12/29/15Extraction Method:SW3050BInstrument:ICP-JYAnalytical Method:SW6010B

Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-114734

1512A77-070AMS/MSD

	QC Su	mmary l	Report f	for Lead						
Analyte	MB Result	LCS Result		RL	SPK Val					.CS .imits
Lead	ND	51.1		5.0	50	-		102	7	'5-125
Surrogate Recovery										
Terbium	495	504			500	99	1	101	7	70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MS		RPD	RPD Limit
Lead	74.8	81.3	50	33.95	82	95	75-125	5	8.39	25
Surrogate Recovery										
Terbium	534	544	500		107	109	70-130	)	1.99	20

## County Review Draft **CHAIN-OF-CUSTODY RECORD**

1534 Willow Pass Rd Pittsburg, CA 94565-1701

(925) 252-9262		•	WorkOrde	r: 1512A77	ClientCo	de: AELS		
	☐WaterTrax ☐WriteOn	EDF	Excel	EQuIS	<b>∠</b> Email	HardCop	yThirdParty	☐J-flag
Report to:			Bil	II to:		R	equested TATs:	15 days;
Tim Bodkin	Email: tbodkin@aeicons	ultants.com		Accounts Payal	ble			5 days;
AEI Consultants	cc/3rd Party:			<b>AEI Consultants</b>	3			
3880 S. Bascom Ave, Suite 109	PO:			2500 Camino D	iablo, Ste. #200	D	ate Received:	12/28/2015
San Jose, CA 95124 408-559-7600 FAX:	ProjectNo: 350428; Carlos & Beach, CA	Sierra Streets, Mo		Walnut Creek, (AccountsPayab			ate Logged:	12/28/2015

								Re	quested	l Tests (	See leg	end belo	ow)			
Lab ID	Client ID	Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
					_									1		
1512A77-002	B-1-1.5	Soil	12/22/2015 10:20		Α	Α		Α								
1512A77-003	B-3-2.0	Soil	12/23/2015 9:00								Α					
1512A77-004	B-3-5.0	Soil	12/23/2015 9:15								Α					
1512A77-005	B-4-0.0	Soil	12/23/2015 11:30							Α						
1512A77-007	B-5-0.0	Soil	12/23/2015 11:45							Α						
1512A77-009	B-6-0.0	Soil	12/23/2015 11:18							Α						
1512A77-011	B-8-0.0	Soil	12/23/2015 11:00							Α						
1512A77-013	B-9-0.0	Soil	12/22/2015 13:00							Α						
1512A77-015	B-10-0.0	Soil	12/22/2015 13:08							Α						
1512A77-017	B-11-0.0	Soil	12/22/2015 13:17							Α						
1512A77-021	B-12-5.0	Soil	12/23/2015 10:15				Α		Α							
1512A77-023	B-7-0.0	Soil	12/23/2015 10:55							Α						
1512A77-026	B-13-6.0	Soil	12/23/2015 10:43				Α		Α							
1512A77-028	B-14-2.0	Soil	12/23/2015 11:50				Α		Α							
1512A77-029	B-15-0.0	Soil	12/22/2015 15:10							Α						

#### Test Legend:

1	1613_FULL_S	2
5	G-MBTEX_S	6
9		10

2	8082_PCB_S
6	PB_TTLC_S
10	

3	8260B_S
7	TPH(DMO)_S
11	

4	CAM17MS_TTLC_S
8	
12	

Prepared by: Agustina 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.

FAX:

### **County Review Draft CHAIN-OF-CUSTODY RECORD**

Report to:

Tim Bodkin **AEI Consultants** 

408-559-7600

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

3880 S. Bascom Ave, Suite 109

San Jose, CA 95124

		,	WorkOrder	:: 1512A77	ChentCod	e: AELS		
☐ WaterTrax	WriteOn	EDF	Excel	EQuIS	<b>✓</b> Email	HardCopy	ThirdParty	☐J-flag
			Bill	l to:		Req	uested TATs:	15 days;
Email:	tbodkin@aeicons	sultants.com		Accounts Payal	ole			5 days;
cc/3rd Party:				AEI Consultants	3			
PO:				2500 Camino D	iablo, Ste. #200	Date	e Received:	12/28/2015
ProjectNo: ;	350428; Carlos 8	k Sierra Streets, M	oss	Walnut Creek, 0	CA 94597	Date	e Logged:	12/28/2015

Beach, CA AccountsPayable@AEIConsultants.com

			Collection Date						Re	questec	l Tests (	See leg	end be	low)			
Lab ID	Client ID	Matrix		Hold	1	2	3	4	5	6	7	8	9	10	11	12	
1512A77-032	B-15-7.0	Soil	12/23/2015 9:50				Α		Α								
1512A77-034	B-16-0.0	Soil	12/22/2015 15:00							Α							
1512A77-036	B-17-4.0	Soil	12/22/2015 15:25				Α		Α								
1512A77-038	B-18-0.0	Soil	12/22/2015 14:30							Α							
1512A77-040	B-19-0.0	Soil	12/22/2015 16:00							Α							
1512A77-042	B-20-0.0	Soil	12/22/2015 13:35							Α							
1512A77-044	B-21-0.0	Soil	12/22/2015 13:55							Α							
1512A77-046	B-22-0.0	Soil	12/22/2015 16:38							Α							
1512A77-048	B-23-0.0	Soil	12/22/2015 16:20							Α							
1512A77-050	B-24-0.0	Soil	12/22/2015 16:30							Α							
1512A77-052	B-25-0.0	Soil	12/22/2015 17:00							Α							
1512A77-054	B-26-0.0	Soil	12/22/2015 16:47							Α							
1512A77-056	B-27-0.0	Soil	12/22/2015 9:15							Α							
1512A77-058	B-28-0.0	Soil	12/22/2015 8:45							Α							
1512A77-060	B-29-0.0	Soil	12/22/2015 8:30							Α							

#### Test Legend:

1	1613_FULL_S
5	G-MBTEX_S
9	

2	8082_PCB_S
6	PB_TTLC_S
10	

3	8260B_S
7	TPH(DMO)_S
11	

4	CAM17MS_TTLC_S
8	
12	

Prepared by: Agustina 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.

**County Review Draft CHAIN-OF-CUSTODY RECORD** 

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

WorkOrder	: 1512A77	ClientCode:	<b>AELS</b>
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WaterTrax	WriteOn	EDF	Excel	EQuIS	<b></b> Email	HardCopy	☐ThirdParty	J-flag
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Bill to: Report to: Requested TATs: 15 days; 5 days;

tbodkin@aeiconsultants.com Accounts Payable Tim Bodkin Email: cc/3rd Party: **AEI Consultants AEI Consultants** 

12/28/2015 Date Received: PO: 3880 S. Bascom Ave, Suite 109 2500 Camino Diablo, Ste. #200

ProjectNo: 350428; Carlos & Sierra Streets, Moss Walnut Creek, CA 94597 San Jose, CA 95124 Date Logged: 12/28/2015

Beach, CA 408-559-7600 FAX: AccountsPayable@AEIConsultants.com

	Requested Tests (See legend below)					ow)										
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1512A77-062	B-30-0.0	Soil	12/22/2015 8:15							Α						
1512A77-064	B-31-0.0	Soil	12/22/2015 9:30							Α						
1512A77-066	B-32-0.0	Soil	12/22/2015 9:45							Α						
1512A77-068	B-33-0.0	Soil	12/22/2015 10:00							Α						
1512A77-070	B-34-0.0	Soil	12/22/2015 14:10							Α						

#### Test Legend:

1	1613_FULL_S	
5	G-MBTEX_S	
9		

2	8082_PCB_S
6	PB_TTLC_S
10	

3	8260B_S	
7	TPH(DMO)_S	
11		

4	CAM17MS_TTLC_S
8	
12	

Prepared by: Agustina 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.



**Project:** 

## McCampbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701

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

#### **WORK ORDER SUMMARY**

Client Name:	AEI CONSULTANTS	QC Level: LEVEL 2	Work Order: 1512A77
Project:	350428; Carlos & Sierra Streets, Moss Beach, C.	A Client Contact: Tim Bodkin	<b>Date Logged:</b> 12/28/202

**Comments:** Contact's Email: tbodkin@aeiconsultants.com

		WaterTrax	WriteOn	]EDFE	Excel	Fax <b>E</b> mail	HardCo	opyThirdPart	у 🔲 Ј	l-flag
Lab ID	Client ID	Matrix	Test Name		Containers /Composites	<b>Bottle &amp; Preservative</b>	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1512A77-001A	B-1-0.0	Soil			1	Acetate Liner		12/22/2015 10:20		•
1512A77-002A	B-1-1.5	Soil	SW6020 (CAM 17)		1	Acetate Liner		12/22/2015 10:20	5 days	
			SW8082 (PCBs Only	<i>i</i> )					5 days	
			E1613 (PCDDs & PC	CDFs)					15 days	
1512A77-003A	B-3-2.0	Soil	SW8015B (Diesel &	Motor Oil)	1	Acetate Liner		12/23/2015 9:00	5 days	
1512A77-004A	B-3-5.0	Soil	SW8015B (Diesel &	Motor Oil)	1	Acetate Liner		12/23/2015 9:15	5 days	
1512A77-005A	B-4-0.0	Soil	SW6010B (Lead)		1	Acetate Liner		12/23/2015 11:30	5 days	
1512A77-006A	B-4-1.5	Soil			1	Acetate Liner		12/23/2015 11:30		<b>✓</b>
1512A77-007A	B-5-0.0	Soil	SW6010B (Lead)		1	Acetate Liner		12/23/2015 11:45	5 days	
1512A77-008A	B-5-1.5	Soil			1	Acetate Liner		12/23/2015 11:45		✓
1512A77-009A	B-6-0.0	Soil	SW6010B (Lead)		1	Acetate Liner		12/23/2015 11:18	5 days	
1512A77-010A	B-6-1.5	Soil			1	Acetate Liner		12/23/2015 11:18		•
1512A77-011A	B-8-0.0	Soil	SW6010B (Lead)		1	Acetate Liner		12/23/2015 11:00	5 days	
1512A77-012A	B-8-1.5	Soil			1	Acetate Liner		12/23/2015 11:00		✓
1512A77-013A	B-9-0.0	Soil	SW6010B (Lead)		1	Acetate Liner		12/22/2015 13:00	5 days	
1512A77-014A	B-9-1.5	Soil			1	Acetate Liner		12/22/2015 13:00		<b>✓</b>

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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**Date Logged:** 12/28/2015



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#### **WORK ORDER SUMMARY**

Client Name:AEI CONSULTANTSQC Level: LEVEL 2Work Order: 1512A77Project:350428; Carlos & Sierra Streets, Moss Beach, CAClient Contact: Tim BodkinDate Logged: 12/28/2015

Comments: Contact's Email: tbodkin@aeiconsultants.com

		WaterTrax	☐WriteOn ☐EDF	Excel	Fax <b>y</b> Email	HardC	opyThirdPart	у 🗀	I-flag
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1512A77-015A	B-10-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 13:08	5 days	
1512A77-016A	B-10-1.5	Soil		1	Acetate Liner		12/22/2015 13:08		✓
1512A77-017A	B-11-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 13:17	5 days	
1512A77-018A	B-11-1.5	Soil		1	Acetate Liner		12/22/2015 13:17		✓
1512A77-019A	B-12-0.0	Soil		1	Acetate Liner		12/22/2015 13:20		✓
1512A77-020A	B-12-1.5	Soil		1	Acetate Liner		12/22/2015 13:20		✓
1512A77-021A	B-12-5.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner		12/23/2015 10:15	5 days	
			SW8260B (VOCs)					5 days	
1512A77-022A	B-12-9.0	Soil		1	Acetate Liner		12/23/2015 10:22		✓
1512A77-023A	B-7-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/23/2015 10:55	5 days	
1512A77-024A	B-7-1.5	Soil		1	Acetate Liner		12/23/2015 10:55		✓
1512A77-025A	B-13-3.0	Soil		1	Acetate Liner		12/23/2015 10:35		✓
1512A77-026A	B-13-6.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner		12/23/2015 10:43	5 days	
			SW8260B (VOCs)					5 days	
1512A77-027A	B-13-9.0	Soil		1	Acetate Liner		12/23/2015 10:55		<b>✓</b>
1512A77-028A	B-14-2.0	Soil	SW8021B/8015Bm (G/MBTEX)	1	Acetate Liner		12/23/2015 11:50	5 days	

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

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**Project:** 

### McCampbell Analytical, Inc.

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

#### **WORK ORDER SUMMARY**

Client Name:	AEI CONSULTANTS	QC Level: LEVEL 2	Work Order: 1512A77
Project:	350428; Carlos & Sierra Streets, Moss Beach, C.	A Client Contact: Tim Bodkin	<b>Date Logged:</b> 12/28/202

**Comments:** Contact's Email: tbodkin@aeiconsultants.com

		WaterTrax	☐WriteOn ☐EDF	Excel	]Fax <b>☑</b> Email	HardC	opyThirdPart	у 🔲	J-flag
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1512A77-028A	B-14-2.0	Soil	SW8260B (VOCs)	1	Acetate Liner		12/23/2015 11:50	5 days	
1512A77-029A	B-15-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 15:10	5 days	
1512A77-030A	B-15-1.5	Soil		1	Acetate Liner		12/22/2015 15:10		✓
1512A77-031A	B-15-4.0	Soil		1	Acetate Liner		12/23/2015 9:35		✓
1512A77-032A	B-15-7.0	Soil	SW8021B/8015Bm (G/MBTEX	() 1	Acetate Liner		12/23/2015 9:50	5 days	
			SW8260B (VOCs)					5 days	
1512A77-033A	B-15-9.0	Soil		1	Acetate Liner		12/23/2015 10:00		✓
1512A77-034A	B-16-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 15:00	5 days	
1512A77-035A	B-16-1.5	Soil		1	Acetate Liner		12/22/2015 15:00		✓
1512A77-036A	B-17-4.0	Soil	SW8021B/8015Bm (G/MBTEX	() 1	Acetate Liner		12/22/2015 15:25	5 days	
			SW8260B (VOCs)					5 days	
1512A77-037A	B-17-8.0	Soil		1	Acetate Liner		12/22/2015 15:35		✓
1512A77-038A	B-18-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 14:30	5 days	
1512A77-039A	B-18-1.5	Soil		1	Acetate Liner		12/22/2015 14:30		✓
1512A77-040A	B-19-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 16:00	5 days	
1512A77-041A	B-19-1.5	Soil		1	Acetate Liner		12/22/2015 16:00		✓

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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**Date Logged:** 12/28/2015



"When Quality Counts"

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

#### WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS QC Level: LEVEL 2 Work Order: 1512A77

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Client Contact: Tim Bodkin Date Logged: 12/28/2015

Comments: Contact's Email: tbodkin@aeiconsultants.com

		WaterTrax	☐WriteOn ☐EDF	Excel	Fax <b>✓</b> Email	HardC	opyThirdPart	у 🗀	J-flag
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1512A77-042A	B-20-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 13:35	5 days	
1512A77-043A	B-20-1.5	Soil		1	Acetate Liner		12/22/2015 13:35		✓
1512A77-044A	B-21-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 13:55	5 days	
1512A77-045A	B-21-1.5	Soil		1	Acetate Liner		12/22/2015 13:55		✓
1512A77-046A	B-22-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 16:38	5 days	
1512A77-047A	B-22-1.5	Soil		1	Acetate Liner		12/22/2015 16:38		✓
1512A77-048A	B-23-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 16:20	5 days	
1512A77-049A	B-23-1.5	Soil		1	Acetate Liner		12/22/2015 16:20		✓
1512A77-050A	B-24-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 16:30	5 days	
1512A77-051A	B-24-1.5	Soil		1	Acetate Liner		12/22/2015 16:30		✓
1512A77-052A	B-25-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 17:00	5 days	
1512A77-053A	B-25-1.5	Soil		1	Acetate Liner		12/22/2015 17:00		✓
1512A77-054A	B-26-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 16:47	5 days	
1512A77-055A	B-26-1.5	Soil		1	Acetate Liner		12/22/2015 16:47		✓
1512A77-056A	B-27-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 9:15	5 days	
1512A77-057A	B-27-1.5	Soil		1	Acetate Liner		12/22/2015 9:15		✓

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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1534 Willow Pass Road, Pittsburg, CA 94565-1701

1534 Willow Pass Road, Pittsburg, CA 94565-170 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

#### WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS QC Level: LEVEL 2 Work Order: 1512A77

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Client Contact: Tim Bodkin Date Logged: 12/28/2015

Comments: Contact's Email: tbodkin@aeiconsultants.com

		☐WaterTrax	☐WriteOn ☐EDF	Excel	]Fax <b>☑</b> Email	HardC	opyThirdPart	у 🗀	J-flag
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1512A77-058A	B-28-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 8:45	5 days	
1512A77-059A	B-28-1.5	Soil		1	Acetate Liner		12/22/2015 8:45		<b>✓</b>
1512A77-060A	B-29-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 8:30	5 days	
1512A77-061A	B-29-1.5	Soil		1	Acetate Liner		12/22/2015 8:30		✓
1512A77-062A	B-30-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 8:15	5 days	
1512A77-063A	B-30-1.5	Soil		1	Acetate Liner		12/22/2015 8:15		✓
1512A77-064A	B-31-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 9:30	5 days	
1512A77-065A	B-31-1.5	Soil		1	Acetate Liner		12/22/2015 9:30		✓
1512A77-066A	B-32-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 9:45	5 days	
1512A77-067A	B-32-1.5	Soil		1	Acetate Liner		12/22/2015 9:45		✓
1512A77-068A	B-33-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 10:00	5 days	
1512A77-069A	B-33-1.5	Soil		1	Acetate Liner		12/22/2015 10:00		<b>✓</b>
1512A77-070A	B-34-0.0	Soil	SW6010B (Lead)	1	Acetate Liner		12/22/2015 14:10	5 days	
1512A77-071A	B-34-1.5	Soil		1	Acetate Liner		12/22/2015 14:10		<b>✓</b>

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.



CHAIN	OF CUSTO	OY RECORD ty Review Draft
	Cour	nty Review Draft

	1534 Wil	llow Po	ass Rd. /	Pitt	sbu	g, C	Ca. 9	456	5-17	701						TU	IRN	AR	OUN	DT	IME	: RI	JSH[		24 H	R 🗀	] 4	8 HR		72	HR [		5 DA	YY	1
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CHAIN	OF	CUSTOD' County	Y RECORD Review Draft
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CHAIN OF C	USTOI Cour	DY RE	CORD ew Draft	)
TURN AROUND TIME: RUSH□	24 HR 🔲	48 HR 🔲	72 HR 🔲	5 DAY

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**MAI clients MUST	disclose any	dangerou	us chemica	ls kn	own t	o be p	resen	t in tl	neir s	ubmi	tted s	amp	les ir	con	centr	ation	s that	may	cause	imm	ediat	e har	m or	serio	ıs fut	ure h	ealth	endar	ngerm	ent a	s a re	sult o	f brief	,	
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CHAIN	OF	CUSTODY RECORD County Review Draft
		County Review Draft

	www.mccampbell.com / main@mccampbell.com Telephone: (877) 252-9262 / Fax: (925) 252-9269														1			, 01,	~ 1	*****			-	2711		1	o m	إلىبا	12	ınc ı		DA	1 V	1	
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				#C	Ground Water	Waste Water	Drinking Water	Sea /	Soil	Air	Sludge	Other	HCL	HNO3	Other	Bull	TPH as Diesel	Total Petroleum Oil	Tota	MT	EPA	EPA	EPA	EPA	EPA	EPA	EPA	CAN	LUF	Metals (200.8 / 6020)	Filter	A	Dioxals		HOLD
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CHAIN	OF	CUSTOD'	Y RECORD Review Draft
		County	Review Draft

	1534 Wil	llow Po	ass Rd. /	Pit	tsbur	g, C	a. 9	456	5-17	701						TU	RN	ARC	DUN	D T	IME	: RI	JSH[		24 H	R 🔲	4	8 HR		72	HR [		5 DA	Y	1
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	TURN AROUND TIME: RUSH	24 HR 🔲	48 HR 🔲	72 HR 🔲	5 DAY

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Report To: 7//	4 500	KIN		-	Bil	l To:		-	-	-	-		_	-	$\dashv$		-							Ana	lysis	Rea	net							-6	7
Company: AF7	- 100ml	2000	DI 175		7	1 10		M	MI	5					$\dashv$								Г	Alla	19313	Key	uest					1	7	7	4
3880 S. 3180 SAN TOST Tele: (408)	WA MOS	= 01	5. 109	1	5				0 4									&F)															ton	1	MAH
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	, ,	SAME	PLING	П			M	ATI	RIX					SERV		8-(80)	(8015) AM	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	MTBE / BTEX ONLY (EPA 8260/8021)	505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's; Aroclors / Congeners	507 / 8141 (NP Pesticides)	8151 (Acidic Cl Herbicides)	EPA 524.2 / 6247 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)	5 Metals (200.8 / 6020)		Filter sample for DISSOLVED metals analysis	(EP4 6010	AND DECEMBER	T.	2
				s								$\forall$	$\neg$			s Ga	8015	Oii	Hy	ONI	180	PCB	N.	(Aci	1820	/82	/831	002	200.	Metals (200.8 / 6020)	DIS	et .	By	0	9
SAMPLE ID	Location/ Field Point	1		Containers	ater	La	Drinking Water								M	На		enm	enm	EX	8 / 8	280	141	151	624	625	M	tals	als (	8/6	e for	M	Noxwyo	1	0
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#### **Sample Receipt Checklist**

	AEI Consultants			Date and Time Received:	12/28/2015 15:10
Project Name: WorkOrder №:	350428; Carlos & Sierra Streets, Moss Beach, C 1512A77 Matrix: Soil	SA.		Date Logged: Received by:	12/28/2015 Agustina Venegas
	Bernie Cummins (MAI Courier)			Logged by:	Agustina Venegas
	Chain of C	ustod	y (COC) I	<u>nformation</u>	
Chain of custody	present?	Yes	•	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	<b>✓</b>	No 🗆	
Chain of custody a	agrees with sample labels?	Yes	<b>✓</b>	No 🗌	
Sample IDs noted	by Client on COC?	Yes	<b>✓</b>	No 🗌	
Date and Time of	collection noted by Client on COC?	Yes	<b>✓</b>	No 🗆	
Sampler's name r	noted on COC?	Yes	<b>✓</b>	No 🗌	
	<u>Sampl</u>	e Rece	eipt Infor	mation_	
Custody seals inta	act on shipping container/cooler?	Yes		No 🗆	NA 🗸
Shipping containe	er/cooler in good condition?	Yes	<b>✓</b>	No 🗌	
Samples in prope	r containers/bottles?	Yes	<b>✓</b>	No 🗌	
Sample container	s intact?	Yes	✓	No 🗆	
Sufficient sample	volume for indicated test?	Yes	<b>✓</b>	No 🗌	
	Sample Preservation	on and	Hold Tir	ne (HT) Information	
All samples receiv	ved within holding time?	Yes	<b>✓</b>	No 🗌	
Sample/Temp Bla	ank temperature		Temp:	5°C	NA 🗌
Water - VOA vials	s have zero headspace / no bubbles?	Yes		No 🗌	NA 🗸
Sample labels che	ecked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	on receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive		Yes	✓	No 🗌	
	(Ice Type	e: WE	TICE		
UCMR3 Samples: Total Chlorine to	ested and acceptable upon receipt for EPA 522?	Yes		No 🗌	NA 🗸
Free Chlorine te 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, ?	Yes		No 🗆	NA 🗹
* NOTE: If the "No	o" box is checked, see comments below.				
Comments:				=======	



"When Quality Counts"

# **Analytical Report**

WorkOrder: 1512A77 A

**Report Created for:** AEI Consultants

3880 S. Bascom Ave, Suite 109

San Jose, CA 95124

**Project Contact:** Tim Bodkin

**Project P.O.:** 

**Project Name:** 350428; Carlos & Sierra Streets, Moss Beach, CA

**Project Received:** 12/28/2015

Analytical Report reviewed & approved for release on 01/15/2016 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.



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#### **Glossary of Terms & Qualifier Definitions**

**Client:** AEI Consultants

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

#### **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)

DLT Dilution Test
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.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure
TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

#### **Analytical Qualifiers**

S spike recovery outside accepted recovery limits

e2 diesel range compounds are significant; no recognizable pattern

e7 oil range compounds are significant

### **Glossary of Terms & Qualifier Definitions**

**Client:** AEI Consultants

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

#### **Quality Control Qualifiers**

F8 MS/MSD recovery and/or RPD was out of acceptance criteria; PDS validated the prep batch. If PDS recovery

was out of acceptance criteria, DLT validated the prep batch.

#### **County Review Draft**



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## **Analytical Report**

**Client: AEI Consultants Date Received:** 12/28/15 17:55 **Date Prepared:** 1/14/16

350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

**Extraction Method: SW3050B Analytical Method: SW6010B** 

Unit: mg/Kg

trix Date Collected Instrument	Lead			
	trix	<b>Date Collected</b>	Instrument	

Client ID	Lab ID M	atrix Date Collect	ed Instrument Batch ID
B-7-1.5	1512A77-024A Sc	oil 12/23/2015 10	:55 ICP-JY 115395
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	<u>Date Analyzed</u>
Lead	7.0	5.0 1	01/15/2016 11:55
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
Terbium	125	70-130	01/15/2016 11:55
Analyst(s): BBO			

Analyst(s)	BBO
	=

**Project:** 

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
B-20-1.5	1512A77-043A	Soil	12/22/20	015 13:35 ICP-JY	115395
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Lead	8.1		5.0	1	01/15/2016 11:45
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	106		70-130		01/15/2016 11:45
Analyst(s): BBO					

**Project:** 

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## **Quality Control Report**

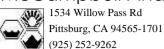
Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:1/14/16BatchID:115395Date Analyzed:1/15/16Extraction Method:SW3050BInstrument:ICP-JYAnalytical Method:SW6010B

Matrix: Soil Unit: mg/Kg

350428; Carlos & Sierra Streets, Moss Beach, CA

**Sample ID:** MB/LCS-115395 1512A77-043AMS/MSD

	QC Su	mmary I	Report f	for Lead						
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC		LCS Limits
Lead	ND	54.7		5.0	50	-		109		75-125
Surrogate Recovery										
Terbium	533	536			500	10	)7	107		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/I	-	RPD	RPD Limit
Lead	60.9	63.2	50	8.090	106	110	75-1	25	3.63	25
Surrogate Recovery										
Terbium	596	640	500		119	128	70-1	30	7.04	20



### **County Review Draft CHAIN-OF-CUSTODY RECORD**

WorkOrder: 1512A77 A ClientCode: AELS

		☐ WaterTrax	WriteO	n EDF		Excel			Fax	<b>✓</b>	Email	[	HardC	Сору	Third	Party	J-	flag
Report to:							Bill to:							Reque	ested TA	ι <b>T</b> :	1 day	<i>ı</i> ;
Tim Bodkin AEI Consulta 3880 S. Basc San Jose, CA 408-559-7600	com Ave, Suite 109 A 95124	cc/3rd Party: PO: ProjectNo: 356		nsultants.com & Sierra Streets,	Mos	S	AEI 250 Wa	l Co 00 C Inut	Creek		597		s.com	Date	Receive Logged Add-Oi	l:	12/2	8/2015 8/2015 4/2016
										Red	questec	d Tests	(See le	gend be	low)			
Lab ID	Client ID		Matrix	Collection Date	Hol	d 1	2	2	3	4	5	6	7	8	9	10	11	12
1512A77-024	B-7-1.5		Soil	12/23/2015 10:55		A										$\overline{}$		
1512A77-043	B-20-1.5		Soil	12/22/2015 13:35	_	A										+		-
Test Legend:  1 5	PB_S	6				3 7							8	-11				
9		10				11							12					

TTLC Pb added to 024 & 043 1/14/16 1day TAT. **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.

Prepared by: Agustina Venegas Add-On Prepared By: Maria Venegas





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#### **WORK ORDER SUMMARY**

Client Name: AEI CONSULTANTS

**QC Level:** LEVEL 2

Work Order: 1512A77

Project:

350428; Carlos & Sierra Streets, Moss Beach, CA

Client Contact: Tim Bodkin

**Date Logged:** 12/28/2015

**Comments:** 

TTLC Pb added to 024 & 043 1/14/16 1day TAT.

Contact's Email: tbodkin@aeiconsultants.com

**Date Add-On:** 1/14/2016

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Hold SubOut Content
1512A77-024A	B-7-1.5	Soil	SW6010B (Lead)	1	Acetate Liner	12/23/2015 10:55	1 day	
1512A77-043A	B-20-1.5	Soil	SW6010B (Lead)	1	Acetate Liner	12/22/2015 13:35	1 day	

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.



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-		
	TURN AROUND TIME: RUSH 24 PR 48 PR 22 HR 5 DAY	
	GeoTracker EDF PDF EDD Write On (DW) EQuIS 10 DAY	
1	Effluent Sample Requiring "I" flag   UST Clean Un Fund Project   Claim #	

CHAIN OF CUSTODY RECORD

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SAMPLE ID	Location/ Field Point			Containers	Water	'ater	Water	ter							190	TPH as Ga	as Diesel (8015)	Total Petroleum Oil	Total Petroleum Hydrocarbons (418.1)	3TEX ONLY (EPA 8260/ 8021)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	525.2 / 625 / 8270 (SVOCs)	8270 SIM / 8310 (PAHs / PNAs)	(CAM 17 Metals (200.8 / 6020)	LUFT 5 Metals (200.8 / 6020)	Metals (200.8 / 6020)	Filter sample for DISSOLVED metals analysis	(E74	N 20 Mm	FOR
	Name	Date	Time	# Cont	Ground Water	Waste Water	Drinking Water	Sea / Water	Soil	Air	Sludge	Other	HCL	HNO3	Other	BILLY	TPH as D	Total Pet	Total Pet	MTBE/BTEX	EPA 505/	EPA 608	EPA 507	EPA 515	EPA 524.	EPA 525.	EPA 827	CAM 17	LUFTSA	Metals (20	Filter sam	(FA)	NON	HOLD
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CHAIN	OF	CUS	TODY	RECORD Review Draft
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"When Quality Counts"

# **Analytical Report**

WorkOrder: 1512A77 B

**Report Created for:** AEI Consultants

3880 S. Bascom Ave, Suite 109

San Jose, CA 95124

**Project Contact:** Tim Bodkin

**Project P.O.:** 

**Project Name:** 350428; Carlos & Sierra Streets, Moss Beach, CA

**Project Received:** 12/28/2015

Analytical Report reviewed & approved for release on 01/19/2016 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.



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### **Glossary of Terms & Qualifier Definitions**

**Client:** AEI Consultants

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

#### **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)

DLT Dilution Test
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.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure
TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

#### **Analytical Qualifiers**

S spike recovery outside accepted recovery limits

e2 diesel range compounds are significant; no recognizable pattern

e7 oil range compounds are significant

### **Glossary of Terms & Qualifier Definitions**

**Client:** AEI Consultants

**Project:** 350428; Carlos & Sierra Streets, Moss Beach, CA

WorkOrder: 1512A77

#### **Quality Control Qualifiers**

F8 MS/MSD recovery and/or RPD was out of acceptance criteria; PDS validated the prep batch. If PDS recovery

was out of acceptance criteria, DLT validated the prep batch.

#### **County Review Draft**



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## **Analytical Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Received:12/28/15 17:55Extraction Method:SW3050BDate Prepared:1/15/16Analytical Method:SW6010BProject:350428; Carlos & Sierra Streets, Moss Beach, CAUnit:mg/Kg

		Lead			
Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
B-21-1.5	1512A77-045A	Soil	12/22/20	15 13:55 ICP-JY	115442
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Lead	8.8		5.0	1	01/19/2016 09:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	116		70-130		01/19/2016 09:47
Analyst(s): BBO					

## **Quality Control Report**

Client:AEI ConsultantsWorkOrder:1512A77Date Prepared:1/15/16BatchID:115442Date Analyzed:1/19/16Extraction Method:SW3050BInstrument:ICP-JYAnalytical Method:SW6010B

Matrix: Soil Unit: mg/Kg

Project: 350428; Carlos & Sierra Streets, Moss Beach, CA Sample ID: MB/LCS-115442

1512A77-045AMS/MSD

	QC Su	mmary I	Report f	or Lead						
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC		LCS Limits
Lead	ND	47.5		5.0	50	-		95		75-125
Surrogate Recovery										
Terbium	518	508			500	10	3	102		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit	_	RPD	RPD Limit
Lead	55.0	54.6	50	8.755	92	92	75-12	25	0	25
Surrogate Recovery										
Terbium	546	509	500		109	102	70-13	30	7.06	20



1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

WorkOrder: 1512A77 B ClientCode: AELS

		☐ WaterTrax	WriteO	nEDF		Excel		Fax		<b>y</b> Emai		Hard	Сору	Thire	dParty	J-fla	ag
Report to: Tim Bodkin		Email: tbo	odkin@aeicoi	nsultants.com		E	Bill to: Accou	unts Pa	ayable				Reque	ested T	AT:	1 day;	
AEI Consultants 3880 S. Bascom Ave San Jose, CA 95124 408-559-7600 FA		cc/3rd Party: PO: ProjectNo: 35	_	& Sierra Streets, l	Moss		AEI C 2500 Walnu	consulta Camina ut Cree	ants o Diab ek, CA		#200 nsultan	ts.com	Date	Receiv Logge Add-O	d:	12/28/ 12/28/ 01/15/	/2015
									F	Request	ed Tests	(See le	gend be	low)			
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9		10				11						12	ų.				
												Pre	pared b	y: Ag	ustina	Venega	iS

TTLC Pb added to 024 & 043 1/14/16 1day TAT. TTLC Pb added 045, no charge since 043 was setup by mistake. **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.

Add-On Prepared By: Maria Venegas



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#### WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS

**QC Level:** LEVEL 2

Work Order: 1512A77

**Project:** 

350428; Carlos & Sierra Streets, Moss Beach, CA

Client Contact: Tim Bodkin

**Date Logged:** 12/28/2015

**Comments:** added 045, no charge since 043 was setup by mistake.

TTLC Pb added to 024 & 043 1/14/16 1day TAT. TTLC Pb

Contact's Email: tbodkin@aeiconsultants.com

**Date Add-On:** 1/15/2016

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	<b>Bottle &amp; Preservative</b>	Collection Date & Time	TAT	Sediment Hold SubOut Content
1512A77-045A	B-21-1.5	Soil	SW6010B (Lead)	1	Acetate Liner	12/22/2015 13:55	1 day	

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.



1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701

CHAIN	OF	CUS.	TODY	RECORD Review Draft
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TURN AROUND TIME: RUSH 24 HR 48 HR 72 HR 5 DAY

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