



December 21, 2017

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**SUBJECT:** Supplemental Investigation Report  
1228-1236 East 17<sup>th</sup> Street  
Oakland, California  
ACDEH Case No. RO0003243  
EIS Project No. 1652-2A

Dear Mr. Detterman:

On behalf of California Affordable Housing Initiatives, Inc., the owner of the subject property, Environmental Investigation Services, Inc. (EIS) submits this report to address your request for an additional soil, soil vapor, and groundwater investigation at the property located at 1228-1236 East 17th Street, Oakland, California property (the Site). The purpose of this investigation was to conduct an additional investigation of the above-noted to complete the characterization of potential sub-surface impacts. A site location map is presented as Figure 1.

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## **1.0 BACKGROUND & SITE SETTING**

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The Site is comprised of three contiguous parcels identified by assessor parcel numbers (APNs) 020-0214-012-1, 020-0214-013, and 020-0214-014 and addressed 1228-1236 East 17th Street, Oakland. The three parcels together form a generally rectangular-shaped area approximately 12,298 square feet (SF) in size. The Site currently consists of an undeveloped vacant lot vegetated with grass and weeds. EIS completed a previous Phase I Environmental Site Assessment (ESA) for the Site in October 2016 (EIS, 2016a). Depth to groundwater in the general area of the subject property was reported to occur at an approximate depth of 5 to 10 feet below the ground surface (bgs). Based on regional topography and proximity to the Oakland Estuary, local groundwater flow direction was inferred to be towards the south. EIS reviewed groundwater information available on GeoTracker for a nearby environmental investigation site and confirmed a groundwater depth of approximately 6 to 11 feet bgs with a south to south-southwest flow direction (Sierra West, 2013). The Phase I ESA identified a recognized environmental condition (REC) associated with documented on-site lead impacts to soil. In addition, a potential vapor intrusion concern was identified in the ESA, based on potential historical solvent uses of the eastern adjoining property addressed as 1745 14th Avenue. The Site is

proposed to be redeveloped with a three-story apartment building with an exterior at-grade parking lot. A site plan of the proposed development is depicted in Figure 2. The plan involves the covering of the entire site with hardscape consisting of the concrete building foundation and exterior driveway and parking area pavements. A community garden strip to extend along the northeastern boundary will consist of a raised planter bed with underlying concrete slab.

In preparation of the Workplan for the current investigation, EIS reviewed a series of aerial photographs on Google Maps (both aerial and street-view). In a photograph dated January 2014, a three-story residential structure is visible on the central and eastern portion of the Site, with a concrete-paved parking lot and possible grassy play area in the western portion. Dirt and grass-covered areas were also visible along the western to southwestern and eastern to southeastern boundaries of the Site. The residential building appeared to be unoccupied in the January 2014 photograph, as all windows were boarded up, evidence of fire damage was visible, and a chain-link fence with locked gate surrounded the entire property. In the next available photograph, dated August 2014, the majority of the concrete-paved parking lot appeared to be broken-up and crushed, with the rubble piled onto the western portion of the Site. No other significant changes were apparent in the August 2014 photograph. In the next available photograph dated July 2015, the Site appears in its current condition as a fenced, vacant dirt lot vegetated with grass and weeds, with no evidence of leftover rubble from the former building or pavements.

## **1.1 PREVIOUS PHASE II INVESTIGATION**

EIS conducted field work for a Phase II Limited Soil and Soil Vapor Investigation of the Site on November 16, 2016 (EIS, 2016b). EIS advanced sixteen temporary soil boring using track-mounted GeoProbe direct-push technology (DPT) drilling equipment. Fourteen of the borings (SB-1 through SB-14) were advanced for the purpose of collecting soil samples, with the remaining two borings (SV-1 and SV-2) advanced to collect soil vapor samples. The locations of the prior borings along with the ground-floor plan of the proposed apartment building structure are included on Figure 3. The rationale and analytical parameters for the previously collected samples are included in Table 1. Soil borings SB-1 through SB-14 were advanced throughout the entire Site and soil vapor borings SV-1 and SV-2 along the eastern boundary. EIS collected soil samples at depths of 0.0 to 0.5 and 2.5 to 3.0 feet below the ground surface (bgs) from borings SB-1 through SB-14, and collected soil vapor samples from a depth of 5.0 feet bgs from borings SV-1 and SV-2. An attempt to collect soil vapor samples from 10 feet bgs from the SV borings was unsuccessful and was abandoned due to encountered clayey soils at that depth. Grab groundwater samples were not collected during the investigation because the eastern adjoining property potentially having residual impacts from historical uses is downgradient of the Site. The collection of soil vapor samples was considered more appropriate to evaluate such potential impacts.

Soils encountered during the investigation consisted primarily of interbedded, fine- to coarse-grained, silty to gravelly sand and silty to clayey sand. Rubble from the previous building and/or parking lot pavement appeared to be buried onsite at shallow depths based on utility locator findings and fragments of building materials (e.g., concrete and brick) encountered in the soil borings. Groundwater was not encountered in any of the

borings to an explored depth of up to 10 feet bgs. No field evidence of contamination, such as odor or staining in soil, was observed.

Twenty-one (21) of the total 28 analyzed soil samples contained lead concentrations that exceeded the current Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL) of 80 milligrams per kilogram (mg/kg) for this metal in a residential setting (RWQCB, 2016), including 12 of 14 samples collected from a depth of 0.0 to 0.5 feet bgs and 9 of 14 from 2.5 to 3.0 3.0 feet bgs. Two of the 0.5-foot bgs samples collected from opposite ends of the Site and analyzed for organochlorine pesticides (OCPs) were non-detect for these compounds. In addition, four of the soil samples revealed total lead concentrations exceeding the California Code of Regulations (CCR) Title 22 Total Threshold Limit Concentration (TTLC) waste characterization value of 1,000 mg/kg for lead, which would designate such soil as hazardous waste if removed and transported from the Site for appropriate disposal.

Analyses of soil vapor samples revealed low detections of the aromatic compounds benzene, toluene, ethylbenzene and total xylenes (BTEX), methyl ethyl ketone (MEK), and various other volatile organic compounds (VOCs) at concentrations below their respective ESLs for residential land use, where established.

Based on the numerous lead detections in the soil samples that exceeded the residential ESL for lead, EIS recommended submitting the Phase II report to the Alameda County Department of Environmental Health (ACDEH). California Affordable Housing Initiatives, Inc. subsequently submitted the Phase II report to ACDEH.

California Affordable Housing Initiatives, Inc, property owner of the Site, entered into a Voluntary Remedial Action Agreement with ACDEH on June 6, 2017. Prior to that date, in May of 2017, ACDEH staff and California Affordable Housing Initiatives, Inc. discussed the results of the EIS's previous Phase II report dated December 9, 2016. At that time, ACDEH staff agreed with the concept of using site redevelopment to cap lead-impacted soil by covering the Site with the planned concrete building foundation and exterior pavements, but requested an additional soil and soil vapor assessment to complete the characterization of the Site. On August 2, 2017, a meeting was held at the offices of ACDEH with all interested parties to discuss a Draft Work Plan that had been submitted by EIS on June 30, 2017, and review details of the redevelopment project. At the meeting, ACDEH staff requested as part of the Voluntary Cleanup Plan that a revised Final Workplan be prepared and submitted to their agency for review. The Final Workplan was submitted on August 10, 2017. ACDEH review comments pertaining to the Workplan were provided in an email dated August 24, 2017. EIS submitted an Addendum to the Workplan on October 13, 2017 to address ACDEH review comments. ACDEH granted conditional approval of the Workplan in a letter to Ms. Bridget Galka of the Oakland Housing Authority dated October 17, 2017.

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## **2.0 SCOPE OF WORK**

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EIS Phase II investigation included the following tasks:

- Prepared a Workplan and Site-Specific Health and Safety Plan for ACDEH approval and oversight prior to initiating field-work activities.

- Notified USA North to clear boring areas of potential underground utility conflicts.
- Advanced five borings (SB-15 through SB-19) with truck-mounted DPT drilling equipment. The borings were advanced along the northern and eastern sides of the Site to assess potential lead impacts in these areas of the Site identified as a data gap.
- Continuously cored the borings to a final depth of approximately 3.0 feet bgs. The soil cores were logged from each borehole using the Unified Soil Classification System (USCS) for texture, relative moisture content, field evidence of contaminants (such as staining), and other observable characteristics and geologic features of interest.
- Collected soil samples from borings SB-15 through SB-19 at depths of 0.0 to 0.5 feet bgs and 2.5 to 3.0 feet bgs.
- Advanced 16 borings (A-1 through A-4; B-1 through B-4; C-1 through C-4; D-1 through D-4) with truck-mounted DPT drilling equipment. The borings were advanced in the four quadrants of the Site to further assess concentrations of potential contaminants in those areas of the Site to address an identified data gap.
- Continuously cored the soil borings to a final depth of approximately 3.0 feet bgs. The soil cores were logged from each borehole as described above using USCS guidelines.
- Collected discrete soil samples from the A- through D-series borings at depths of 0.0 to 0.5 feet bgs and 2.5 to 3.0 feet bgs. The laboratory was instructed to organize the discrete samples into eight (8) 4:1 composite soil samples representative of each boring series and depth to characterize shallow soil quality across the four quadrants of the Site.
- Collected three soil vapor samples from borings SV-3 to SV-5 plus one duplicate sample for a total of four soil vapor samples. As originally proposed, the soil vapor samples were to be collected from a depth of 5 feet below the assumed basal depth of the future concrete mat or slab foundation and concrete-lined elevator pit. The assumed design depth of the concrete mat or slab foundation is 2.0 feet bgs, and that of the elevator pit, 4.0 feet bgs. Accordingly, the soil vapor samples were proposed to be collected from a depth of 7.0 feet bgs from areas to be covered by the foundation (SV-3 and SV-5) and 9.0 feet bgs for the sample collected from within the footprint of the proposed elevator pit (SV-4). However, all three soil vapor samples were collected from a depth of 7.0 feet bgs due to a relatively shallow groundwater depth (9.8 feet bgs) encountered during the investigation, which precluded collection of a 9.0-foot bgs soil vapor sample being collected from the footprint of the future elevator pit.
- Transferred all soil, groundwater and soil vapor samples to a State-certified laboratory under chain of custody documentation and analyzed as follows:
  - The discrete soil samples collected from borings SB-15 through SB-19 were analyzed for OCPs and total lead using U.S. Environmental Protection Agency (USEPA) Methods 8081A and 6020, respectively.

- The discrete soil samples collected from the A- through D-series borings and composited by the laboratory into a number of 4:1 composite soil samples were analyzed for total petroleum hydrocarbons (TPH) quantified as gasoline-diesel- and motor oil-range organics (GRO, DRO and MRO) by USEPA Method 8015B, VOCs by USEPA Method 8260B, polynuclear aromatic hydrocarbons (PAHs) by USEPA Method 8270C-SIM, and California Assessment Manual (CAM) 17 Metals by USEPA Method 6020.
- The grab groundwater sample was analyzed for GRO, DRO and MRO by Method 8015B and VOCs by Method 8260B.
- The soil vapor samples were analyzed for VOCs by USEPA Method TO-15, naphthalene by TO-17, and the atmospheric gases helium, oxygen, carbon dioxide and methane by ASTM Method D1946-90.
- Borings were sealed with neat Portland Type II cement after the completion of sampling by generally backfilling the borings with surface-poured cement grout. For boring SB-20, which was advanced to a depth of 16 feet bgs and encountered groundwater, the cement was tremied-in from the bottom of the boring to the surface after completion of sampling.
- Prepared this professional technical report to present the sampling activities, analytical results, and findings of the investigation.

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## **3.0 INVESTIGATION METHODS**

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### **3.1 PRE-FIELD ACTIVITIES**

EIS acquired a drilling permit from the ACDEH, which is included as Appendix A. EIS also prepared a Site Health and Safety Plan (SHSP) for the work proposed at the Site in accordance with the requirements of the State of California General Industry Safety Order (GISO) 5192 and Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120). A copy of the SHSP was kept onsite during field activities. The SHSP detailed the work to be performed, safety precautions, emergency response procedures, nearest hospital information, and onsite personnel responsible for managing emergency situations. Prior to all drilling work, the locations of the proposed exploratory boring locations were delineated with white marking paint and Underground Service Alert contacted at least two working days (48 hours) prior to boring advancement, as required by law, for utility line location and marking.

### **3.2 FIELD ACTIVITIES**

On November 6 2017, EIS collected shallow soil samples from borings SB-15 to SB-19, and A- through B-series borings across the Site using a truck-mounted, DPT drilling rig operated by Environmental Control Associates (ECA), a California-licensed, C-57 drilling contractor, located in Aptos, California. The borings were advanced to a maximum depth of 3.0 bgs. Soil boring SB-20 was advanced on the same date to a depth of 16.0 feet bgs for the purpose of collecting a grab groundwater sample. In addition, on November 7, 2017, three temporary soil vapor wells were installed, with soil vapor samples collected on November 7<sup>th</sup> and 8<sup>th</sup>. The locations of the soil borings and temporary soil vapor wells

are depicted on Figure 3. The rationale for the soil, groundwater and soil vapor samples is presented in Table 1.

### **3.2.1 Soil Sampling**

Soil cores were collected from each borehole using a 4-foot-long core barrel sampler that contained an acetate liner to retain a relatively undisturbed soil core. Retrieved sample sleeves were cut from plastic liners, sealed with Teflon tape and plastic end caps, labeled with identifying information, and stored in a pre-chilled ice-chest awaiting transportation to the laboratory. Soil sample information, including project information, sample time, sample date, sample identification and depth, were recorded onto a chain-of-custody document that accompanied the soil samples to the analytical laboratory. Soil encountered in each borehole was logged using the Unified Soil Classification System (USCS) for texture, relative moisture content, field evidence of contaminants (such as staining), and other observable characteristics and geologic features of interest. Soil boring logs are presented in Appendix B.

### **3.2.2 Grab Groundwater Sampling**

A grab-groundwater sample was collected from boring SB-20. To collect a sample, a ¾-inch-diameter PVC pipe with lowermost 5-foot-long slotted interval was inserted into the completed boring as a temporary well casing to facilitate sample collection. The boring was advanced a few feet beyond the depth where saturated conditions were encountered in the soil core to enable collection of a groundwater sample. A peristaltic pump outfitted with new polyethylene and silicone tubing was used to obtain the grab groundwater sample from the well casing. The sample was collected in the appropriate laboratory-supplied containers, sealed, labeled and placed in a pre-chilled ice chest for delivery to the laboratory. A chain-of-custody record was completed and accompanied the grab-groundwater samples to the laboratory.

### **3.2.3 Soil Vapor Sampling**

Soil vapor sampling was performed following guidelines provided in the Department of Toxic Substances Control's (DTSC's) "Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air" (DTSC, 2011) and "Advisory – Active Soil Gas Investigations" (DTSC et al, 2015). The soil vapor probes were sited on the basis of general geographic distribution beneath the footprint of the proposed building structure, with one of the probes situated within the footprint of the future elevator pit.

As originally proposed and in accordance with ACDEH requirements, the soil vapor samples were to be collected from a depth of 5.0 feet below the assumed basal depth of the future concrete mat or slab foundation and concrete-lined elevator pit. The assumed design depth of the concrete mat or slab foundation is 2.0 feet bgs, and that of the elevator pit, 4.0 feet bgs. Accordingly, the soil vapor samples were proposed to be collected from a depth of 7.0 feet bgs from areas to be covered by the foundation (SV-3 and SV-5) and 9.0 feet bgs for the sample collected from within the footprint of the proposed elevator pit (SV-4). However, all three soil vapor samples were collected from a depth of 7.0 feet bgs due to a relatively shallow groundwater depth (9.8 feet bgs) encountered during the investigation, which precluded collection of a 9.0-foot bgs sample being collected from the footprint of the future elevator pit.

The soil vapor probe consists of a preassembled soil vapor sampling tip connected to a length of Teflon™ tubing, with the sampling tip set in a 1-foot-thick sand-pack interval at the base of the 7.0-foot-bgs soil vapor borings. Once the soil vapor probe was properly emplaced in the bottom of the borehole, the sand pack was topped with an approximate 1-foot interval of dry bentonite chips followed by hydrated bentonite chips to the surface to seal the soil vapor sampling interval within the borehole from ambient air at the surface, thus ensuring sample integrity and representativeness.

The Teflon™ tubing from the sampling tip was extended above the ground surface and connected to an in-line filter, a laboratory prepared flow regulator, and Summa® sampling canister with a Swagelok® fitting. After the construction of the soil vapor sampling system was completed, the entire assembly was left inactive for an equilibrium period of at least two hours.

Following the equilibrium period, the soil vapor probe and sampling train was purged of three casing volumes, which includes the internal volume of the tubing, the void space of the sand pack surrounding the sampling tip, and the void space of the overlying dry bentonite chips in the annular space. The vacuum gauge on the purge-canister flow controller and/or elapsed time was monitored to confirm that that three well volumes of vapor had been purged from the sampling apparatus.

After purging was completed, the sampling apparatus was covered prior to sampling by a specialized plastic shroud (i.e., helium shroud) provided by the analytical laboratory. Prior to sampling, the interior of the helium shroud was charged with helium from a pressurized tank connected to an injection port on the shroud exterior. A helium concentration meter connected to another shroud port was monitored to gauge that a helium concentration of approximately 20% was present within the shroud before initiating the sampling. A small pump set at a flow rate of 1.25 milliliters per minute (ml/min) was connected to a shroud port facilitates stabilization of the helium level at an approximate concentration of 20% ( $\pm 2\%$ ) throughout the sampling period. To initiate sampling, the valve on the sampling canister was opened to induce flow from the sampling probe into the canister under the applied vacuum pressure of the canister. A flow rate of approximately 150 to 200 ml/min was maintained throughout sample collection by the laboratory-provided flow controller. For the TO-17 sampling runs, a sorbent tube was inserted into the sampling train. Leak testing was performed during sampling using helium gas injected into the shroud covering the sampling assembly.

Vacuum gauge readings were recorded prior to, during and at the end of sampling to confirm sample collection. The canister valve was closed to seal the sample when a vacuum of approximately two inches of mercury was reached. Copies of the soil vapor sampling field logs are provided in Appendix C. The soil vapor samples were labeled and logged onto a chain-of-custody document for delivery to a State-certified laboratory for analysis.

As an additional note, EIS monitored precipitation amounts during the general period that the soil vapor sampling was scheduled to be completed to ensure that such sampling was only performed after a period of five days without a significant rain event. According to DTSC guidance (DTSC et al, 2015), a significant rain event is defined as  $\frac{1}{2}$  inch of rainfall or greater during any 24-hour period within the five-day interval prior to sampling. Based

on EIS monitoring of a National Weather Service (NWS) website ([www.water.gov](http://www.water.gov)), sporadic rainfall during the 5-day period preceding the soil vapor sampling event did not exceed the ½-inch threshold for a 24-hour period within the 5-day interval. According to this source, a maximum of 0.28 inches of rainfall was recorded during a single 24-hour period within the 5-day period preceding the soil vapor sampling event (NWS records maintained in EIS project files).

### **3.2.4 Decontamination and Borehole Abandonment**

All downhole drilling and sampling equipment was cleaned prior to drilling, between boreholes, and prior to leaving the Site. Cleaning was accomplished by washing the equipment in a solution of non-phosphate detergent, double-rinsed with potable water, and allowed to dry. All drill cuttings and equipment decontamination wash and rinse water were stored onsite at the client-designated location in sealed drums pending analysis and disposal. Upon completion of all sampling activities, the borings were backfilled to the ground surface using neat cement grout. EIS will arrange for off-site disposal of drill cuttings and rinse water, pending analytical results, as appropriate.

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## **4.0 LABORATORY ANALYSES**

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The collected soil, groundwater and soil vapor samples were submitted to McCampbell Analytical, Inc. of Pittsburg, California, a State-certified analytical laboratory, for analysis by standard (USEPA) Methods as described below.

Ten (10) discrete soil samples collected from soil borings SB-15 to SB-19 analyzed as follows:

- OCPs by USEPA Method 8081A
- Total lead by USEPA Method 6020

Thirty-two (32) discrete soil samples collected from the A- through D-series borings were organized in the laboratory into eight (8) 4:1 composite soil samples representative of the 0.5- and 3.0-foot depth intervals for each boring series and analyzed as follows:

- TPH quantified as GRO, DRO and MRO by Method 8015B
- VOCs by Method 8260B
- PAHs by Method 8270-SIM
- CAM 17 metals by Method 6020.

One (1) grab groundwater sample collected from boring SB-20 analyzed as follows:

- TPH quantified as GRO, DRO and MRO by Method 8015B
- VOCs by Method 8260B

Four (4) soil vapor samples collected from borings SV-3 to SV-5 (including one duplicate sample) analyzed as follows:

- VOCs by Method TO-15
- Naphthalene by Method TO-17



- Atmospheric Gases helium, oxygen, carbon dioxide and methane by ASTM Method D1946-90

Copies of the chain-of-custody documentation and certified analytical reports are provided in Appendix D.

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## 5.0 FINDINGS

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### 5.1 GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

Encountered soils across the Site generally consisted of an uppermost interval of sandy silt to silty sand with some clay to a depth of approximately 2.0 to 3.5 feet bgs, underlain by clayey silt to approximately 11 feet bgs, and an interbedded sequence of silty sand, sand, silt and clay to an explored depth of 16.0 feet bgs. The uppermost sandy silt to silty sand interval typically included gravel-sized fragments of concrete and brick, and some glass, to a depth of approximately 1.5 to 2.0 feet bgs. Groundwater was initially encountered in boring SB-20 in a water-bearing sand bed occurring at a depth of 13.5 feet bgs, with water rising several hours later to a static groundwater level of 9.8 feet bgs. The presence of overlying fine-grained clayey silt layers above the water-bearing sand bed suggests localized confined to semi-confined aquifer conditions. Field evidence of contamination was not observed in the soil cores or the single groundwater sample collected from boring SB-20.

### 5.2 SOIL ANALYTICAL RESULTS

Soil analytical results are included in Appendix D, with discrete soil sample results summarized in Table 2 and composite soil sample results in Table 3. Analytical results were compared to RWQCB ESLs for residential land use (RWQCB, 2016) and State of California hazardous waste criteria presented in CCR Title 22, which defines Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC) values to designate such waste for disposal in an appropriate landfill.

Soil borings SB-15 through SB-19 are located along the eastern to southeastern perimeter of the Site. Discrete soil samples were collected from these borings at depths of 0.0 to 0.5 and 2.5 to 3.0 feet bgs and submitted to the laboratory for analysis of OCPs and total lead. The lead results for the previous and current borings SB-1 to SB-19 are depicted on Figure 3.

The results of the discrete soil samples are summarized below.

- **OCP Analyses:**
  - OCPs were not detected above laboratory detection limits in the soil samples, except for both upper and lower samples collected from boring SB-19. Several OCPs were detected in these samples, including DDD, DDE, DDT, chlordane and dieldrin. Fewer compounds were detected in the deeper sample, but those detected were generally detected at similar or slightly higher concentrations. All of the detected OCPs were below their respective ESLs, where established.

- The detected OCPs are all below TTLCs and a “rule of thumb” hazardous waste screening value based on the 10:1 dilution factor for STLCs (i.e., 10X STLC) to screen for potential soluble concentrations in a landfill setting
- **Total Lead Analyses:**
  - A maximum total lead result of 430 mg/kg was reported for the 0.5-1.0 foot bgs sample collected from boring SB-19, with the underlying 2.5-3.0 foot bgs sample having a diminished lead concentration of 72 mg/kg. The 430 mg/kg result for the uppermost sample exceeds the ESL for lead of 80 mg/kg. The detected lead concentrations for the remaining soil boring samples ranged from 4.9 to 15 mg/kg, values which are below the ESL.
  - All of the lead detections for the SB-series borings were below the TTLC value of 1,000 mg/kg. However, lead concentrations of 430 mg/kg and 72 mg/kg for the 0.5- and 3.0-foot bgs samples from SB-19, respectively, exceeded the 10X STLC screening level of 50 mg/kg for potential soluble lead concentrations in a landfill setting.

Sixteen (16) borings were advanced in grid pattern across the Site organized as follows: borings A-1 to A-4 in the northeast portion; B-1 to B-4 in the northwest portion; C-1 to C-4 in the southeast portion; and D-1 to D-4 in the southwest portion. Discrete samples collected from these borings at depths of 0.0-0.5 feet bgs and 2.5-3.0 feet bgs were organized in the laboratory into representative, 4:1 composite samples for each depth interval of the A-, B-, C- and D-series borings and analyzed for TPH, VOCs, PAHs and CAM 17 metals.

The results of the composite soil samples are summarized below.

- **TPH Analyses:**
  - GRO: Not detected above laboratory detection limits.
  - DRO detected at concentrations ranging from 1.8 to 7.9 mg/kg (A Comp-3.0, B Comp-0.5 and B Comp-3.0), which are below the applied ESL of 230 mg/kg.
  - MRO detected at concentrations of 6.7 to 110 mg/kg (A Comp-0.5, A Comp-3.0, B Comp-0.5, B Comp-3.0, C Comp-0.5, and D Comp-0.5), which are below the applied ESL of 11,000 mg/kg.
- **VOC Analyses:**
  - Not detected above laboratory detection limits.
- **PAH analyses:**
  - One or more PAHs were detected in seven of eight composite samples, with the following compounds detected above their respective ESLs: benzo[a]anthracene, 0.20 mg/kg (A Comp-0.5); benzo[a]pyrene, 0.017 to 0.26 mg/kg (A Comp-0.0 and -3.0, B Comp-3.0, C Comp-0.5, and D Comp-0.5 and -3.0); benzo[b]fluoranthene, 0.27 mg/kg (A Comp-3.0) and dibenzo[a,h]anthracene, 0.029 mg/kg (A Comp-3.0).

- **Metals Analyses:**

- Various metals were detected in the composite soil samples at concentrations below their respective ESLs, with the exception of arsenic and lead.
- The above-ESL arsenic concentrations ranged from 3.5 to 7.1 mg/kg, which exceed the applied ESL of 0.067 mg/kg.
- The above-ESL lead concentrations ranged from 84 to 1,200 mg/kg, which exceed the applied ESL of 80 mg/kg. These above-ESL detections include A Comp-0.5 (560 mg/kg), A Comp-3.0 (1,200 mg/kg), B Comp-0.5 (450 mg/kg), B Comp-3.0 (220 mg/kg), C Comp-0.5 (280 mg/kg) and D Comp-0.5 (84 mg/kg).
- The 1,200 mg/kg lead result for A Comp-3.0 exceeds the 1,000 mg/kg TTLC for lead. In addition, the lead results for A Comp-0.5, B Comp-0.5, B Comp-3.0, C Comp-0.5 and D Comp-0.5, ranging from 84 to 560 mg/kg, exceed the 10X STLC waste screening threshold of 50 mg/kg for potential soluble concentrations of this metal species in a landfill setting.

### 5.3 GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical results are provided in Appendix D and summarized in Table 4. Analytical results were compared to RWQCB ESLs, which are based on Maximum Contaminant Levels (MCLs) for drinking water (RWQCB, 2016). A grab groundwater sample was collected from boring SB-20, located on the western or upgradient margin of the Site, and the samples analyzed for TPH and VOCs. The results of these analyses are summarized below.

- **TPH Analyses:**

- GRO, DRO and MRO not detected above laboratory detection limits.

- **VOC Analyses:**

- VOCs were not detected in the groundwater sample, except as follows: trichloroethene (TCE), 0.77 micrograms per liter ( $\mu\text{g/L}$ ); 1,1-dichloroethene (1,1-DCE) 0.022  $\mu\text{g/L}$ ; and vinyl chloride, 0.016  $\mu\text{g/L}$ . The detected concentrations of these compounds are all below their respective ESLs.

### 5.4 SOIL VAPOR ANALYTICAL RESULTS

Soil vapor analytical results are provided in Appendix D, with VOC results summarized in Table 5 and atmospheric gases, including the leak-check gas helium, in Table 6. Soil vapor VOC results were compared to applicable RWQCB ESLs for residential land use (RWQCB, 2016). Soil vapor borings SV-3 to SV-5 are located across the east-central to west-central portion of the Site, with SV-4 situated within the footprint of the planned elevator pit. The results of these analyses are summarized below.

- **VOC Analyses:**

- Detected BTEX compounds consist of benzene, 2.0 and 4.0 micrograms per cubic meter ( $\mu\text{g/m}^3$ ) in samples SV-4A and SV-5A, respectively; toluene, 3.0  $\mu\text{g/m}^3$  in SV-5A; and ethylbenzene, 2.3  $\mu\text{g/m}^3$  in SV-5A. Several additional

VOCs, including MEK, 1,2,4-trimethylbenzene, carbon disulfide, 1,3-dichlorobenzene, were detected in one or more of the samples. The above detected compounds were all below their respective ESLs, where established. Benzene detections for the soil vapor samples, including those from the prior investigation, are depicted in plan view on Figure 4.

- **Naphthalene Analyses:**

- Naphthalene was not detected above laboratory detection limits in the TO-17 analyses completed for samples SV-4B and SV-5B. Naphthalene analysis of samples SV-3B and SV-3B DUP were not completed by this method because the sorbent tubes were damaged during sampling activities such that the analyses could not be run. However, EIS notes that naphthalene was not detected in the TO-15 analyses of all four (i.e., primary and duplicate) soil vapor samples.

The leak-check gas helium, which was injected into the sampling shrouds during the collection of all soil vapor samples, was not detected above laboratory detection limits in both A-series (TO-15) and B-series (TO-17) soil vapor samples (Table 6).

Analytical results of the remaining atmospheric gases analyzed in the B-series soil vapor samples were as follows: oxygen, 11 to 13 per cent (%) for all samples; carbon dioxide, 0.87 to 0.89% for SV-3 and SV4, 6.4% for SV-5; and methane, not detected in any of the samples (Table 6).

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## **6.0 QUALITY ASSURANCE AND QUALITY CONTROL**

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The Quality Assurance/Quality Control (QA/QC) review for sample handling and custody procedures includes a verification of sample labels, containers, and chain-of-custody forms before samples were transferred to the selected analytical laboratories. Field QA/QC procedures included the collection of a duplicate soil vapor samples from one of the soil vapor borings.

The analytical laboratory report was reviewed by EIS. EIS verified that the holding times for each analytical method were achieved and that the laboratory achieved the specific data quality objectives for the selected analytical method. A review of the data validation process indicates that the laboratories completed QA/QC activities required for the samples such as blanks, lab control samples, matrix spikes, and duplicates.

Helium, utilized as a leak-check gas during the collection of all soil vapor samples, was not detected in the samples above laboratory detection limits, with the exception of sample SV-3B DUP (i.e., duplicate sample), which had a helium concentration of 0.083%. This result is well below the 5% limit specified in DTSC guidance for a representative sample.

The laboratory and field QA/QC parameters for the samples were within acceptable limits and suggest that the data is useful for its intended purpose.

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## 7.0 CONCEPTUAL SITE MODEL

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Based on the findings of the previous and current investigations of the Site, EIS developed a Conceptual Site Model (CSM) incorporating hydrogeologic conditions, the horizontal; and vertical distribution of lead impacts, and the assumed design depths of the proposed concrete mat or slab foundation, concrete-lined elevator pit and exterior pavements. Figure 3 includes the boring locations from the previous and current investigations, lead results, and two longitudinal cross-section alignments (A-A' and B-B') extending west to east across the length of the Site and a transverse cross-section (C-C') across its width. Figure 4 also includes the cross-section alignments, along with posted benzene detections for the soil vapor samples. Figures 5 and 6 depict geologic the cross-sections, which incorporate soil borings, detected soil lead or soil vapor benzene concentrations, and the proposed concrete mat or slab foundation, concrete-lined elevator pit and exterior pavements.

The cross-sections depict alluvial deposits consisting of an uppermost interval of sandy silt to silty sand with some gravel and clay to a depth of approximately 2.0 to 3.5 feet bgs, underlain by clayey silt to approximately 11 feet bgs, and an interbedded sequence of silty sand, sand, silt and clay to an explored depth of 16.0 feet bgs. Gravel-sized fragments of concrete and brick, and some glass, were generally observed to a depth of approximately 1.5 to 2.0 feet bgs, which appears to represent uppermost fill soils with demolition debris from the apartment building that was previously present at the Site. A static groundwater elevation of 9.8 feet bgs measured in boring SB-20 is extended across the Site. Groundwater flow for the Site area is reportedly towards the south to south-southwest (Sierra West, 2013).

The entire Site is planned to be fully covered by hardscape consisting of the concrete mat or slab building foundation and surrounding concrete pavement (driveway, walkways, planters, etc.). Cross-sectional views of the future building foundation, including a concrete-lined elevator pit, and exterior pavements is included on Figure 5 and Figure 6.

Lead concentrations for the discrete 0.5- and 3.0-foot-bgs samples collected from SB-series borings are plotted on the on cross-sections. Most of the lead concentrations for the discrete borehole samples collected across the Site exceed the applied direct-exposure ESL for lead of 80 mg/kg, except for the approximate eastern half of the Site, where concentrations for both the 0.0-foot and 3.0-foot bgs samples are below the ESL, and a few locations where an above-ESL value for the uppermost sample attenuates to a below-ESL value in the lowermost sample.

The maximum lead concentrations typical of the approximate western half of the Site generally exceed or approximate the TTLC value of 1,000 mg/kg designating California Hazardous Waste (up to 2,100 mg/kg), with maximum concentrations generally detected in the lowermost 3.0 feet bgs sample. For the eastern half, lower lead concentrations below the TTLC along with significant vertical attenuation of concentrations with depth generally prevail, excepting boring SB-3, located in the southeastern portion of the Site (cross-section B-B'), which has an elevated lead concentration of 1,400 mg/kg for the 0.5-foot-bgs sample. However, this elevated concentration significantly attenuates to a below-ESL value of 53 mg/kg in the underlying 3.0-foot-bgs sample. Transverse cross-section

C-C' appears to exhibit a transitional zone between the western and eastern portions of the Site. Across the mid-section of the Site exhibited by this cross-section, lead concentrations for the uppermost 0.5-foot-bgs samples range from 230 to 500 mg/kg, which attenuate to lower concentrations of 29 to 110 mg/kg in the deeper 3.0-foot-bgs samples. The concentrations in the 0.0-foot bgs samples along this cross-section alignment appear to significantly exceed the screening level for potential soluble lead (10X the STLC) should such soil be disposed offsite as surplus soil.

As noted above, the discrete soil samples collected from the SB-series borings were collected from depths of 0.0 to 0.5 feet bgs and 2.5 to 3.0 feet bgs, and the soil vapor samples were collected from a depth of 7.0 feet bgs. Using the 2.0-foot bgs basal depth of the future foundation pad as a datum and adding its thickness to the -0.5 and -3.0 feet bgs depths of the soil samples yields a corresponding elevation of +1.5 feet or -1.0 feet for the samples referenced to that datum. In other words, the 0.5-foot-bgs sample is 1.5 feet above the base of the future foundation and the 3.0-foot-bgs sample is 1.0 foot below it. Similarly, the 7.0-foot-bgs depth of soil vapor samples SV-3 and SV-4 along cross-section B-B' are -5.0 feet below the foundation and sample SV-4 along A-A' is -3.0 feet below the base of the elevator pit. The cross-sections exhibited on Figures 5 and 6 exhibit the depths of the samples relative to the basal depths of the future foundation and exterior pavements.

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## 8.0 CONCLUSIONS

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- Most of the detected lead concentrations for the discrete soil samples collected from SB-series borings across the Site exceed the applied direct-exposure ESL for lead of 80 mg/kg, except for the approximate eastern half of the Site, where concentrations for both the 0.0-foot and 3.0-foot bgs samples are below the ESL, and a few locations where an above-ESL value for the uppermost sample attenuates to a below-ESL value in the lowermost sample. The maximum lead concentrations typical of the approximate western half of the Site generally exceed or approximate the TTLC value of 1,000 mg/kg designating California Hazardous Waste, with maximum concentrations generally detected in the lowermost 3.0 feet bgs sample. For the eastern half, lower lead concentrations below the TTLC along with significant vertical attenuation of concentrations with depth generally prevail.
- OCPs were not detected in the discrete soil samples collected from SB-series borings (including borings SB-1 and SB-7 from the prior investigation), except for below-ESL concentrations of several OCPs detected in the 0.0-foot and 3.0-foot samples from SB-19. Based on their below-ESL concentrations, the presence of OCPs in these samples is not considered a significant environmental concern.
- Composite samples representative of the 0.5-foot- and 3.0-foot- bgs depths in the four quadrants across the Site were non-detect for GRO and VOCs. The low, below-ESL DRO and/or MRO detections in a few of the composite samples are well below their respective ESLs and therefore do not represent a significant environmental concern. Several PAHs were detected across the Site at low concentrations slightly above their respective ESLs. The specific source of the detected PAHs is unknown, but their presence may possibly be attributed to the

fire which damaged the former on-site apartment building and its subsequent demolition wherein building materials including petroleum-based products (e.g., roofing, sealing tar) consumed in the fire may have left residual PAHs in the soil. The above-ESL PAH detections are not considered a significant environmental concern as any remaining PAH-impacted soil left onsite will be mitigated by the covering of the Site by the concrete building foundation and exterior pavements of the planned redevelopment of the property.

- The lead concentrations of the composite soil samples appear to be consistent with the lead results of the discrete samples, with relatively higher concentrations in the western half of the Site generally exceeding the ESL and TTLC hazardous waste criteria for lead compared to the eastern half, where concentrations are lower, generally below the ESL with a few local exceptions, and otherwise below the TTLC.
- The relatively uniform arsenic concentrations detected in the composite soil samples above the applied ESL are typical of background arsenic concentrations in the region. One study analyzed regional soils in the San Francisco Bay Area, and the upper range of arsenic in soils was reported at 11 mg/kg (Duverge, 2011). Another study in the region found the upper background concentration for arsenic in soil to be 24 mg/kg (LBNL, 2002). The California Environmental Protection Agency (Cal EPA) and other agencies within California typically do not require cleanup of naturally occurring chemicals to less than background concentrations.
- Low to trace, below-ESL concentrations of TCE and associated breakdown products 1,1-DCE and vinyl chloride were detected in the grab groundwater sample collected from boring SB-20. There is no known on-site source of the above chlorinated hydrocarbons. In addition, there are no known off-site sources of these compounds, although they likely represent the trailing edge of a plume from an upgradient, off-site source. The presence of breakdown products 1,1-DCE and vinyl chloride suggest an aged, historical release undergoing degradation. Based on the below-ESL concentrations of TCE and associated breakdown products, their detection in groundwater beneath the Site does not represent a significant environmental concern.
- Low concentrations of benzene and other compounds of the BTEX group were detected in two of the three soil vapor samples collected during the current investigation. Where detected, benzene concentrations were similar to those detected in soil vapor samples collected from the eastern margin of the Site during the prior investigation. In addition, naphthalene was not detected in the two soil vapor samples (SV-4, SV-5) for which it was successfully analyzed by Method TO-17. The absence of a TO-17 naphthalene result for the remaining sample (SV-3) is not deemed significant considering BTEX and naphthalene were not detected in the TO-15 analyses of this sample. Furthermore, the non-detection of naphthalene in the two the two samples successfully analyzed by TO-17 are considered to be adequate to support a conclusion that there are no naphthalene impacts to soil vapor at the Site. Finally, the detected BTEX compounds, along with other detected VOCs (including acetone, MEK, 1,2,4-trimethylbenzene, etc.) detected in

the current and prior investigations, are below their respective ESLs, where established, and therefore they do not represent a significant environmental concern.

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## **9.0 RECOMENDATIONS**

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EIS recommends that the Findings and Conceptual Site Model presented herein form the basis of a Corrective Action Plan (CAP) to be followed in the proposed redevelopment of the Site with a residential apartment building. The overall intent of the CAP is to mitigate on-site, above-ESL lead impacts to soil by the placement of the concrete foundation pad and pavements that are planned to fully cover the Site upon the completion of the redevelopment project. As part of the CAP, lead-impacted soil in excess of California Hazardous Waste criteria will be kept onsite beneath the completed foundation and pavements, to the extent possible, to minimize waste disposal costs.



Please contact EIS at (408) 402-9800 if you have any questions regarding this report.

Sincerely,

**Environmental Investigation Services, Inc.**



*Philip V. McLaughlin*

Philip V. McLaughlin, PG No. 5434  
Senior Geologist

**Tables**

- Table 1 – Sampling Rationale for Previous and Current Borings
- Table 2 – Soil Analytical Results for Discrete Samples
- Table 3 – Soil Analytical Results for Composite Samples
- Table 4 – Groundwater Analytical Results
- Table 5 – Soil Vapor Analytical Results for VOCs
- Table 6 – Soil Vapor Analytical Results for Atmospheric Gases

**Figures**

- Figure 1 – Site Location Map
- Figure 2 – Site Plan of Proposed Development
- Figure 3 – Soil Boring Location Map with Soil Lead Results
- Figure 4 – Soil Boring Location Map with Soil Vapor Benzene Results
- Figure 5 – Geologic Cross-sections A-A' and B-B'
- Figure 6 – Geologic Cross-section C-C'

**Appendices:**

- Appendix A – Drilling Permits
- Appendix B – Soil Boring Logs
- Appendix C – Soil Vapor Sampling Field Logs
- Appendix D – Laboratory Analytical Reports

## References:

- California Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, and San Francisco Regional Water Quality Control Board (DTSC et al), 2015. Advisory: Active Soil Gas Investigations. July 2015.
- California Department of Toxic Substances Control and California Environmental Protection Agency (DTSC), 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October 2011.
- Duverge, D.J., San Francisco State University Thesis, Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region, December 2011.
- Environmental Investigation Services, Inc. (EIS), 2016a, Phase I Environmental Site Assessment, 1228, 1232, 1236 East 17th Street, Oakland, California. October 24, 2016.
- Environmental Investigation Services, Inc. (EIS), 2016b, Phase II Limited Soil & Soil Vapor Investigation Report, 1228,1232, 1236 East 17th Street, Oakland, California. December 9, 2016.
- Lawrence Berkeley National Laboratory (LBNL), Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory, June 2002 (revised April 2009).
- San Francisco Bay Regional Water Quality Control Board (RWQCB), 2016, Interim Final, User's Guide Derivation and Application of Environmental Screening Levels. February 2016 (Rev. 3).
- Sierra West Consultants, Inc. (Sierra West), 2013, First Semi-Annual Groundwater Monitoring and Sampling Report of 2013, 1839 Foothill Boulevard, Oakland, California. April 22, 2013.

# **TABLES**

**TABLE 1**  
**Sampling Rationale**  
**Previous and Current Borings**

1228-1236 E. 17th Street  
Oakland, California  
Project No. 1652-2A

Activity	Boring ID	Date	Media/Type	Sample Depths (feet bgs)	Analytes	Rationale
Previous Borings	SB-1 to SB-14	11/17/2016	Soil/Discrete	0.5 & 3.0	Lead	Characterize potential lead impacts to near surface soils to depth of 3.0 feet bgs across the Site for due diligence purposes. Total of 28 samples.
	SV-1 & SV-2	11/17/2016	Soil Vapor	5.0	VOCs	Characterize potential soil vapor impacts from historical off-site uses of downgradient eastern adjoining property. Total of two (2) samples.
Current Borings	SB-15 to SB-19	TBD	Soil/Discrete	0.5 & 3.0	Lead, OCPs	Characterize potential lead and OCP impacts to near surface soils to depth of 3.0 feet bgs in areas along northern and eastern margins of Site to address data gap of areas not previously sampled or evaluated for potential lead impacts of these constituents of concern. Total of 10 samples.
	SB-20	TBD	Grab Groundwater	6-11 feet	TPH, VOCs	Characterize potential groundwater impacts from upgradient area. Total of one (1) sample.
	A-1 to A-4 B-1 to B-4 C-1 to C-4 D-1 to D-4	TBD	Soil/Composite	0.5 & 3.0	TPH, VOCs, PAHs & CAM 17 Metals	Characterize potential TPH, PAH and metal impacts to near surface soils at depth horizons of 0.5 and 3.0 feet bgs across the northwestern, southwestern, northeastern and southeastern quadrants of the Site encompassed by A- through D-series borings, respectively. Discrete samples collected at depths of 0.5 and 3.0 foot bgs from each set of borings (total of 32 samples) were organized in the laboratory into eight (8) 4-point composite samples representative of the 0.5 and 3.0 depth horizons of each quadrant. Data collected from these samples will address data gap of characterizing potential impacts of soil to be left onsite and/or disposed offsite in an appropriate landfill after completion of grading activities.
	SV-3 to SV-5	TBD	Soil Vapor	5.0	VOCs, Naphthalene, O <sub>2</sub> , H, CO <sub>2</sub> , CH <sub>4</sub>	Characterize potential soil vapor impacts from historical off-site uses of the downgradient, eastern adjoining property. These additional soil vapor samples to address an identified data gap of characterizing potential soil vapor impacts across the entire Site. Total of 4 samples including one duplicate sample.

**Notes:**

bgs = below the ground surface. The soil vapor samples will actually be collected from depth 5.0 feet below the base of concrete mat foundation or concrete slab of the proposed building structure.

TPH = Total petroleum hydrocarbons. Samples to be analyzed for gasoline- and diesel/motor oil-range hydrocarbons by USEPA 8015B, the latter with silica gel cleanup (SGC) preparation.

VOCs = Volatile organic compounds by USEPA Method 8260B (soil and groundwater ) or TO-15 (soil vapor); naphthalene by TO-17.

PAHs = Polyaromatic hydrocarbons by USEPA Method 8270-SIM.

OCPs = Organochlorine pesticides by USEPA Method 8081A.

CAM-17 Metals = California Assessment Manual 17 metals by USEPA Method 6020.

Fixed or atmospheric gases oxygen (O<sub>2</sub>), helium (H), carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) analyzed by ASTM D1946-90.

**TABLE 2**  
**Soil Analytical Results Summary**  
**Borehole Discrete Samples**  
**OCPs and Lead**  
1228-1236 E. 17th Street  
Oakland, California  
Project No. 1652-2A

Sample ID	SB-1-0.5	SB-1-3.0	SB-2-0.5	SB-2-3.0	SB-3-0.5	SB-3-3.0	SB-4-0.5	SB-4-3.0	SB-5-0.5	SB-5-3.0	SB-6-0.5	SB-6-3.0	SB-7-0.5	SB-7-3.0	RWQCB Residential ESL	TTLc	STLC (10x)	
Sample Depth (ft)	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0				
Relative Sample Elevation (ft)	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0				
Sample Date	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016	11/17/2016				
OCPs (mg/kg)	Chlordane (Technical)	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	0.48	2.5	2.5
	g-Chlordane	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	0.48	2.5	2.5
	a-Chlordane	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	0.48	2.5	2.5
	DDD	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	2.7	1.0	1.0
	DDE	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	1.9	1.0	1.0
	DDT	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	1.9	1.0	1.0
	Dieldrin	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	0.038	8.0	8.0
	Endosulfan Sulfate	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	420	--	--
	Endrin Ketone	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	21	0.2	0.2
	Heptachlor Epoxide	<0.0020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0050	NA	0.067	4.7	4.7
Other Analyzed OCPs	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Various	Various	Various	
Lead	27	4.0	<b>110</b>	5.8	<b>1,400</b>	<b>53</b>	<b>180</b>	5.3	<b>260</b>	29	<b>500</b>	<b>110</b>	<b>240</b>	<b>660</b>	80	1,000	50	

**Notes:**

Sample results reported in milligrams per kilogram (mg/kg).

Relative Sample Elevation = Sample elevation relative to datum based on 2.0-foot-bgs basal depth of future building foundation.

<0.0020 = not detected above laboratory Method Detection Limit (MDL)

ND = Not detected above MDL

NA = Not Analyzed

OCPs = Organochlorine pesticides analyzed by USEPA Method 8081A

Lead analyzed by USEPA Method 6020

RWQCB ESL = San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (February 2016, Rev. 3). The listed ESLs are based on Direct Exposure Human Health Risk Levels for Residential scenario (Table S-1).

TTLc = Total Threshold Limit Concentration for waste characterization, California Code of Regulations, Title 22.

STLC = Soluble Threshold Limit Concentration for waste characterization, California Code of Regulations, Title 22. Range of TTLc Values for which an STLC test must be performed. Dilution factor is 10:1.

TTLc and 10x STLC values applied to total DDD/DDE/DDT

-- = Not established

**Bold** = Result exceeds regulatory threshold

**TABLE 2**  
**Soil Analytical Results Summary**  
**Borehole Discrete Samples**  
**OCPs and Lead**  
1228-1236 E. 17th Street  
Oakland, California  
Project No. 1652-2A

Sample ID	SB-8-0.5	SB-8-3.0	SB-9-0.5	SB-9-3.0	SB-10-0.5	SB-10-3.0	SB-11-0.5	SB-11-3.0	SB-12-0.5	SB-12-3.0	SB-13-0.5	SB-13-3.0	SB-14-0.5	SB-14-3.0	RWQCB Residential ESL	TTLC	STLC (10x)
Sample Depth (ft)	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0			
Relative Sample Elevation (ft)	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0			
Sample Date	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16	11/17/16			
OCPs (mg/kg)	Chlordane (Technical)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.48	2.5	2.5
	g-Chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.48	2.5	2.5
	a-Chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.48	2.5	2.5
	DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	1.0	1.0
	DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9	1.0	1.0
	DDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9	1.0	1.0
	Dieldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.038	8.0	8.0
	Endosulfan Sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420	--	--
	Endrin Ketone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	0.2	0.2
	Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.067	4.7	4.7
	Other Analyzed OCPs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Various	Various	Various
Lead (mg/kg)	<b>920</b>	<b>95</b>	<b>220</b>	<b>960</b>	<b>140</b>	<b>2,100</b>	<b>68</b>	<b>1,800</b>	<b>130</b>	<b>110</b>	<b>160</b>	<b>99</b>	<b>220</b>	<b>1,700</b>	80	1,000	50

**Notes:**

Sample results reported in milligrams per kilogram (mg/kg).

Relative Sample Elevation = Sample elevation relative to datum based on 2.0-foot-bgs basal depth of future building foundation.

<0.0020 = not detected above laboratory Method Detection Limit (MDL)

ND = Not detected above MDL

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OCPs = Organochlorine pesticides analyzed by USEPA Method 8081A

Lead analyzed by USEPA Method 6020

RWQCB ESL = San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (February 2016, Rev. 3). The listed ESLs are based on Direct Exposure Human Health Risk Levels for Residential scenario (Table S-1).

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TTLC and 10x STLC values applied to total DDD/DDE/DDT

-- = Not established

**Bold** = Result exceeds regulatory threshold

**TABLE 2**  
**Soil Analytical Results Summary**  
**Borehole Discrete Samples**  
**OCPs and Lead**  
1228-1236 E. 17th Street  
Oakland, California  
Project No. 1652-2A

Sample ID	SB-15-0.5	SB-15-3.0	SB-16-0.5	SB-16-3.0	SB-17-0.5	SB-17-3.0	SB-18-0.5	SB-18-3.0	SB-19-0.5	SB-19-3.0	RWQCB Residential ESL	TTLC	STLC (10x)	
Sample Depth (ft)	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0				
Relative Sample Elevation (ft)	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0				
Sample Date	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17				
OCPs (mg/kg)	Chlordane (Technical)	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.013	0.045	0.48	2.5	2.5	
	a-Chlordane	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0023	0.0067	0.48	2.5	2.5	
	g-Chlordane	<0.00010	<0.00010	0.00015	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0023	0.0079	0.48	2.5	2.5
	DDD	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.011	0.15	2.7	1.0	0.1
	DDE	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0022	0.014	1.9	1.0	0.1
	DDT	<0.00010	<0.00010	0.00011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0037	0.00071	1.9	1.0	0.1
	Dieldrin	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00094	<0.00010	0.038	8.0	0.8
	Endosulfan Sulfate	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00091	<0.00010	420	--	--
	Endrin Ketone	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00077	<0.00010	21	0.2	0.2
	Heptachlor Epoxide	<0.00010	<0.00010	0.00021	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00028 P	<0.00010	0.067	4.7	4.7
Other Analyzed OCPs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Various	Various	Various	
Lead (mg/kg)	7.0	4.9	15	5.5	8.4	5.3	30	7.6	<b>430</b>	<b>72</b>	80	1,000	50	

**Notes:**

Sample results reported in milligrams per kilogram (mg/kg).

Relative Sample Elevation = Sample elevation relative to datum based on 2.0-foot-bgs depth of future building foundation.

<0.0020 = not detected above laboratory Method Detection Limit (MDL)

ND = Not detected above MDL

NA = Not Analyzed

OCPs = Organochlorine pesticides analyzed by USEPA Method 8081A

Lead analyzed by USEPA Method 6020

P = Agreement between quantitative confirmation results exceed method recommended limits.

RWQCB ESL = San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (February 2016, Rev. 3). The listed ESLs are based on Direct

Exposure Human Health Risk Levels for Residential scenario (Table S-1).

TTLC = Total Threshold Limit Concentration for waste characterization, California Code of Regulations, Title 22.

STLC = Soluble Threshold Limit Concentration for waste characterization, California Code of Regulations, Title 22. Range of TTLC Values for which an STLC test must

be performed. Dilution factor is 10:1.

TTLC and 10x STLC values applied to total DDD/DDE/DDT

-- = Not established

**Bold** = Result exceeds regulatory threshold

**TABLE 3**  
**Soil Analytical Results Summary**  
**Borehole Composite Samples**  
**TPH, VOCs, PAHs and Metals**  
1228-1236 E. 17th Street  
Oakland, California  
Project No. 1652-2A

Sample ID	A1-A4 Comp 0.5	A1-A4 Comp 3.0	B1-B4 Comp 0.5	B1-B4 Comp 3.0	C1-C4 Comp 0.5	C1-C4 Comp 3.0	D1-D4 Comp 0.5	D1-D4 Comp 3.0	RWQCB Residential ESL	TTLc	STLC (10x)	
Sample Depth (ft)	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0				
Relative Sample Elevation (ft)	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0				
Sample Date	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017				
TPH (mg/kg)	GRO	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	740	--	--	
	DRO	<1.0	3.2	7.9	1.8	1.5	<1.0	<1.0	230	--	--	
	MRO	11	67	110	15	14	<5.0	6.7	<5.0	11,000	--	--
VOCs (mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	Various	Various	Various	
PAHs (mg/kg)	Benzo(a)anthracene	0.022	<b>0.20</b>	0.15	0.11	0.038	<0.010	0.023	0.013	0.16	--	--
	Benzo(a)pyrene	<b>0.024</b>	<b>0.26</b>	<0.10	<b>0.12</b>	<b>0.030</b>	<0.010	<b>0.020</b>	<b>0.017</b>	0.016	--	--
	Benzo(b)fluoranthene	0.023	<b>0.27</b>	0.15	0.15	0.035	<0.010	0.019	0.012	0.16	--	--
	Benzo(g,h,i)perylene	0.020	0.22	0.11	0.10	0.021	<0.010	0.016	0.014	--	--	--
	Benzo(k)fluoranthene	0.011	0.097	<0.10	0.062	0.017	<0.010	<0.010	<0.010	1.6	--	--
	Chrysene	0.021	0.18	0.14	0.13	0.034	<0.010	0.017	<0.010	15	--	--
	Dibenzo(a,h)anthracene	<0.010	<b>0.029</b>	<0.10	<0.050	<0.010	<0.010	<0.010	<0.010	0.016	--	--
	Fluoranthene	0.027	0.42	0.22	0.21	0.041	<0.010	0.020	<0.010	2,400	--	--
	Indeno(1,2,3-cd)pyrene	0.013	0.16	<0.10	0.079	0.013	<0.010	0.010	<0.010	0.16	--	--
	Phenanthrene	0.013	0.13	0.15	0.13	0.011	<0.010	<0.010	<0.010	--	--	--
	Pyrene	0.030	0.53	0.20	0.18	0.047	<0.010	0.024	<0.010	1,800	--	--
Other PAHs	ND	ND	ND	ND	ND	ND	ND	ND	Various	Various	Various	
Metals (mg/kg)	Antimony	1.0	2.4	1.2	0.73	0.69	<0.50	2.8	<0.50	31	500	150
	Arsenic	<b>6.0</b>	<b>6.3</b>	<b>4.5</b>	<b>4.0</b>	<b>7.1</b>	<b>4.3</b>	<b>4.4</b>	<b>3.5</b>	0.067	500	50
	Barium	290	610	230	160	210	180	130	140	15,000	10,000	1,000
	Cadmium	0.64	3.0	0.64	<0.25	0.43	0.31	<0.25	<0.25	39	100	10
	Chromium	38	40	30	25	43	43	27	33	120,000**	2,500**	50



**TABLE 3**  
**Soil Analytical Results Summary**  
**Borehole Composite Samples**  
**TPH, VOCs, PAHs and Metals**  
 1228-1236 E. 17th Street  
 Oakland, California  
 Project No. 1652-2A

Sample ID	A1-A4 Comp 0.5	A1-A4 Comp 3.0	B1-B4 Comp 0.5	B1-B4 Comp 3.0	C1-C4 Comp 0.5	C1-C4 Comp 3.0	D1-D4 Comp 0.5	D1-D4 Comp 3.0	RWQCB Residential ESL	TTLc	STLC (10x)	
Sample Depth (ft)	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0	0.0-0.5	2.5-3.0				
Relative Sample Elevation (ft)	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0	+1.5	-1.0				
Sample Date	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017	11/6/2017				
Metals (mg/kg)	Cobalt	10	6.8	7.9	6.1	9.1	10	8.4	9.4	23	8,000	800
	Copper	27	61	27	20	22	16	18	12	3,100	2,500	250
	Lead	<b>560</b>	<b>1,200</b>	<b>450</b>	<b>220</b>	<b>280</b>	27	<b>84</b>	24	80	1,000	50
	Mercury	0.40	1.0	0.38	1.4	0.14	<0.050	0.089	0.24	13	20	2
	Molybdenum	0.69	0.66	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	390	3,500	3,500
	Nickle	33	29	29	23	39	41	26	29	820	2,000	200
	Silver	<0.50	0.52	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	390	500	50
	Vanadium	36	26	27	25	40	39	26	30	390	2,400	240
	Zinc	210	680	310	89	210	47	87	27	23,000	5,000	2,500
Other Metals	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

Sample results reported in milligrams per kilogram (mg/kg).

Relative Sample Elevation = Sample elevation relative to datum based on 2.0-foot-bgs depth of future building foundation

<1.0 = Not detected above laboratory Method Detection Limit (MDL)

ND = Not detected above MDL

TPH = Total petroleum hydrocarbons

GRO = Gasoline-range organics analyzed by USEPA Method 8015B

DRO = Diesel-range organics analyzed by USEPA Method 8015B

MRO = Motor oil-range organics analyzed by USEPA Method 8015B

VOCs = Volatile organic compounds analyzed by USEPA Method 8260B

PAHs = Polynuclear Aromatic Hydrocarbons analyzed by USEPA Method 8270C-SIM

CAM 17 Metals analyzed by USEPA Method 6020

RWQCB ESL = San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (February 2016, Rev. 3). The listed ESLs are based on Direct Exposure Human Health Risk Levels for Residential scenario (Table S-1).

TTLc = Total Threshold Limit Concentration for waste characterization, California Code of Regulations, Title 22.

STLC = Soluble Threshold Limit Concentration for waste characterization, California Code of Regulations, Title 22. Range of TTLc Values for which an STLC test must be performed. Dilution factor is 10:1.

\*\* = Chromium ESL for trivalent chromium (Cr III). Chromium STLC value for both trivalent and hexavalent chromium (Cr III, Cr VI).

-- = Not established

**Bold** = Result exceeds regulatory threshold

**TABLE 4**  
**Groundwater Analytical Results Summary**  
**TPH and VOCs**  
1228-1236 E. 17th Street  
Oakland, California  
Project No. 1652-2A

Sample ID		SB-20-W	RWQCB ESL
Sample Depth (ft)		9.8	
Relative Sample Elevation (ft)		-7.8/-5.8	
Sample Date		11/6/2017	
TPH (µg/L)	GRO	<50	220
	DRO	<37	150
	MRO	<79	150
VOCs (µg/L)	Benzene	<0.20	1.0
	Toluene	<0.50	40
	Ethylbenzene	<0.50	30
	Total Xylenes	<0.50	20
	Naphthalene	<0.10	0.17
	TCE	0.77	5.0
	1,1-DCE	0.022	6.0
	Vinyl Chloride	0.016	0.5

**Notes:**

Sample results reported in micrograms per liter (µg/L).

Relative Sample Elevation = Sample elevation relative to datum based on basal depth of 2.0-foot-bgs foundation and 4.0-foot-bgs elevator pit of future building, respectively.

<50 = not detected above analytical laboratory Method Detection Limit (MDL)

TPH = Total petroleum hydrocarbons

GRO = Gasoline-range organics analysed by USEPA Method 8015B

DRO = Diesel-range organics analysed by USEPA Method 8015B with silica gel cleanup

MRO = Motor oil-range organics analysed by USEPA Method 8015B with silica gel cleanup

VOCs = Volatile organic compounds analyzed by USEPA Method 8260B

TCE = Trichloroethene

DCE = Dichloroethene

RWQCB ESL = San Francisco Bay Regional Water Quality Control Board Environmental Screening Level (February 2016, Rev. 3). The listed ESLs are based on Direct Exposure Human Health Risk Levels, Maximum Contaminant Level (MCL) for drinking water (Table GW-1).

**TABLE 5**  
**Soil Vapor Analytical Results Summary**  
**VOCs**

1228-1236 E. 17th Street  
 Oakland, California  
 Project No.1652-2A

Sample ID	SV-1	SV-2	SV-3A	SV-3A DUP	SV-3B	SV-3B DUP	SV-4A	SV-4B	SV-5A	SV-5B	RWQCB Soil Vapor ESLs (Residential)	
Sample Depth (ft)	5.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		
Relative Sample Elevation (ft)	-3.0	-3.0	-5.0	-5.0	-5.0	-5.0	-3.0	-3.0	-5.0	-5.0		
Sample Date	11/17/2016	11/17/2016	11/8/2017	11/8/2017	11/8/2017	11/8/2017	11/7/2017	11/7/2017	11/7/2017	11/7/2017		
VOCs (µg/m <sup>3</sup> )	Acetone	42	130	<60	<60	NA	NA	<60	NA	<60	NA	16,000,000
	Benzene	5.4	4.5	<1.6	<1.6	NA	NA	2.0	NA	4.7	NA	48
	1,3-Butadiene	11	9.6	<1.1	<1.1	NA	NA	<1.1	NA	<1.1	NA	--
	2-Butanone (MEK)	17	39	<75	<75	NA	NA	<75	NA	<75	NA	2,600,000
	2-Propanol (IPA)	<11	<10	NA	NA	NA	NA	NA	NA	NA	NA	--
	Carbon Disulfide	<13	14	<1.6	<1.6	NA	NA	2.1	NA	17	NA	--
	Cyclohexane	7.2	3.7	<18	<18	NA	NA	<18	NA	<18	NA	--
	1,3-Dichlorobenzene	<6.5	<6.4	6.0	5.1	NA	NA	13	NA	14	NA	--
	Ethanol	14	15	<96	<96	NA	NA	<96	NA	<96	NA	--
	Ethylbenzene	8.0	4.9	<2.2	<2.2	NA	NA	<2.2	NA	2.3	NA	560
	Heptane	7.4	5.6	<21	<21	NA	NA	<21	NA	490	NA	--
	Hexane	140	120	<18	<18	NA	NA	<18	NA	630	NA	--
	Naphthalene	NA	NA	<5.3	<5.3	NA	NA	<5.3	<2.7	<5.3	<2.7	41
	Tetrahydrofuran	<3.2	4.6	<3.0	<3.0	NA	NA	<3.0	NA	<3.0	NA	--
	Toluene	20	41	<1.9	<1.9	NA	NA	<1.9	NA	3.0	NA	160,000
Total Xylenes	38	22.2	<6.6	<6.6	NA	NA	<6.6	NA	<6.6	NA	52,000	
1,2,4-Trimethylbenzene	<5.3	<5.2	<2.5	<2.5	NA	NA	4.1	NA	4.4	NA	1,000	
Other Analyzed VOCs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Various	

**Notes:**

Sample results reported in micrograms per cubic meter (µg/m<sup>3</sup>).

Relative Sample Elevation = Sample elevation relative to datum based on basal depth of 2.0-foot-bgs foundation (SV-1, SV-2, SV-3 and SV-5) or 4.0-foot-bgs elevator pit (SV-4) of future building.

<1.6 = not detected above analytical laboratory Method Detection Limit (MDL)

NA = Not Analyzed

ND = Not detected above laboratory MDL

VOCs = volatile organic compounds

MEK = Methyl ethyl ketone

IPA = Isopropyl alcohol

A-series samples analyzed for VOCs (including naphthalene) by TO-15; B-series samples analyzed for naphthalene by TO-17. SV-1 and SV-2 analyzed for VOCs (excluding naphthalene) by TO-15.

RWQCB ESL = Regional Water Quality Control Board Environmental Screening Level (February 2016, Rev 3). The listed ESLs are based on Soil Gas Vapor Intrusion, Human Health Risk Levels for Residential scenario (Table SG-1).

-- = ESL not established

**TABLE 6**  
**Soil Vapor Analytical Results Summary**  
**Atmospheric Gases**  
1228-1236 E. 17th Street  
Oakland, California  
Project No. 1652-2A

Sample ID	SV-1	SV-2	SV-3A	SV-3A DUP	SV-3B	SV-3B DUP	SV-4A	SV-4B	SV-5A	SV-5B	
Sample Depth (ft)	5.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Relative Sample Depth (ft)	-3.0	-3.0	-5.0	-5.0	-5.0	-5.0	-3.0	-3.0	-5.0	-5.0	
Sample Date	11/17/2016	11/17/2016	11/8/2017	11/8/2017	11/8/2017	11/8/2017	11/7/2017	11/7/2017	11/7/2017	11/7/2017	
Atmospheric Gases (%)	Helium	NA	NA	<0.050	<0.050	<0.050	0.083	<0.050	<0.050	<0.050	<0.050
	Oxygen	NA	NA	NA	NA	14	13	NA	14	NA	11
	Carbon Dioxide	NA	NA	NA	NA	0.87	0.87	NA	0.89	NA	6.4
	Methane	NA	NA	NA	NA	<0.00020	<0.00020	NA	<0.00020	NA	<0.00020

**Notes:**

Sample results reported in %

Relative Sample Elevation = Sample elevation relative to datum based on basal depth of 2.0-foot-bgs foundation (SV-1, SV-2, SV-3 and SV-5) or 4.0-foot-bgs elevator pit (SV-4) of future building.

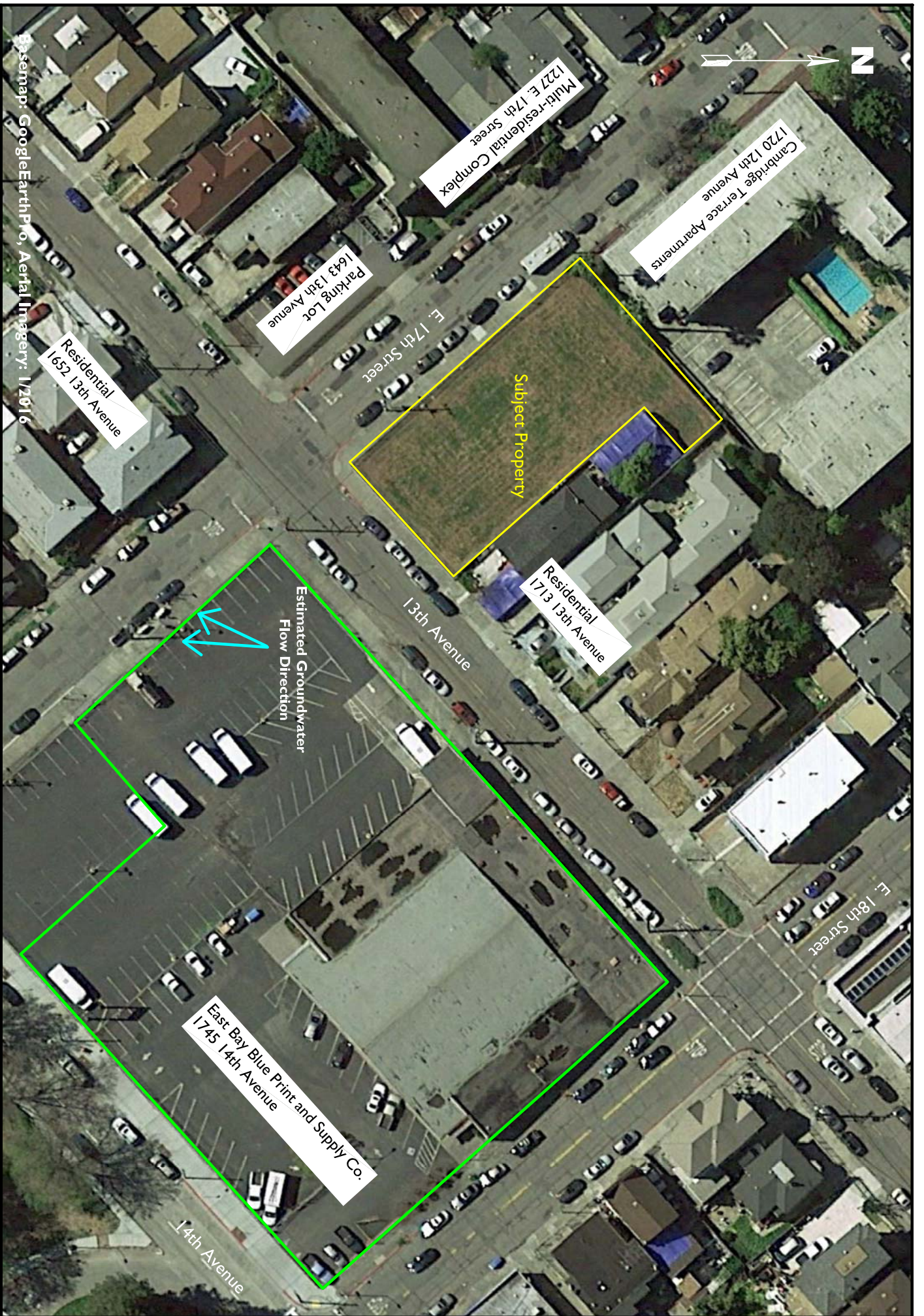
<0.050 = not detected above analytical laboratory Method Detection Limit (MDL)

NA = Not Analyzed

Atmospheric gases analyzed by ASTM D1946-90. Helium analyzed in all SV-3 through SV-5 samples. Remaining atmospheric gases oxygen, carbon dioxide and methane only analyzed in B-series sub-samples of the SV-3 through SV-5 samples in conjunction with the TO-17 analyses.

# FIGURES





Basemap: GoogleEarthPro, Aerial Imagery: 1/2016

Environmental Investigation Services, Inc.  
 15951 Los Gatos Boulevard, Suite 17  
 Los Gatos, CA 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

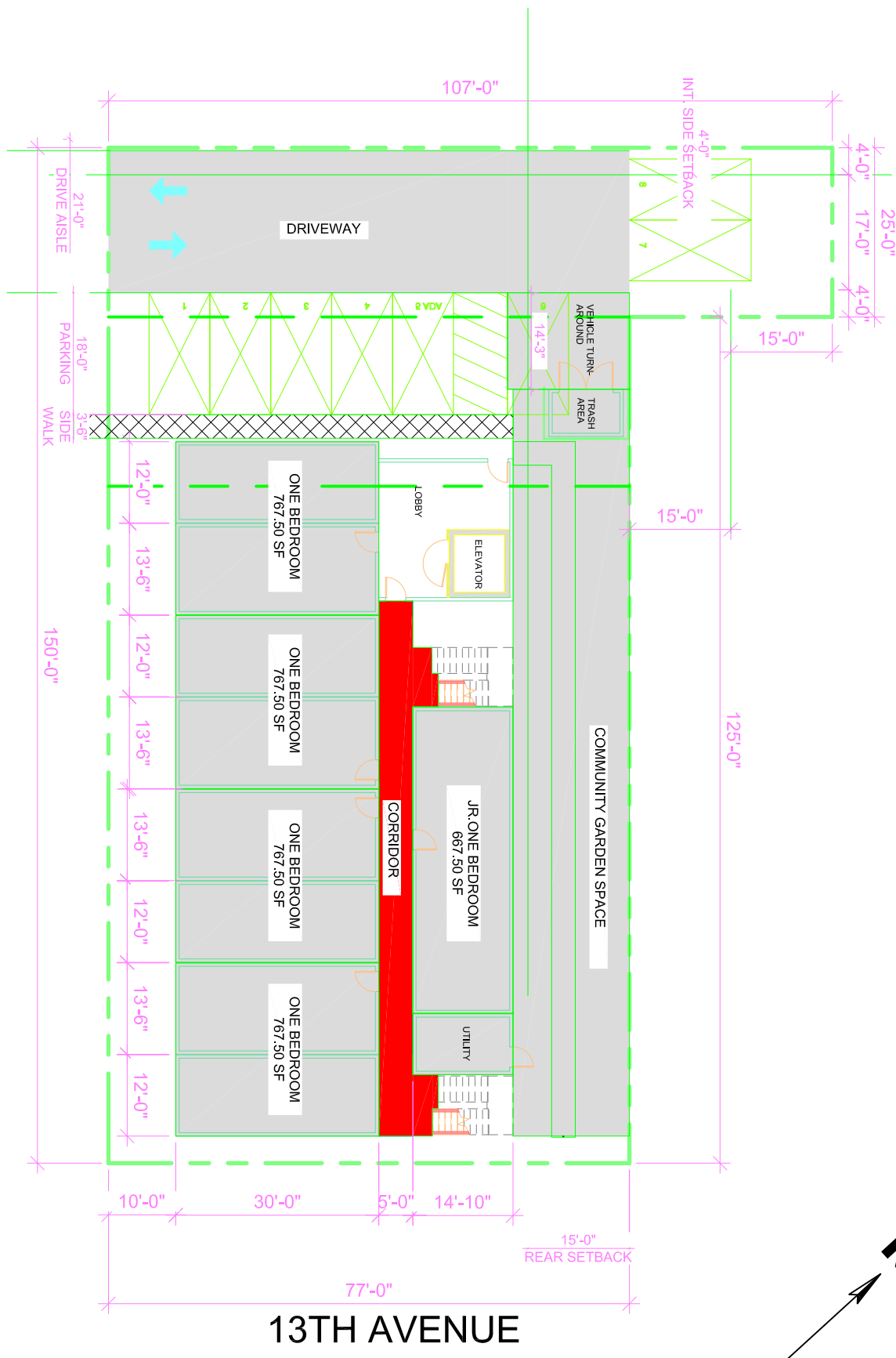
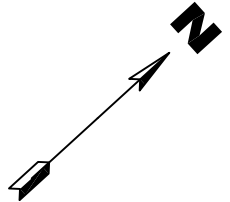
**Site Location Map**

1228, 1232, and 1236 E. 17th Street, Oakland, California

**Figure: 1**  
 EIS Project: 1652-2A  
 June 28, 2017



Approximate Scale: 1" = 25'



# E 17TH STREET

# 13TH AVENUE

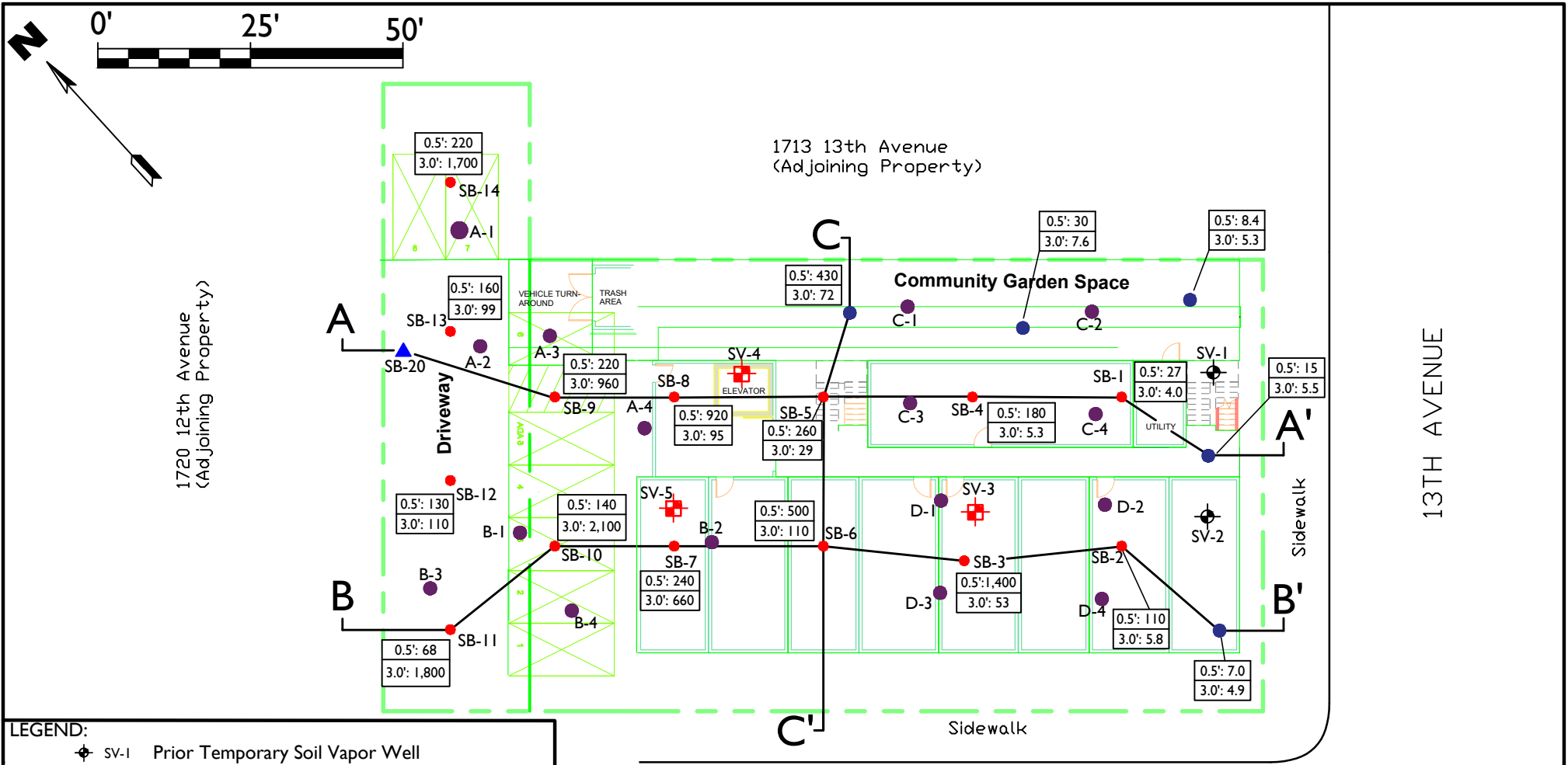
## Site Plan of Proposed Development

Environmental Investigation Services, Inc.  
 15951 Los Gatos Boulevard, Suite 17  
 Los Gatos, CA 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830



1228, 1232, and 1236 E. 17th Street, Oakland, California

**Figure: 2**  
 EIS Project: 1652-2A  
 August 8, 2017



**LEGEND:**

- SV-1 Prior Temporary Soil Vapor Well
- SB-1 Prior Soil Boring
- B-1 Additional Characterization Boring
- SB-15 Soil Boring
- SB-20 Groundwater Boring
- SV-5 Temporary Soil Vapor Well
- A-A' Cross Section Alignment

0.5': 200 ← Lead concentration at 0.5 ft. bgs  
3.0': 10 ← Lead concentration at 3.0 ft. bgs

Lead Concentrations in milligrams per kilogram (mg/kg).

Borings SB-1 to SB-14, SV-1 & SV-2 completed 11/17/16.  
 Borings SB-15 to SB-19, SV-3 to SV-5, & A- through B-Series borings completed 11/7/17.

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 Ph: (408) 402-9800 Fax: (408) 402-9830

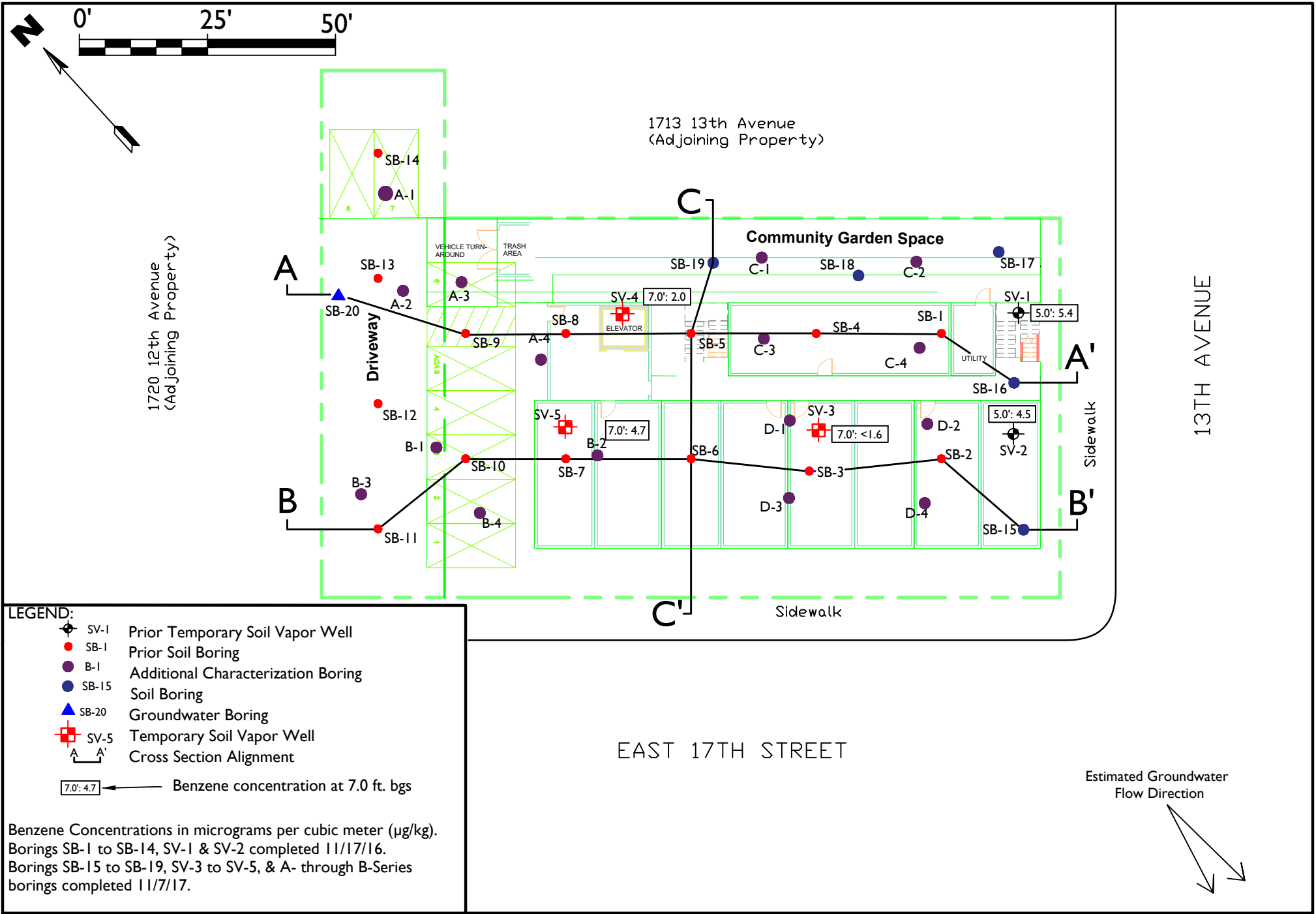


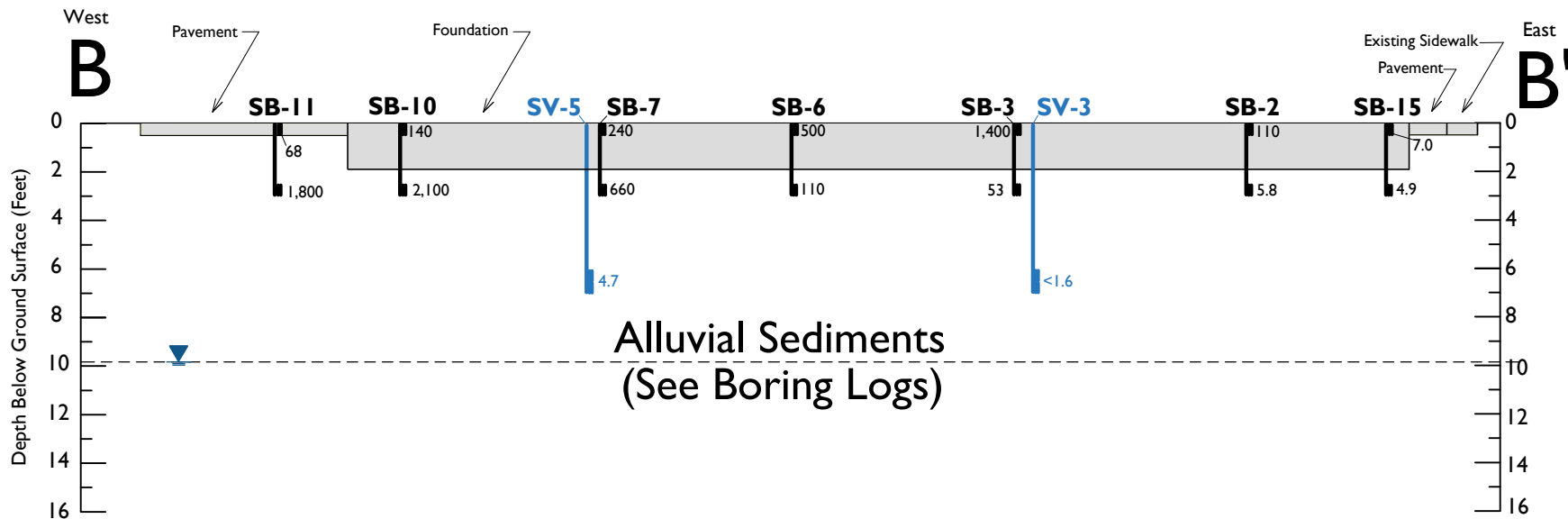
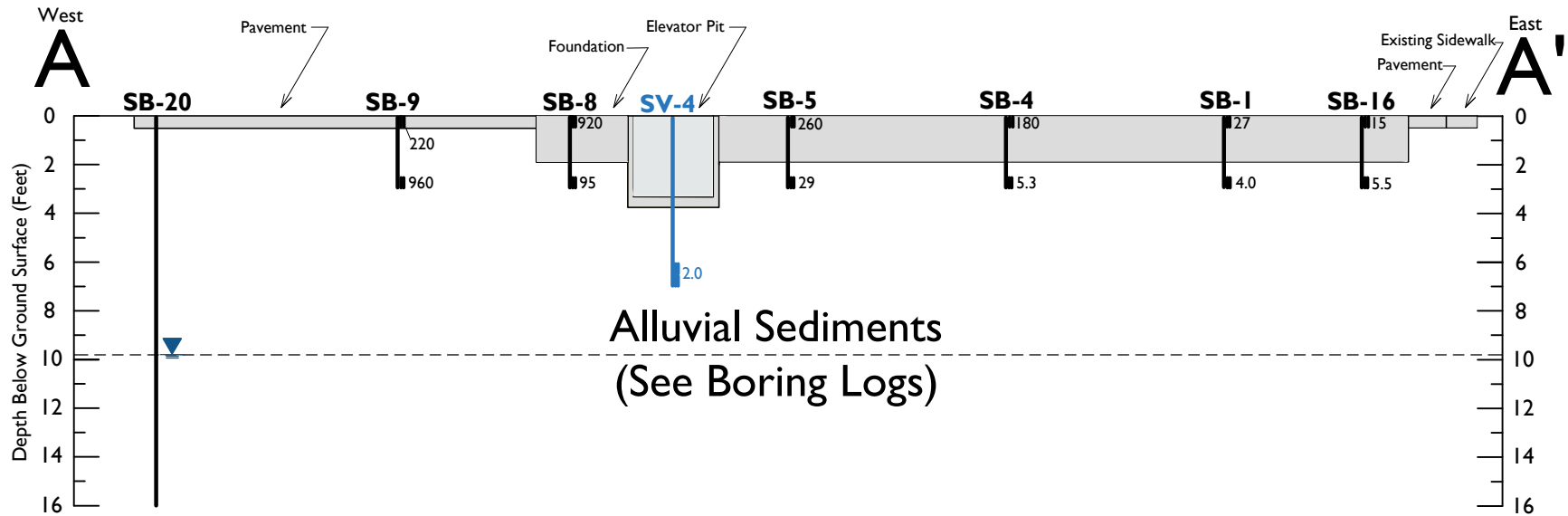
**Soil Boring Location Map with Soil Lead Concentrations**

1228, 1232, and 1236 E. 17th Street, Oakland, California

**Figure: 3**  
 EIS Project: 1652-2A  
 December 20, 2017



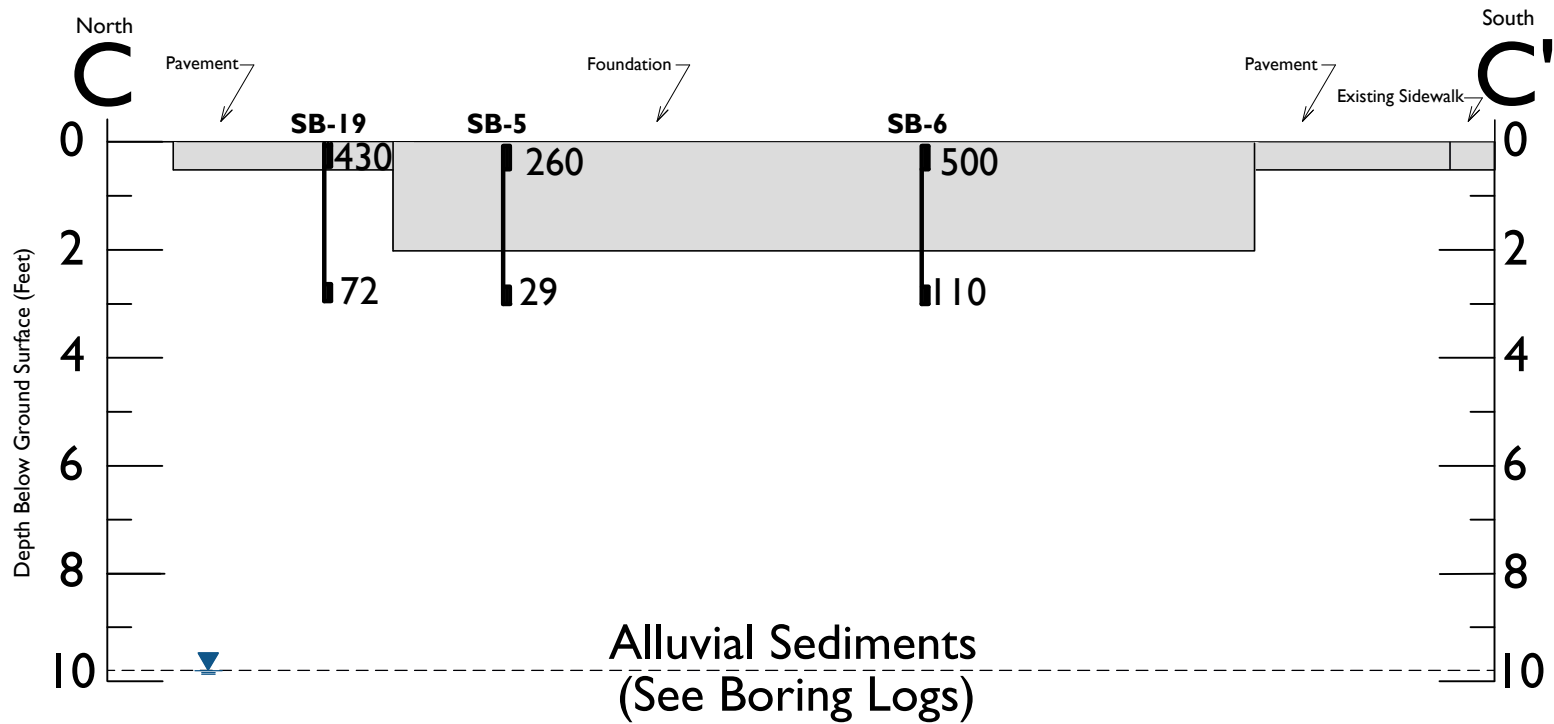




- Legend:**
- 960 Soil sample with lead concentration in mg/kg.
  - 4.7 Soil vapor sample with benzene concentration in  $\mu\text{g}/\text{m}^3$ .
  - ▒ Future foundation and exterior pavement.
  - ▼ Groundwater depth from SB-20 projected across the Site.

Vertical exaggeration: 2.5X

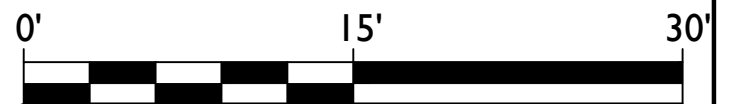




Legend:

- 430 Soil sample with lead concentration in mg/kg.
- Future foundation and exterior pavement.
- ▼ Groundwater depth from SB-20 projected across the Site.

Vertical exaggeration: 6.5X



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 Los Gatos, CA 95032  
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Cross-Section C - C'

1228, 1232, and 1236 E. 17th Street, Oakland, California

**Figure: 6**  
 EIS Project: 1652-2A  
 December 20, 2017

**APPENDIX A**  
**DRILLING PERMIT**

# Alameda County Public Works Agency - Water Resources Well Permit



Public Works Agency  
—Alameda County—

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

Application Approved on: 11/03/2017 By jamesy

Permit Numbers: W2017-0833  
Permits Valid from 11/06/2017 to 11/15/2017

Application Id: 1499376434576  
Site Location: 1236 East 17th Street  
Project Start Date: 11/06/2017  
Assigned Inspector: Contact Eneyew Amberber at (510) 670-5759 or eneyew@acpwa.org

City of Project Site:Oakland

Completion Date:11/15/2017

Applicant: Environmental Investigation Services, Inc - Peter  
Littman  
15951 Los Gatos Blvd, Suite 17, Los Gatos, CA 95032

Phone: 408-402-9800

Property Owner: California Affordable Housing Initiatives, Inc.  
1801 Harrison Street, Oakland, CA 94612

Phone: 510-587-2145

Client: \*\* same as Property Owner \*\*  
Contact: Joey Adams

Phone: 408-402-9800  
Cell: 408-596-0721

Receipt Number: WR2017-0517 Total Due: \$265.00  
Payer Name : Peter Littman Total Amount Paid: \$265.00  
Paid By: MC PAID IN FULL

## Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 16 Boreholes  
Driller: Environmental Control Associates - Lic #: 695970 - Method: DP

Work Total: \$265.00

### Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2017-0833	11/03/2017	02/04/2018	16	2.00 in.	5.00 ft

### Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no

## Alameda County Public Works Agency - Water Resources Well Permit

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

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

7. NOTE:

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

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

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

---

**APPENDIX B**

**SOIL BORING LOGS**



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SB-15**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **4 ft**  
 Dates Drilled: **11/6/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

☒ Water level during drilling : N/A

▼ Water level in completed boring : N/A

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with concrete fragments.	SB-15-0.5		Cement grout
-1						
-2		ML	CLAYEY SILT, pale yellowish brown, dry, medium stiff to stiff.	SB-15-3.0		
-3						
-4				(39")		
-5						
-6						
-7						
-8						
-9						

Notes: Total depth = 4.0 ft





**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SB-16**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **4 ft**  
 Dates Drilled: **11/6/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

Water level during drilling : N/A

Water level in completed boring : N/A

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with concrete fragments.	SB-16-0.5		Cement Grout
-1						
-2		SP	SAND, light brown, dry, medium dense, fine-coarse sand, some fine gravel up to 1/4-inch dia.	SB-16-3.0		
-3						
-4		ML	CLAYEY SILT, pale yellowish brown, dry, medium stiff.	(48")		
-5						
-6						
-7						
-8						
-9						

Notes: Total Depth = 4.0 ft



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SB-17**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **4 ft**  
 Dates Drilled: **11/6/2014** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

Water level during drilling : **N/A**

Water level in completed boring : **N/A**

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with concrete and brick fragments.	SB-17-0.5		Cement Grout
-1						
-2		ML	CLAYEY SILT W/ GRAVEL, pale yellowish brown, dry, medium stiff to stiff.	SB-17-3.0		
-3						
-4				(48")		
-5						
-6						
-7						
-8						
-9						

Notes: Total Depth = 4.0 ft



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SB-18**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **4 ft**  
 Dates Drilled: **11/6/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

Water level during drilling : N/A

Water level in completed boring : N/A

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with concrete fragments.	SB-18-0.5		Cement grout
-1		ML	CLAYEY SILT, pale yellowish brown, dry, medium stiff.	SB-18-3.0		
-2	(48")					
-3						
-4						
-5						
-6						
-7						
-8						
-9						

Notes: Total depth = 4.0 ft



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SB-19**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **4 ft**  
 Dates Drilled: **11/6/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

Water level during drilling : **N/A**

Water level in completed boring : **N/A**

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with concrete and brick fragments to 1.5 feet.	SB-19-0.5		Cement grout
-1						
-2						
-3				SB-19-3.0		
-4		ML	CLAYEY SILT, pale yellowish brown, dry, medium stiff.	(36")		
-5						
-6						
-7						
-8						
-9						

Notes: Total depth = 4.0 ft



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SB-20**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2.0**  
 Job Number: **1652-2A** Boring Depth: **16.0 ft**  
 Dates Drilled: **11/6/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-core**

☒ Water level during drilling : **13.5' bgs @ 10:20**    ▼ Water level in completed boring : **9.8' bgs @ 14:30**

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		ML	SANDY SILT, brown, soft, dry, fine sand, some coarse sand to fine gravel, up to 1/4-inch dia.			
-1						
-2						
-3						
-4		ML	CLAYEY SILT, brown, dry, medium stiff, some fine sand.	(35")		
-5			Becomes moist			Cement grout
-6						
-7						
-8			Becomes dark gray	(26")		
-9						
-10						

Notes: Total depth = 16.0 ft



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SB-20**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2.0**  
 Job Number: **1652-2A** Boring Depth: **16.0 ft**  
 Dates Drilled: **11/6/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-core**

☒ Water level during drilling : **13.5' bgs @ 10:20**      ▼ Water level in completed boring : **9.8' bgs @ 14:30**

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
-10		ML	CLAYEY SILT, dark gray, moist, medium stiff, some fine sand.			Cement grout
-11		SM	SILTY SAND, greenish gray, moist, medium dense, fine sand, some clay, with orangish brown mottling, some shell fragments.	(24")		
-12						
-13						
-14		SP	SAND, light brown, moist, medium dense, fine-coarse sand, with fine gravel below 14 feet.			
-15		CL	SILTY CLAY, very pale orange, moist, med stiff.			
-16		ML	SILT, dark yellowish orange, moist, medium stiff with thin fine sand interbed.	(36")		
-17						
-18						
-19						

Notes: Total depth = 16.0 ft



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SV-3**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **7.0 ft**  
 Dates Drilled: **11/7/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

Water level during drilling : **N/A** Water level in completed boring : **N/A**

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with brick and concrete fragments in upper 1.5 feet.			
-1						
-2						
-3		ML	CLAYEY SILT, pale yellowish brown, dry, medium stiff to stiff, some fine sand.	42"		Cement grout
-4						
-5			Becomes moist			
-6						
-7				SV-3 36"		
-8						
-9						

Notes: Total depth = 7.0 ft



**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
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 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SV-4**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **7.0 ft**  
 Dates Drilled: **11/7/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

Water level during drilling : **N/A** Water level in completed boring : **N/A**

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with glass and concrete fragments in upper 1.5 feet.			
-1						
-2		ML	CLAYEY SILT, pale yellowish brown, dry, medium stiff to stiff, some fine sand.  Becomes moist	(40")		Cement grout
-3						
-4						
-5				SV-4		
-6				(34")		
-7						
-8						
-9						

Notes: Total depth = 7.0 ft





**Environmental Investigation Services, Inc.**

15951 Los Gatos Blvd, Suite# 17  
 Los Gatos, California 95032  
 Ph: (408) 402-9800 Fax: (408) 402-9830

Well Number

**SV-5**

**TEMPORARY WELL LOG**

Project Name: **Oakland** Drilling Company: **ECA**  
 Site Location: **1228-1236 E. 17th Street, Oakland** Boring Dia: **2 in.**  
 Job Number: **1652-2A** Boring Depth: **7.0 ft**  
 Dates Drilled: **11/7/2017** Method of Drilling: **Direct Push**  
 Logged By: **P. McLaughlin** Reviewed By: **P. McLaughlin** Sampling Method: **Macro-Core**

Water level during drilling : N/A Water level in completed boring : N/A

Depth	Lithology	USCS	Soil Description	Sample Number (Recovery)	Boring Completion	Description	
0		SM	SILTY SAND, brown, dry, loose, fine-medium sand, some fine gravel up to 3/4-inch dia., with brick and concrete fragments in upper 1.5 feet.			Cement grout	
-1							
-2		ML	CLAYEY SILT, pale yellowish brown, dry, medium stiff to stiff, some fine sand.				
-3							
-4					(43")		
-5				Becomes moist			
-6							
-7				SV-5			
-8				(36")			
-9							

Notes: Total depth = 7.0 ft

## **APPENDIX C**

# **SOIL VAPOR SAMPLING FIELD LOGS**

Date: 11/8/17 Project # 1652-2A  
 Sample location: Oakland Housing Authority Sample ID: SV-3A (10-15)  
 Site name: SV-3A Canister ID: 2637  
 Address: 1228-1236 E. 17th St, Oakland Time: 1033  
 Field staff: P. McLaughlin Weather-Temp: Overcast, 255°F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: N/A Purge Can - Final vacuum: N/A Can ID: N/A  
 Sample Can - Initial Vacuum: -28.0 Sample Can - Final Vacuum: -2.0 Can ID: 2637  
 Manifold ID: 1306

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1005</u>	<u>23.0</u>		
	<u>1007</u>	<u>23.0</u>		
Line Purge	<u>1015</u>	<u>—</u>		<u>used syringe @ 4 x 60 ml = 240 ml</u>
Sample	<u>1020</u>	<u>-28.0</u>	<u>21.8</u>	
	<u>1021</u>	<u>-25.0</u>	<u>21.5</u>	
	<u>1023</u>	<u>-20.0</u>	<u>21.0</u>	
	<u>1026</u>	<u>-15.0</u>	<u>21.0</u>	
	<u>1028</u>	<u>-10.0</u>	<u>20.0</u>	
	<u>1031</u>	<u>-5.0</u>	<u>19.5</u>	
	<u>1033</u>	<u>-2.0</u>	<u>19.5</u>	

Location/comments: \_\_\_\_\_  
 Leak Compound Used: Helium leak check Initials P.M.  
 Equilibration Period: 2 hrs +

Probe Set 0800  
 OK to Test 1000  
 Actual Test 1020-1033

Date: 11/8/17 Project # 1652-2A  
 Sample location: SV-3A DUP Sample ID: SV-3A DUP (TO-15)  
 Site name: Oakland Housing Authority Canister ID: 1901  
 Address: 1228-1236 E. 17th St, Oakland Time: 1033  
 Field staff: P. McLaughlin Weather-Temp: overcast, ~55°F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: N/A Purge Can - Final vacuum: N/A Can ID: N/A  
 Sample Can - Initial Vacuum: -28.0 Sample Can - Final Vacuum: -2.0 Can ID: 1901  
 Manifold ID: 1306

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1005</u>	<u>23.0</u>		
	<u>1007</u>	<u>23.0</u>		
Line Purge	<u>1015</u>	<u>—</u>		<u>used syringe @ 4x60 ml = 240 ml</u>
Sample	<u>1020</u>	<u>-28.0</u>	<u>21.8</u>	
	<u>1021</u>	<u>-25.0</u>	<u>21.5</u>	
	<u>1023</u>	<u>-20.0</u>	<u>21.0</u>	
	<u>1026</u>	<u>-15.0</u>	<u>21.0</u>	
	<u>1028</u>	<u>-10.0</u>	<u>20.0</u>	
	<u>1031</u>	<u>-5.0</u>	<u>19.5</u>	
	<u>1033</u>	<u>-2.0</u>	<u>19.5</u>	

Location/comments: \_\_\_\_\_  
 Leak Compound Used: Helium leak check Initials P.M.  
 Equilibration Period: 2 hrs +

Probe Set 0800  
 OK to Test 1000  
 Actual Test 1020-1033

Date: 11/8/17 Project # 1652-2A  
 Sample location: SV-3B Sample ID: SV-3B (TO-17)  
 Site name: Oakland Housing Authority Canister ID: 2542  
 Address: 1228-1236 E. 17th St, Oakland Time: 1145  
 Field staff: P. McLaughlin Weather-Temp: Overcast, ~55° F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: N/A Purge Can - Final vacuum: N/A Can ID: N/A  
 Sample Can - Initial Vacuum: -25.0 Sample Can - Final Vacuum: -2.0 Can ID: 2542  
 Manifold ID: 1306

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1115</u>	<u>-22.5</u>		
	<u>1117</u>	<u>-22.5</u>		
Line Purge	<u>N/A</u>	<u>N/A</u>		

Sample	Time	Canister Vacuum	Helium (%)
	<u>1132</u>	<u>-25.0</u>	<u>22.0</u>
	<u>1135</u>	<u>-20.0</u>	<u>22.0</u>
	<u>1137</u>	<u>-15.0</u>	<u>21.5</u>
	<u>1140</u>	<u>-9.0</u>	<u>21.5</u>
	<u>1142</u>	<u>-5.0</u>	<u>20.0</u>
	<u>1145</u>	<u>-2.0</u>	<u>20.0</u>

Location/comments: \_\_\_\_\_

Leak Compound Used: Helium leak check Initials P.M.  
 Equilibration Period: 2 hrs +

Probe set 0800  
 OK to Test 1000  
 Actual Test 1132-1145

Date: 11/8/17 Project # 1652-2A  
 Sample location: SV-3B DUP Sample ID: SV-3B DUP (TO-17)  
 Site name: Oakland Housing Authority Canister ID: 2608  
 Address: 1228-1236 E. 17th St Oakland Time: 1145  
 Field staff: P. McLaughlin Weather-Temp: overcast, 25.5°F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: N/A Purge Can - Final vacuum: N/A Can ID: N/A  
 Sample Can - Initial Vacuum: -25.0 Sample Can - Final Vacuum: -2.0 Can ID: 2608  
 Manifold ID: 1306

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1115</u>	<u>-22.5</u>		
	<u>1117</u>	<u>-22.5</u>		
Line Purge	<u>N/A</u>	<u>N/A</u>		
Sample	<u>1132</u>	<u>-25.0</u>	<u>22.0</u>	
	<u>1135</u>	<u>-20.0</u>	<u>22.0</u>	
	<u>1137</u>	<u>-15.0</u>	<u>21.5</u>	
	<u>1140</u>	<u>-9.0</u>	<u>21.5</u>	
	<u>1142</u>	<u>-5.0</u>	<u>20.0</u>	
	<u>1145</u>	<u>-2.0</u>	<u>20.0</u>	

Location/comments: \_\_\_\_\_  
 Leak Compound Used: Helium leak check Initials P.M.  
 Equilibration Period: 2 hrs +

Probe set 0800  
 OK to Test 1000  
 Actual Test 1132-1145

Date: 11/7/17 Project # 1652-2A  
 Sample location: SV-4A Sample ID: SV-4A (10-15)  
 Site name: Oakland Housing Authority Canister ID: 786  
 Address: 1228-1236 E. 17th St, Oakland Time: 1529  
 Field staff: P. McLaughlin Weather-Temp: Sunny, ~65°F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: -28.5 Purge Can - Final vacuum: -27.0 Can ID: 895  
 Sample Can - Initial Vacuum: -24.0 Sample Can - Final Vacuum: -2.0 Can ID: 786  
 Manifold ID: 1372

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1503</u>	<u>-28.5</u>		
	<u>1505</u>	<u>-28.5</u>		
Line Purge	<u>1506</u>	<u>-28.5</u>		
	<u>1509</u>	<u>-27.0</u>		
Sample	<u>1522</u>	<u>-24.0</u>	<u>22.0</u>	
	<u>1524</u>	<u>-20.0</u>	<u>22.0</u>	
	<u>1525</u>	<u>-15.0</u>	<u>21.5</u>	
	<u>1527</u>	<u>-6.0</u>	<u>21.5</u>	
	<u>1529</u>	<u>-2.0</u>	<u>21.0</u>	

Location/comments: \_\_\_\_\_  
 Leak Compound Used: Helium leak check Initials P.M.  
 Equilibration Period: 2 hrs +

Probe Set 0830  
 OK to Test 1030  
 Actual Test 1522-1529

Date: 11/7/17 Project # 1652-2A  
 Sample location: SV-4B Sample ID: SV-4B (10-17)  
 Site name: Oakland Housing Authority Canister ID: 2638  
 Address: 1228-1236 E. 17th St, Oakland Time: 1614  
 Field staff: P. McLaughlin Weather-Temp: Sunny, 265°F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: N/A Purge Can - Final vacuum: N/A Can ID: N/A  
 Sample Can - Initial Vacuum: -24.5 Sample Can - Final Vacuum: -2.0 Can ID: 2638  
 Manifold ID: 1372

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1604</u>	<u>-27.0</u>		
	<u>1602</u>	<u>-27.0</u>		
Line Purge	<u>N/A</u>	<u>N/A</u>		
Sample	<u>1608</u>	<u>-24.5</u>	<u>22.0</u>	
	<u>1609</u>	<u>-20.0</u>	<u>22.0</u>	
	<u>1611</u>	<u>-14.0</u>	<u>22.0</u>	
	<u>1612</u>	<u>-9.0</u>	<u>21.5</u>	
	<u>1613</u>	<u>-5.0</u>	<u>21.5</u>	
	<u>1614</u>	<u>-2.0</u>	<u>21.0</u>	

Location/comments:

Leak Compound Used: Helium leak check Initials P.M.  
 Equilibration Period: 2 hrs +

Probe Set 0830  
 OK to Test 1030  
 Actual Test 1608-1614



Date: 11/7/17 Project # 1652-2A  
 Sample location: SV-5A Sample ID: SV-5A (TO-15)  
 Site name: Oakland Housing Authority Canister ID: 1919  
 Address: 1228-1236 E. 17th St, Oakland Time: 1312  
 Field staff: P. McLaughlin Weather-Temp: Sunny, ~65°F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: 29.5 Purge Can - Final vacuum: 28.0 Can ID: 895  
 Sample Can - Initial Vacuum: -25.0 Sample Can - Final Vacuum: -2.0 Can ID: 1919  
 Manifold ID: 846

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1048</u>	<u>-29.5</u>		
	<u>1049</u>	<u>-29.5</u>		
Line Purge	<u>1050</u>	<u>-29.5</u>		
	<u>1052</u>	<u>-28.0</u>		
Sample	<u>1306</u>	<u>-25.0</u>	<u>22.0</u>	
	<u>1307</u>	<u>-18.0</u>	<u>22.0</u>	
	<u>1308</u>	<u>-15.0</u>	<u>26.5</u>	
	<u>1309</u>	<u>-10.0</u>	<u>20.0</u>	
	<u>1311</u>	<u>-5.0</u>	<u>20.0</u>	
	<u>1312</u>	<u>-2.0</u>	<u>19.5</u>	

Location/comments: \_\_\_\_\_  
 Leak Compound Used: Helium leak check  
 Equilibration Period: 2 hrs + Initials P.M.

Probe set 0815  
 OK to Test 1015  
 Actual Test 1306-1312

Date: 11/7/17 Project # 1652-2A  
 Sample location: SV-SA Sample ID: SV-5B(TO-17)  
 Site name: Oakland Housing Authority Canister ID: 2631  
 Address: 1228-1236 E. 17th St, Oakland Time: 1353  
 Field staff: P. McLaughlin Weather-Temp: Sunny, 265°F

Sample type:  Indoor  Outdoor  Soil Vapor at Depth: 7.0' bgs  
 Duration:  Grab  8-hour  24-hour  Other: \_\_\_\_\_  
 Canister type:  1.4-Liter  6-Liter  Other: 1.0-Liter  
 Purge Can - Initial Vacuum: N/A Purge Can - Final vacuum: N/A Can ID: N/A  
 Sample Can - Initial Vacuum: -24.0 Sample Can - Final Vacuum: -2.0 Can ID: 2631  
 Manifold ID: 846

Fuel use in building:  Natural gas  Electric  Other: \_\_\_\_\_  
 Indoor Mechanical Ventilation?  Yes  No Notes: \_\_\_\_\_

	Time	Canister Vacuum	Helium (%)	Notes
Shut-In Test	<u>1342</u>	<u>-25.0</u>		
	<u>1344</u>	<u>-25.0</u>		
Line Purge	<u>N/A</u>	<u>N/A</u>		
Sample	<u>1346</u>	<u>-24.0</u>	<u>23.0</u>	
	<u>1347</u>	<u>-22.0</u>	<u>23.0</u>	
	<u>1349</u>	<u>-16.0</u>	<u>22.5</u>	
	<u>1350</u>	<u>-10.0</u>	<u>22.5</u>	
	<u>1352</u>	<u>-5.0</u>	<u>21.0</u>	
	<u>1353</u>	<u>-2.0</u>	<u>21.0</u>	

Location/comments:

Leak Compound Used: Helium leak check Initials P.M.  
 Equilibration Period: 2 hrs +

Probe Set 0815  
 OK to Test 1015  
 Actual Test 1346-1353

## **APPENDIX D**

# **LABORATORY ANALYTICAL REPORTS**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1711260

**Report Created for:** Environmental Investigation Services, Inc.

15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032

**Project Contact:** Peter Littman

**Project P.O.:**

**Project Name:** 1652-2A; 1226-1228 E. 17th St.

**Project Received:** 11/07/2017

Analytical Report reviewed & approved for release on 11/20/2017 by:

Yen Cao

Project Manager

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





## Glossary of Terms & Qualifier Definitions

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A; 1226-1228 E. 17th St.  
**WorkOrder:** 1711260

### Glossary Abbreviation

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

### Analytical Qualifiers

P Agreement between quantitative confirmation results exceed method recommended limits



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-15-0.5	1711260-001A	Soil	11/06/2017 14:05	GC23 11091754.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/10/2017 02:38
a-BHC	ND	0.00010	1	11/10/2017 02:38
b-BHC	ND	0.00010	1	11/10/2017 02:38
d-BHC	ND	0.00010	1	11/10/2017 02:38
g-BHC	ND	0.00010	1	11/10/2017 02:38
Chlordane (Technical)	ND	0.0025	1	11/10/2017 02:38
a-Chlordane	ND	0.00010	1	11/10/2017 02:38
g-Chlordane	ND	0.00010	1	11/10/2017 02:38
p,p-DDD	ND	0.00010	1	11/10/2017 02:38
p,p-DDE	ND	0.00010	1	11/10/2017 02:38
p,p-DDT	ND	0.00010	1	11/10/2017 02:38
Dieldrin	ND	0.00010	1	11/10/2017 02:38
Endosulfan I	ND	0.00010	1	11/10/2017 02:38
Endosulfan II	ND	0.00010	1	11/10/2017 02:38
Endosulfan sulfate	ND	0.00010	1	11/10/2017 02:38
Endrin	ND	0.00010	1	11/10/2017 02:38
Endrin aldehyde	ND	0.00010	1	11/10/2017 02:38
Endrin ketone	ND	0.00010	1	11/10/2017 02:38
Heptachlor	ND	0.00010	1	11/10/2017 02:38
Heptachlor epoxide	ND	0.00010	1	11/10/2017 02:38
Hexachlorobenzene	ND	0.0010	1	11/10/2017 02:38
Hexachlorocyclopentadiene	ND	0.0020	1	11/10/2017 02:38
Methoxychlor	ND	0.00010	1	11/10/2017 02:38
Toxaphene	ND	0.0050	1	11/10/2017 02:38

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	77	47-107	11/10/2017 02:38

**Analyst(s):** LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-15-3.0	1711260-002A	Soil	11/06/2017 14:05	GC23 11091755.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/10/2017 02:54
a-BHC	ND	0.00010	1	11/10/2017 02:54
b-BHC	ND	0.00010	1	11/10/2017 02:54
d-BHC	ND	0.00010	1	11/10/2017 02:54
g-BHC	ND	0.00010	1	11/10/2017 02:54
Chlordane (Technical)	ND	0.0025	1	11/10/2017 02:54
a-Chlordane	ND	0.00010	1	11/10/2017 02:54
g-Chlordane	ND	0.00010	1	11/10/2017 02:54
p,p-DDD	ND	0.00010	1	11/10/2017 02:54
p,p-DDE	ND	0.00010	1	11/10/2017 02:54
p,p-DDT	ND	0.00010	1	11/10/2017 02:54
Dieldrin	ND	0.00010	1	11/10/2017 02:54
Endosulfan I	ND	0.00010	1	11/10/2017 02:54
Endosulfan II	ND	0.00010	1	11/10/2017 02:54
Endosulfan sulfate	ND	0.00010	1	11/10/2017 02:54
Endrin	ND	0.00010	1	11/10/2017 02:54
Endrin aldehyde	ND	0.00010	1	11/10/2017 02:54
Endrin ketone	ND	0.00010	1	11/10/2017 02:54
Heptachlor	ND	0.00010	1	11/10/2017 02:54
Heptachlor epoxide	ND	0.00010	1	11/10/2017 02:54
Hexachlorobenzene	ND	0.0010	1	11/10/2017 02:54
Hexachlorocyclopentadiene	ND	0.0020	1	11/10/2017 02:54
Methoxychlor	ND	0.00010	1	11/10/2017 02:54
Toxaphene	ND	0.0050	1	11/10/2017 02:54

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	70	47-107	11/10/2017 02:54

Analyst(s): LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-16-0.5	1711260-003A	Soil	11/06/2017 14:15	GC40 11141708.d	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/14/2017 08:57
a-BHC	ND	0.00010	1	11/14/2017 08:57
b-BHC	ND	0.00010	1	11/14/2017 08:57
d-BHC	ND	0.00010	1	11/14/2017 08:57
g-BHC	ND	0.00010	1	11/14/2017 08:57
Chlordane (Technical)	ND	0.0025	1	11/14/2017 08:57
a-Chlordane	ND	0.00010	1	11/14/2017 08:57
g-Chlordane	<b>0.00015</b>	0.00010	1	11/14/2017 08:57
p,p-DDD	ND	0.00010	1	11/14/2017 08:57
p,p-DDE	ND	0.00010	1	11/14/2017 08:57
p,p-DDT	<b>0.00011</b>	0.00010	1	11/14/2017 08:57
Dieldrin	ND	0.00010	1	11/14/2017 08:57
Endosulfan I	ND	0.00010	1	11/14/2017 08:57
Endosulfan II	ND	0.00010	1	11/14/2017 08:57
Endosulfan sulfate	ND	0.00010	1	11/14/2017 08:57
Endrin	ND	0.00010	1	11/14/2017 08:57
Endrin aldehyde	ND	0.00010	1	11/14/2017 08:57
Endrin ketone	ND	0.00010	1	11/14/2017 08:57
Heptachlor	ND	0.00010	1	11/14/2017 08:57
Heptachlor epoxide	<b>0.00021</b>	0.00010	1	11/14/2017 08:57
Hexachlorobenzene	ND	0.0010	1	11/14/2017 08:57
Hexachlorocyclopentadiene	ND	0.0020	1	11/14/2017 08:57
Methoxychlor	ND	0.00010	1	11/14/2017 08:57
Toxaphene	ND	0.0050	1	11/14/2017 08:57

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	63	20-145	11/14/2017 08:57

Analyst(s): KX





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-16-3.0	1711260-004A	Soil	11/06/2017 14:15	GC23 11091757.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/10/2017 03:26
a-BHC	ND	0.00010	1	11/10/2017 03:26
b-BHC	ND	0.00010	1	11/10/2017 03:26
d-BHC	ND	0.00010	1	11/10/2017 03:26
g-BHC	ND	0.00010	1	11/10/2017 03:26
Chlordane (Technical)	ND	0.0025	1	11/10/2017 03:26
a-Chlordane	ND	0.00010	1	11/10/2017 03:26
g-Chlordane	ND	0.00010	1	11/10/2017 03:26
p,p-DDD	ND	0.00010	1	11/10/2017 03:26
p,p-DDE	ND	0.00010	1	11/10/2017 03:26
p,p-DDT	ND	0.00010	1	11/10/2017 03:26
Dieldrin	ND	0.00010	1	11/10/2017 03:26
Endosulfan I	ND	0.00010	1	11/10/2017 03:26
Endosulfan II	ND	0.00010	1	11/10/2017 03:26
Endosulfan sulfate	ND	0.00010	1	11/10/2017 03:26
Endrin	ND	0.00010	1	11/10/2017 03:26
Endrin aldehyde	ND	0.00010	1	11/10/2017 03:26
Endrin ketone	ND	0.00010	1	11/10/2017 03:26
Heptachlor	ND	0.00010	1	11/10/2017 03:26
Heptachlor epoxide	ND	0.00010	1	11/10/2017 03:26
Hexachlorobenzene	ND	0.0010	1	11/10/2017 03:26
Hexachlorocyclopentadiene	ND	0.0020	1	11/10/2017 03:26
Methoxychlor	ND	0.00010	1	11/10/2017 03:26
Toxaphene	ND	0.0050	1	11/10/2017 03:26

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	80	47-107	11/10/2017 03:26

Analyst(s): LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-17-0.5	1711260-005A	Soil	11/06/2017 14:23	GC23 11091756.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/10/2017 03:10
a-BHC	ND	0.00010	1	11/10/2017 03:10
b-BHC	ND	0.00010	1	11/10/2017 03:10
d-BHC	ND	0.00010	1	11/10/2017 03:10
g-BHC	ND	0.00010	1	11/10/2017 03:10
Chlordane (Technical)	ND	0.0025	1	11/10/2017 03:10
a-Chlordane	ND	0.00010	1	11/10/2017 03:10
g-Chlordane	ND	0.00010	1	11/10/2017 03:10
p,p-DDD	ND	0.00010	1	11/10/2017 03:10
p,p-DDE	ND	0.00010	1	11/10/2017 03:10
p,p-DDT	ND	0.00010	1	11/10/2017 03:10
Dieldrin	ND	0.00010	1	11/10/2017 03:10
Endosulfan I	ND	0.00010	1	11/10/2017 03:10
Endosulfan II	ND	0.00010	1	11/10/2017 03:10
Endosulfan sulfate	ND	0.00010	1	11/10/2017 03:10
Endrin	ND	0.00010	1	11/10/2017 03:10
Endrin aldehyde	ND	0.00010	1	11/10/2017 03:10
Endrin ketone	ND	0.00010	1	11/10/2017 03:10
Heptachlor	ND	0.00010	1	11/10/2017 03:10
Heptachlor epoxide	ND	0.00010	1	11/10/2017 03:10
Hexachlorobenzene	ND	0.0010	1	11/10/2017 03:10
Hexachlorocyclopentadiene	ND	0.0020	1	11/10/2017 03:10
Methoxychlor	ND	0.00010	1	11/10/2017 03:10
Toxaphene	ND	0.0050	1	11/10/2017 03:10

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	74	47-107	11/10/2017 03:10

**Analyst(s):** LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-17-3.0	1711260-006A	Soil	11/06/2017 14:23	GC23 11091764.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/10/2017 05:16
a-BHC	ND	0.00010	1	11/10/2017 05:16
b-BHC	ND	0.00010	1	11/10/2017 05:16
d-BHC	ND	0.00010	1	11/10/2017 05:16
g-BHC	ND	0.00010	1	11/10/2017 05:16
Chlordane (Technical)	ND	0.0025	1	11/10/2017 05:16
a-Chlordane	ND	0.00010	1	11/10/2017 05:16
g-Chlordane	ND	0.00010	1	11/10/2017 05:16
p,p-DDD	ND	0.00010	1	11/10/2017 05:16
p,p-DDE	ND	0.00010	1	11/10/2017 05:16
p,p-DDT	ND	0.00010	1	11/10/2017 05:16
Dieldrin	ND	0.00010	1	11/10/2017 05:16
Endosulfan I	ND	0.00010	1	11/10/2017 05:16
Endosulfan II	ND	0.00010	1	11/10/2017 05:16
Endosulfan sulfate	ND	0.00010	1	11/10/2017 05:16
Endrin	ND	0.00010	1	11/10/2017 05:16
Endrin aldehyde	ND	0.00010	1	11/10/2017 05:16
Endrin ketone	ND	0.00010	1	11/10/2017 05:16
Heptachlor	ND	0.00010	1	11/10/2017 05:16
Heptachlor epoxide	ND	0.00010	1	11/10/2017 05:16
Hexachlorobenzene	ND	0.0010	1	11/10/2017 05:16
Hexachlorocyclopentadiene	ND	0.0020	1	11/10/2017 05:16
Methoxychlor	ND	0.00010	1	11/10/2017 05:16
Toxaphene	ND	0.0050	1	11/10/2017 05:16

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	88	47-107	11/10/2017 05:16

**Analyst(s):** LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-18-0.5	1711260-007A	Soil	11/06/2017 14:30	GC23 11091765.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/10/2017 05:32
a-BHC	ND	0.00010	1	11/10/2017 05:32
b-BHC	ND	0.00010	1	11/10/2017 05:32
d-BHC	ND	0.00010	1	11/10/2017 05:32
g-BHC	ND	0.00010	1	11/10/2017 05:32
Chlordane (Technical)	ND	0.0025	1	11/10/2017 05:32
a-Chlordane	ND	0.00010	1	11/10/2017 05:32
g-Chlordane	ND	0.00010	1	11/10/2017 05:32
p,p-DDD	ND	0.00010	1	11/10/2017 05:32
p,p-DDE	ND	0.00010	1	11/10/2017 05:32
p,p-DDT	ND	0.00010	1	11/10/2017 05:32
Dieldrin	ND	0.00010	1	11/10/2017 05:32
Endosulfan I	ND	0.00010	1	11/10/2017 05:32
Endosulfan II	ND	0.00010	1	11/10/2017 05:32
Endosulfan sulfate	ND	0.00010	1	11/10/2017 05:32
Endrin	ND	0.00010	1	11/10/2017 05:32
Endrin aldehyde	ND	0.00010	1	11/10/2017 05:32
Endrin ketone	ND	0.00010	1	11/10/2017 05:32
Heptachlor	ND	0.00010	1	11/10/2017 05:32
Heptachlor epoxide	ND	0.00010	1	11/10/2017 05:32
Hexachlorobenzene	ND	0.0010	1	11/10/2017 05:32
Hexachlorocyclopentadiene	ND	0.0020	1	11/10/2017 05:32
Methoxychlor	ND	0.00010	1	11/10/2017 05:32
Toxaphene	ND	0.0050	1	11/10/2017 05:32

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	82	47-107	11/10/2017 05:32

**Analyst(s):** LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-18-3.0	1711260-008A	Soil	11/06/2017 14:30	GC23 11091763.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/10/2017 05:01
a-BHC	ND	0.00010	1	11/10/2017 05:01
b-BHC	ND	0.00010	1	11/10/2017 05:01
d-BHC	ND	0.00010	1	11/10/2017 05:01
g-BHC	ND	0.00010	1	11/10/2017 05:01
Chlordane (Technical)	ND	0.0025	1	11/10/2017 05:01
a-Chlordane	ND	0.00010	1	11/10/2017 05:01
g-Chlordane	ND	0.00010	1	11/10/2017 05:01
p,p-DDD	ND	0.00010	1	11/10/2017 05:01
p,p-DDE	ND	0.00010	1	11/10/2017 05:01
p,p-DDT	ND	0.00010	1	11/10/2017 05:01
Dieldrin	ND	0.00010	1	11/10/2017 05:01
Endosulfan I	ND	0.00010	1	11/10/2017 05:01
Endosulfan II	ND	0.00010	1	11/10/2017 05:01
Endosulfan sulfate	ND	0.00010	1	11/10/2017 05:01
Endrin	ND	0.00010	1	11/10/2017 05:01
Endrin aldehyde	ND	0.00010	1	11/10/2017 05:01
Endrin ketone	ND	0.00010	1	11/10/2017 05:01
Heptachlor	ND	0.00010	1	11/10/2017 05:01
Heptachlor epoxide	ND	0.00010	1	11/10/2017 05:01
Hexachlorobenzene	ND	0.0010	1	11/10/2017 05:01
Hexachlorocyclopentadiene	ND	0.0020	1	11/10/2017 05:01
Methoxychlor	ND	0.00010	1	11/10/2017 05:01
Toxaphene	ND	0.0050	1	11/10/2017 05:01

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	86	47-107	11/10/2017 05:01

**Analyst(s):** LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-19-0.5	1711260-009A	Soil	11/06/2017 14:40	GC40 11141709.d	148326
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Aldrin	ND		0.00010	1	11/14/2017 09:09
a-BHC	ND		0.00010	1	11/14/2017 09:09
b-BHC	ND		0.00010	1	11/14/2017 09:09
d-BHC	ND		0.00010	1	11/14/2017 09:09
g-BHC	ND		0.00010	1	11/14/2017 09:09
Chlordane (Technical)	<b>0.013</b>		0.0025	1	11/14/2017 09:09
a-Chlordane	<b>0.0023</b>		0.00010	1	11/14/2017 09:09
g-Chlordane	<b>0.0023</b>		0.00010	1	11/14/2017 09:09
p,p-DDD	<b>0.011</b>		0.00010	1	11/14/2017 09:09
p,p-DDE	<b>0.0022</b>		0.00010	1	11/14/2017 09:09
p,p-DDT	<b>0.0037</b>		0.00010	1	11/14/2017 09:09
Dieldrin	<b>0.00094</b>		0.00010	1	11/14/2017 09:09
Endosulfan I	ND		0.00010	1	11/14/2017 09:09
Endosulfan II	ND		0.00010	1	11/14/2017 09:09
Endosulfan sulfate	<b>0.00091</b>		0.00010	1	11/14/2017 09:09
Endrin	ND		0.00010	1	11/14/2017 09:09
Endrin aldehyde	ND		0.00010	1	11/14/2017 09:09
Endrin ketone	<b>0.00077</b>		0.00010	1	11/14/2017 09:09
Heptachlor	ND		0.00010	1	11/14/2017 09:09
Heptachlor epoxide	<b>0.00028</b>	P	0.00010	1	11/14/2017 09:09
Hexachlorobenzene	ND		0.0010	1	11/14/2017 09:09
Hexachlorocyclopentadiene	ND		0.0020	1	11/14/2017 09:09
Methoxychlor	ND		0.00010	1	11/14/2017 09:09
Toxaphene	ND		0.0050	1	11/14/2017 09:09
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Decachlorobiphenyl	89		20-145		11/14/2017 09:09
<b>Analyst(s):</b> KX					



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg

### Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-19-3.0	1711260-010A	Soil	11/06/2017 14:40	GC23 11131782.D	148326

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.00010	1	11/14/2017 14:13
a-BHC	ND	0.00010	1	11/14/2017 14:13
b-BHC	ND	0.00010	1	11/14/2017 14:13
d-BHC	ND	0.00010	1	11/14/2017 14:13
g-BHC	ND	0.00010	1	11/14/2017 14:13
Chlordane (Technical)	<b>0.045</b>	0.0025	1	11/14/2017 14:13
a-Chlordane	<b>0.0067</b>	0.00010	1	11/14/2017 14:13
g-Chlordane	<b>0.0079</b>	0.00010	1	11/14/2017 14:13
p,p-DDD	<b>0.15</b>	0.00050	5	11/15/2017 20:18
p,p-DDE	<b>0.014</b>	0.00010	1	11/14/2017 14:13
p,p-DDT	<b>0.00071</b>	0.00010	1	11/14/2017 14:13
Dieldrin	ND	0.00010	1	11/14/2017 14:13
Endosulfan I	ND	0.00010	1	11/14/2017 14:13
Endosulfan II	ND	0.00010	1	11/14/2017 14:13
Endosulfan sulfate	ND	0.00010	1	11/14/2017 14:13
Endrin	ND	0.00010	1	11/14/2017 14:13
Endrin aldehyde	ND	0.00010	1	11/14/2017 14:13
Endrin ketone	ND	0.00010	1	11/14/2017 14:13
Heptachlor	ND	0.00010	1	11/14/2017 14:13
Heptachlor epoxide	ND	0.00010	1	11/14/2017 14:13
Hexachlorobenzene	ND	0.0010	1	11/14/2017 14:13
Hexachlorocyclopentadiene	ND	0.0020	1	11/14/2017 14:13
Methoxychlor	ND	0.00010	1	11/14/2017 14:13
Toxaphene	ND	0.0050	1	11/14/2017 14:13

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	72	26-141	11/14/2017 14:13

**Analyst(s):** LT



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-15-0.5	1711260-001A	Soil	11/06/2017 14:05	ICP-MS1 034SMPL.D	148320
<u>Analytes</u>					
Lead	<b>7.0</b>		RL 0.50	DF 1	Date Analyzed 11/09/2017 17:00
<u>Surrogates</u>					
Terbium	108		Limits 70-130		11/09/2017 17:00
Analyst(s): ND					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-15-3.0	1711260-002A	Soil	11/06/2017 14:05	ICP-MS1 035SMPL.D	148320
<u>Analytes</u>					
Lead	<b>4.9</b>		RL 0.50	DF 1	Date Analyzed 11/09/2017 17:06
<u>Surrogates</u>					
Terbium	109		Limits 70-130		11/09/2017 17:06
Analyst(s): ND					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-16-0.5	1711260-003A	Soil	11/06/2017 14:15	ICP-MS1 036SMPL.D	148320
<u>Analytes</u>					
Lead	<b>15</b>		RL 0.50	DF 1	Date Analyzed 11/09/2017 17:12
<u>Surrogates</u>					
Terbium	107		Limits 70-130		11/09/2017 17:12
Analyst(s): ND					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-16-3.0	1711260-004A	Soil	11/06/2017 14:15	ICP-MS1 037SMPL.D	148320
<u>Analytes</u>					
Lead	<b>5.5</b>		RL 0.50	DF 1	Date Analyzed 11/09/2017 17:18
<u>Surrogates</u>					
Terbium	109		Limits 70-130		11/09/2017 17:18
Analyst(s): ND					

(Cont.)





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-17-0.5	1711260-005A	Soil	11/06/2017 14:23	ICP-MS1 147SMPL.D	148320

Analytes	Result	RL	DF	Date Analyzed
Lead	8.4	0.50	1	11/09/2017 02:11
Surrogates	REC (%)	Limits		
Terbium	107	70-130		11/09/2017 02:11

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-17-3.0	1711260-006A	Soil	11/06/2017 14:23	ICP-MS1 038SMPL.D	148320

Analytes	Result	RL	DF	Date Analyzed
Lead	5.3	0.50	1	11/09/2017 17:24
Surrogates	REC (%)	Limits		
Terbium	111	70-130		11/09/2017 17:24

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-18-0.5	1711260-007A	Soil	11/06/2017 14:30	ICP-MS1 148SMPL.D	148320

Analytes	Result	RL	DF	Date Analyzed
Lead	30	0.50	1	11/09/2017 02:17
Surrogates	REC (%)	Limits		
Terbium	106	70-130		11/09/2017 02:17

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-18-3.0	1711260-008A	Soil	11/06/2017 14:30	ICP-MS1 039SMPL.D	148320

Analytes	Result	RL	DF	Date Analyzed
Lead	7.6	0.50	1	11/09/2017 17:31
Surrogates	REC (%)	Limits		
Terbium	111	70-130		11/09/2017 17:31

Analyst(s): ND

(Cont.)



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

## Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-19-0.5	1711260-009A	Soil	11/06/2017 14:40	ICP-MS1 040SMPL.D	148320

Analytes	Result	RL	DF	Date Analyzed
Lead	430	0.50	1	11/09/2017 17:37

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	105	70-130	11/09/2017 17:37

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-19-3.0	1711260-010A	Soil	11/06/2017 14:40	ICP-MS1 149SMPL.D	148320

Analytes	Result	RL	DF	Date Analyzed
Lead	72	0.50	1	11/09/2017 02:23

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	109	70-130	11/09/2017 02:23

Analyst(s): JC



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC23  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**BatchID:** 148326  
**Extraction Method:** SW3550B/3640Am/3630Cm  
**Analytical Method:** SW8081A  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148326

### QC Summary Report for SW8081A/8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aldrin	ND	0.00387	0.00010	0.0050	-	77	70-130
a-BHC	ND	0.00436	0.00010	0.0050	-	87	70-130
b-BHC	ND	0.00407	0.00010	0.0050	-	81	70-130
d-BHC	ND	0.00416	0.00010	0.0050	-	83	70-130
g-BHC	ND	0.00396	0.00010	0.0050	-	79	70-130
Chlordane (Technical)	ND	-	0.0025	-	-	-	-
a-Chlordane	ND	0.00425	0.00010	0.0050	-	85	70-130
g-Chlordane	ND	0.00418	0.00010	0.0050	-	84	70-130
p,p-DDD	ND	0.00490	0.00010	0.0050	-	98	70-130
p,p-DDE	ND	0.00442	0.00010	0.0050	-	88	70-130
p,p-DDT	ND	0.00489	0.00010	0.0050	-	98	70-130
Dieldrin	ND	0.00530	0.00010	0.0050	-	106	70-130
Endosulfan I	ND	0.00461	0.00010	0.0050	-	92	70-130
Endosulfan II	ND	0.00477	0.00010	0.0050	-	95	70-130
Endosulfan sulfate	ND	0.00445	0.00010	0.0050	-	89	70-130
Endrin	ND	0.00482	0.00010	0.0050	-	97	70-130
Endrin aldehyde	ND	0.00449	0.00010	0.0050	-	90	70-130
Endrin ketone	ND	0.00470	0.00010	0.0050	-	94	70-130
Heptachlor	ND	0.00433	0.00010	0.0050	-	87	70-130
Heptachlor epoxide	ND	0.00421	0.00010	0.0050	-	84	70-130
Hexachlorobenzene	ND	0.00365	0.0010	0.0050	-	73	70-130
Hexachlorocyclopentadiene	ND	-	0.0020	-	-	-	-
Methoxychlor	ND	0.00505	0.00010	0.0050	-	101	70-130
Toxaphene	ND	-	0.0050	-	-	-	-
<b>Surrogate Recovery</b>							
Decachlorobiphenyl	0.003621	0.00382		0.0050	72	76	70-130



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/8/17 - 11/9/17  
**Instrument:** ICP-MS1, ICP-MS3  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 17th St.

**WorkOrder:** 1711260  
**BatchID:** 148320  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148320  
 1711252-019AMS/MSD

### QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	48.5	0.50	50	-	97	75-125
<b>Surrogate Recovery</b>							
Terbium	543.2	541		500	109	108	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	68.9	63.8	50	22.73	92	82	75-125	7.69	20
<b>Surrogate Recovery</b>									
Terbium	489	488	500		98	98	70-130	0	20



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711260

ClientCode: EISI

- WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag  
 Detection Summary   
  Dry-Weight

**Report to:**

Peter Littman  
Environmental Investigation Services, In  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
(408) 871-1470    FAX: (408) 871-1520

Email: plittman@eis1.net; tyler@eis1.net; diana@  
cc/3rd Party:  
PO:  
ProjectNo: 1652-2A; 1226-1228 E. 17th St.

**Bill to:**

Barbara  
Env. Investigation Svcs., Inc.  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
barbara@eis1.net

**Requested TAT: 5 days;**

**Date Received: 11/07/2017**

**Date Logged: 11/07/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1711260-001	SB-15-0.5	Soil	11/6/2017 14:05	<input type="checkbox"/>	A	A	A										
1711260-002	SB-15-3.0	Soil	11/6/2017 14:05	<input type="checkbox"/>	A	A											
1711260-003	SB-16-0.5	Soil	11/6/2017 14:15	<input type="checkbox"/>	A	A											
1711260-004	SB-16-3.0	Soil	11/6/2017 14:15	<input type="checkbox"/>	A	A											
1711260-005	SB-17-0.5	Soil	11/6/2017 14:23	<input type="checkbox"/>	A	A											
1711260-006	SB-17-3.0	Soil	11/6/2017 14:23	<input type="checkbox"/>	A	A											
1711260-007	SB-18-0.5	Soil	11/6/2017 14:30	<input type="checkbox"/>	A	A											
1711260-008	SB-18-3.0	Soil	11/6/2017 14:30	<input type="checkbox"/>	A	A											
1711260-009	SB-19-0.5	Soil	11/6/2017 14:40	<input type="checkbox"/>	A	A											
1711260-010	SB-19-3.0	Soil	11/6/2017 14:40	<input type="checkbox"/>	A	A											

**Test Legend:**

1	8081_ESL_LL_S	2	PBMS_TTLC_S	3	PREFD REPORT	4	
5		6		7		8	
9		10		11		12	

**Prepared by: Kena Ponce**

**Comments:**

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



### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A; 1226-1228 E. 17th St.

**Work Order:** 1711260

**Client Contact:** Peter Littman

**QC Level:** LEVEL 2

**Contact's Email:** plittman@eis1.net; tyler@eis1.net; diana@eis1.net

**Comments:**

**Date Logged:** 11/7/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711260-001A	SB-15-0.5	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:05	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			
1711260-002A	SB-15-3.0	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:05	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			
1711260-003A	SB-16-0.5	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:15	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			
1711260-004A	SB-16-3.0	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:15	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			
1711260-005A	SB-17-0.5	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:23	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			
1711260-006A	SB-17-3.0	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:23	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			
1711260-007A	SB-18-0.5	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:30	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			
1711260-008A	SB-18-3.0	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:30	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>		5 days			

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

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



### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A; 1226-1228 E. 17th St.

**Work Order:** 1711260

**Client Contact:** Peter Littman

**QC Level:** LEVEL 2

**Contact's Email:** plittman@eis1.net; tyler@eis1.net; diana@eis1.net

**Comments:**

**Date Logged:** 11/7/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711260-009A	SB-19-0.5	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:40	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>					
1711260-010A	SB-19-3.0	Soil	SW6020 (Lead)	1	Acetate Liner	<input type="checkbox"/>	11/6/2017 14:40	5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides) ESLs			<input type="checkbox"/>					

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

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









### Sample Receipt Checklist

Client Name: **Environmental Investigation Services, Inc.**  
 Project Name: **1652-2A; 1226-1228 E. 17th St.**  
 WorkOrder No: **1711260** Matrix: Soil  
 Carrier: Client Drop-In

Date and Time Received: **11/7/2017 20:40**  
 Date Logged: **11/7/2017**  
 Received by: **Kena Ponce**  
 Logged by: **Kena Ponce**

**Chain of Custody (COC) Information**

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

**Sample Receipt Information**

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

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No  NA   
 Sample/Temp Blank temperature Temp: 5.6°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

**UCMR Samples:**

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

Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1711188

**Report Created for:** Environmental Investigation Services, Inc.

15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032

**Project Contact:** Peter Littman

**Project P.O.:**

**Project Name:** 1652-2A; 1226-1228 E 17th St.

**Project Received:** 11/06/2017

Analytical Report reviewed & approved for release on 11/15/2017 by:

Yen Cao

Project Manager

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





## Glossary of Terms & Qualifier Definitions

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A; 1226-1228 E 17th St.  
**WorkOrder:** 1711188

### Glossary Abbreviation

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



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

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A; 1226-1228 E 17th St.  
**WorkOrder:** 1711188

### **Analytical Qualifiers**

e2 Diesel range compounds are significant; no recognizable pattern  
e7 Oil range compounds are significant

### **Quality Control Qualifiers**

F1 MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validates the prep batch.  
F2 LCS/LCSD recovery and/or RPD is out of acceptance criteria.  
F10 MS/MSD outside control limits. Physical or chemical interferences exist due to sample matrix.



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4- 0.5	1711188-001A	Soil	11/06/2017 09:32	GC38 11071708.D	148225

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	11/07/2017 13:58
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/07/2017 13:58
Benzene	ND	0.0050	1	11/07/2017 13:58
Bromobenzene	ND	0.0050	1	11/07/2017 13:58
Bromochloromethane	ND	0.0050	1	11/07/2017 13:58
Bromodichloromethane	ND	0.0025	1	11/07/2017 13:58
Bromoform	ND	0.0050	1	11/07/2017 13:58
Bromomethane	ND	0.0050	1	11/07/2017 13:58
2-Butanone (MEK)	ND	0.020	1	11/07/2017 13:58
t-Butyl alcohol (TBA)	ND	0.050	1	11/07/2017 13:58
n-Butyl benzene	ND	0.0050	1	11/07/2017 13:58
sec-Butyl benzene	ND	0.0050	1	11/07/2017 13:58
tert-Butyl benzene	ND	0.0050	1	11/07/2017 13:58
Carbon Disulfide	ND	0.0050	1	11/07/2017 13:58
Carbon Tetrachloride	ND	0.0050	1	11/07/2017 13:58
Chlorobenzene	ND	0.0050	1	11/07/2017 13:58
Chloroethane	ND	0.0050	1	11/07/2017 13:58
Chloroform	ND	0.0050	1	11/07/2017 13:58
Chloromethane	ND	0.0050	1	11/07/2017 13:58
2-Chlorotoluene	ND	0.0050	1	11/07/2017 13:58
4-Chlorotoluene	ND	0.0050	1	11/07/2017 13:58
Dibromochloromethane	ND	0.0050	1	11/07/2017 13:58
1,2-Dibromo-3-chloropropane	ND	0.0025	1	11/07/2017 13:58
1,2-Dibromoethane (EDB)	ND	0.0010	1	11/07/2017 13:58
Dibromomethane	ND	0.0050	1	11/07/2017 13:58
1,2-Dichlorobenzene	ND	0.0050	1	11/07/2017 13:58
1,3-Dichlorobenzene	ND	0.0050	1	11/07/2017 13:58
1,4-Dichlorobenzene	ND	0.0050	1	11/07/2017 13:58
Dichlorodifluoromethane	ND	0.0050	1	11/07/2017 13:58
1,1-Dichloroethane	ND	0.0050	1	11/07/2017 13:58
1,2-Dichloroethane (1,2-DCA)	ND	0.0025	1	11/07/2017 13:58
1,1-Dichloroethene	ND	0.0025	1	11/07/2017 13:58
cis-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 13:58
trans-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 13:58
1,2-Dichloropropane	ND	0.0050	1	11/07/2017 13:58
1,3-Dichloropropane	ND	0.0050	1	11/07/2017 13:58
2,2-Dichloropropane	ND	0.0050	1	11/07/2017 13:58

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4- 0.5	1711188-001A	Soil	11/06/2017 09:32	GC38 11071708.D	148225

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/07/2017 13:58
cis-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 13:58
trans-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 13:58
Diisopropyl ether (DIPE)	ND	0.0050	1	11/07/2017 13:58
Ethylbenzene	ND	0.0050	1	11/07/2017 13:58
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/07/2017 13:58
Freon 113	ND	0.0050	1	11/07/2017 13:58
Hexachlorobutadiene	ND	0.0050	1	11/07/2017 13:58
Hexachloroethane	ND	0.0050	1	11/07/2017 13:58
2-Hexanone	ND	0.0050	1	11/07/2017 13:58
Isopropylbenzene	ND	0.0050	1	11/07/2017 13:58
4-Isopropyl toluene	ND	0.0050	1	11/07/2017 13:58
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/07/2017 13:58
Methylene chloride	ND	0.0050	1	11/07/2017 13:58
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/07/2017 13:58
Naphthalene	ND	0.0050	1	11/07/2017 13:58
n-Propyl benzene	ND	0.0050	1	11/07/2017 13:58
Styrene	ND	0.0050	1	11/07/2017 13:58
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/07/2017 13:58
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/07/2017 13:58
Tetrachloroethene	ND	0.00025	1	11/07/2017 13:58
Toluene	ND	0.0050	1	11/07/2017 13:58
1,2,3-Trichlorobenzene	ND	0.0050	1	11/07/2017 13:58
1,2,4-Trichlorobenzene	ND	0.0050	1	11/07/2017 13:58
1,1,1-Trichloroethane	ND	0.0050	1	11/07/2017 13:58
1,1,2-Trichloroethane	ND	0.0050	1	11/07/2017 13:58
Trichloroethene	ND	0.0050	1	11/07/2017 13:58
Trichlorofluoromethane	ND	0.0050	1	11/07/2017 13:58
1,2,3-Trichloropropane	ND	0.00025	1	11/07/2017 13:58
1,2,4-Trimethylbenzene	ND	0.0050	1	11/07/2017 13:58
1,3,5-Trimethylbenzene	ND	0.0050	1	11/07/2017 13:58
Vinyl Chloride	ND	0.00025	1	11/07/2017 13:58
Xylenes, Total	ND	0.0050	1	11/07/2017 13:58

(Cont.)



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-0.5	1711188-001A	Soil	11/06/2017 09:32	GC38 11071708.D	148225

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	102		82-135	11/07/2017 13:58
Benzene-d6	95		55-122	11/07/2017 13:58
Ethylbenzene-d10	92		58-141	11/07/2017 13:58
1,2-DCB-d4	73		51-107	11/07/2017 13:58
Dibromofluoromethane	116		82-136	11/07/2017 13:58
Toluene-d8	115		92-139	11/07/2017 13:58

Analyst(s): HK



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-3.0	1711188-002A	Soil	11/06/2017 09:32	GC38 11071709.D	148225

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	11/07/2017 14:35
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/07/2017 14:35
Benzene	ND	0.0050	1	11/07/2017 14:35
Bromobenzene	ND	0.0050	1	11/07/2017 14:35
Bromochloromethane	ND	0.0050	1	11/07/2017 14:35
Bromodichloromethane	ND	0.00025	1	11/07/2017 14:35
Bromoform	ND	0.0050	1	11/07/2017 14:35
Bromomethane	ND	0.0050	1	11/07/2017 14:35
2-Butanone (MEK)	ND	0.020	1	11/07/2017 14:35
t-Butyl alcohol (TBA)	ND	0.050	1	11/07/2017 14:35
n-Butyl benzene	ND	0.0050	1	11/07/2017 14:35
sec-Butyl benzene	ND	0.0050	1	11/07/2017 14:35
tert-Butyl benzene	ND	0.0050	1	11/07/2017 14:35
Carbon Disulfide	ND	0.0050	1	11/07/2017 14:35
Carbon Tetrachloride	ND	0.0050	1	11/07/2017 14:35
Chlorobenzene	ND	0.0050	1	11/07/2017 14:35
Chloroethane	ND	0.0050	1	11/07/2017 14:35
Chloroform	ND	0.0050	1	11/07/2017 14:35
Chloromethane	ND	0.0050	1	11/07/2017 14:35
2-Chlorotoluene	ND	0.0050	1	11/07/2017 14:35
4-Chlorotoluene	ND	0.0050	1	11/07/2017 14:35
Dibromochloromethane	ND	0.0050	1	11/07/2017 14:35
1,2-Dibromo-3-chloropropane	ND	0.00025	1	11/07/2017 14:35
1,2-Dibromoethane (EDB)	ND	0.00010	1	11/07/2017 14:35
Dibromomethane	ND	0.0050	1	11/07/2017 14:35
1,2-Dichlorobenzene	ND	0.0050	1	11/07/2017 14:35
1,3-Dichlorobenzene	ND	0.0050	1	11/07/2017 14:35
1,4-Dichlorobenzene	ND	0.0050	1	11/07/2017 14:35
Dichlorodifluoromethane	ND	0.0050	1	11/07/2017 14:35
1,1-Dichloroethane	ND	0.0050	1	11/07/2017 14:35
1,2-Dichloroethane (1,2-DCA)	ND	0.00025	1	11/07/2017 14:35
1,1-Dichloroethene	ND	0.00025	1	11/07/2017 14:35
cis-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 14:35
trans-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 14:35
1,2-Dichloropropane	ND	0.0050	1	11/07/2017 14:35
1,3-Dichloropropane	ND	0.0050	1	11/07/2017 14:35
2,2-Dichloropropane	ND	0.0050	1	11/07/2017 14:35

(Cont.)





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-3.0	1711188-002A	Soil	11/06/2017 09:32	GC38 11071709.D	148225

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/07/2017 14:35
cis-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 14:35
trans-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 14:35
Diisopropyl ether (DIPE)	ND	0.0050	1	11/07/2017 14:35
Ethylbenzene	ND	0.0050	1	11/07/2017 14:35
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/07/2017 14:35
Freon 113	ND	0.0050	1	11/07/2017 14:35
Hexachlorobutadiene	ND	0.0050	1	11/07/2017 14:35
Hexachloroethane	ND	0.0050	1	11/07/2017 14:35
2-Hexanone	ND	0.0050	1	11/07/2017 14:35
Isopropylbenzene	ND	0.0050	1	11/07/2017 14:35
4-Isopropyl toluene	ND	0.0050	1	11/07/2017 14:35
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/07/2017 14:35
Methylene chloride	ND	0.0050	1	11/07/2017 14:35
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/07/2017 14:35
Naphthalene	ND	0.0050	1	11/07/2017 14:35
n-Propyl benzene	ND	0.0050	1	11/07/2017 14:35
Styrene	ND	0.0050	1	11/07/2017 14:35
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/07/2017 14:35
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/07/2017 14:35
Tetrachloroethene	ND	0.00025	1	11/07/2017 14:35
Toluene	ND	0.0050	1	11/07/2017 14:35
1,2,3-Trichlorobenzene	ND	0.0050	1	11/07/2017 14:35
1,2,4-Trichlorobenzene	ND	0.0050	1	11/07/2017 14:35
1,1,1-Trichloroethane	ND	0.0050	1	11/07/2017 14:35
1,1,2-Trichloroethane	ND	0.0050	1	11/07/2017 14:35
Trichloroethene	ND	0.0050	1	11/07/2017 14:35
Trichlorofluoromethane	ND	0.0050	1	11/07/2017 14:35
1,2,3-Trichloropropane	ND	0.00025	1	11/07/2017 14:35
1,2,4-Trimethylbenzene	ND	0.0050	1	11/07/2017 14:35
1,3,5-Trimethylbenzene	ND	0.0050	1	11/07/2017 14:35
Vinyl Chloride	ND	0.00025	1	11/07/2017 14:35
Xylenes, Total	ND	0.0050	1	11/07/2017 14:35

(Cont.)



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-3.0	1711188-002A	Soil	11/06/2017 09:32	GC38 11071709.D	148225

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	101		82-135	11/07/2017 14:35
Benzene-d6	84		55-122	11/07/2017 14:35
Ethylbenzene-d10	90		58-141	11/07/2017 14:35
1,2-DCB-d4	71		51-107	11/07/2017 14:35
Dibromofluoromethane	111		82-136	11/07/2017 14:35
Toluene-d8	115		92-139	11/07/2017 14:35

Analyst(s): HK



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-0.5	1711188-003A	Soil	11/06/2017 09:48	GC38 11071710.D	148225

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	11/07/2017 15:12
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/07/2017 15:12
Benzene	ND	0.0050	1	11/07/2017 15:12
Bromobenzene	ND	0.0050	1	11/07/2017 15:12
Bromochloromethane	ND	0.0050	1	11/07/2017 15:12
Bromodichloromethane	ND	0.0025	1	11/07/2017 15:12
Bromoform	ND	0.0050	1	11/07/2017 15:12
Bromomethane	ND	0.0050	1	11/07/2017 15:12
2-Butanone (MEK)	ND	0.020	1	11/07/2017 15:12
t-Butyl alcohol (TBA)	ND	0.050	1	11/07/2017 15:12
n-Butyl benzene	ND	0.0050	1	11/07/2017 15:12
sec-Butyl benzene	ND	0.0050	1	11/07/2017 15:12
tert-Butyl benzene	ND	0.0050	1	11/07/2017 15:12
Carbon Disulfide	ND	0.0050	1	11/07/2017 15:12
Carbon Tetrachloride	ND	0.0050	1	11/07/2017 15:12
Chlorobenzene	ND	0.0050	1	11/07/2017 15:12
Chloroethane	ND	0.0050	1	11/07/2017 15:12
Chloroform	ND	0.0050	1	11/07/2017 15:12
Chloromethane	ND	0.0050	1	11/07/2017 15:12
2-Chlorotoluene	ND	0.0050	1	11/07/2017 15:12
4-Chlorotoluene	ND	0.0050	1	11/07/2017 15:12
Dibromochloromethane	ND	0.0050	1	11/07/2017 15:12
1,2-Dibromo-3-chloropropane	ND	0.0025	1	11/07/2017 15:12
1,2-Dibromoethane (EDB)	ND	0.0010	1	11/07/2017 15:12
Dibromomethane	ND	0.0050	1	11/07/2017 15:12
1,2-Dichlorobenzene	ND	0.0050	1	11/07/2017 15:12
1,3-Dichlorobenzene	ND	0.0050	1	11/07/2017 15:12
1,4-Dichlorobenzene	ND	0.0050	1	11/07/2017 15:12
Dichlorodifluoromethane	ND	0.0050	1	11/07/2017 15:12
1,1-Dichloroethane	ND	0.0050	1	11/07/2017 15:12
1,2-Dichloroethane (1,2-DCA)	ND	0.0025	1	11/07/2017 15:12
1,1-Dichloroethene	ND	0.0025	1	11/07/2017 15:12
cis-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 15:12
trans-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 15:12
1,2-Dichloropropane	ND	0.0050	1	11/07/2017 15:12
1,3-Dichloropropane	ND	0.0050	1	11/07/2017 15:12
2,2-Dichloropropane	ND	0.0050	1	11/07/2017 15:12

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-0.5	1711188-003A	Soil	11/06/2017 09:48	GC38 11071710.D	148225

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/07/2017 15:12
cis-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 15:12
trans-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 15:12
Diisopropyl ether (DIPE)	ND	0.0050	1	11/07/2017 15:12
Ethylbenzene	ND	0.0050	1	11/07/2017 15:12
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/07/2017 15:12
Freon 113	ND	0.0050	1	11/07/2017 15:12
Hexachlorobutadiene	ND	0.0050	1	11/07/2017 15:12
Hexachloroethane	ND	0.0050	1	11/07/2017 15:12
2-Hexanone	ND	0.0050	1	11/07/2017 15:12
Isopropylbenzene	ND	0.0050	1	11/07/2017 15:12
4-Isopropyl toluene	ND	0.0050	1	11/07/2017 15:12
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/07/2017 15:12
Methylene chloride	ND	0.0050	1	11/07/2017 15:12
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/07/2017 15:12
Naphthalene	ND	0.0050	1	11/07/2017 15:12
n-Propyl benzene	ND	0.0050	1	11/07/2017 15:12
Styrene	ND	0.0050	1	11/07/2017 15:12
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/07/2017 15:12
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/07/2017 15:12
Tetrachloroethene	ND	0.00025	1	11/07/2017 15:12
Toluene	ND	0.0050	1	11/07/2017 15:12
1,2,3-Trichlorobenzene	ND	0.0050	1	11/07/2017 15:12
1,2,4-Trichlorobenzene	ND	0.0050	1	11/07/2017 15:12
1,1,1-Trichloroethane	ND	0.0050	1	11/07/2017 15:12
1,1,2-Trichloroethane	ND	0.0050	1	11/07/2017 15:12
Trichloroethene	ND	0.0050	1	11/07/2017 15:12
Trichlorofluoromethane	ND	0.0050	1	11/07/2017 15:12
1,2,3-Trichloropropane	ND	0.00025	1	11/07/2017 15:12
1,2,4-Trimethylbenzene	ND	0.0050	1	11/07/2017 15:12
1,3,5-Trimethylbenzene	ND	0.0050	1	11/07/2017 15:12
Vinyl Chloride	ND	0.00025	1	11/07/2017 15:12
Xylenes, Total	ND	0.0050	1	11/07/2017 15:12

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-0.5	1711188-003A	Soil	11/06/2017 09:48	GC38 11071710.D	148225

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	100		82-135	11/07/2017 15:12
Benzene-d6	95		55-122	11/07/2017 15:12
Ethylbenzene-d10	91		58-141	11/07/2017 15:12
1,2-DCB-d4	73		51-107	11/07/2017 15:12
Dibromofluoromethane	122		82-136	11/07/2017 15:12
Toluene-d8	114		92-139	11/07/2017 15:12

Analyst(s): HK



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-3.0	1711188-004A	Soil	11/06/2017 09:48	GC38 11071711.D	148225

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	11/07/2017 15:49
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/07/2017 15:49
Benzene	ND	0.0050	1	11/07/2017 15:49
Bromobenzene	ND	0.0050	1	11/07/2017 15:49
Bromochloromethane	ND	0.0050	1	11/07/2017 15:49
Bromodichloromethane	ND	0.0025	1	11/07/2017 15:49
Bromoform	ND	0.0050	1	11/07/2017 15:49
Bromomethane	ND	0.0050	1	11/07/2017 15:49
2-Butanone (MEK)	ND	0.020	1	11/07/2017 15:49
t-Butyl alcohol (TBA)	ND	0.050	1	11/07/2017 15:49
n-Butyl benzene	ND	0.0050	1	11/07/2017 15:49
sec-Butyl benzene	ND	0.0050	1	11/07/2017 15:49
tert-Butyl benzene	ND	0.0050	1	11/07/2017 15:49
Carbon Disulfide	ND	0.0050	1	11/07/2017 15:49
Carbon Tetrachloride	ND	0.0050	1	11/07/2017 15:49
Chlorobenzene	ND	0.0050	1	11/07/2017 15:49
Chloroethane	ND	0.0050	1	11/07/2017 15:49
Chloroform	ND	0.0050	1	11/07/2017 15:49
Chloromethane	ND	0.0050	1	11/07/2017 15:49
2-Chlorotoluene	ND	0.0050	1	11/07/2017 15:49
4-Chlorotoluene	ND	0.0050	1	11/07/2017 15:49
Dibromochloromethane	ND	0.0050	1	11/07/2017 15:49
1,2-Dibromo-3-chloropropane	ND	0.0025	1	11/07/2017 15:49
1,2-Dibromoethane (EDB)	ND	0.0010	1	11/07/2017 15:49
Dibromomethane	ND	0.0050	1	11/07/2017 15:49
1,2-Dichlorobenzene	ND	0.0050	1	11/07/2017 15:49
1,3-Dichlorobenzene	ND	0.0050	1	11/07/2017 15:49
1,4-Dichlorobenzene	ND	0.0050	1	11/07/2017 15:49
Dichlorodifluoromethane	ND	0.0050	1	11/07/2017 15:49
1,1-Dichloroethane	ND	0.0050	1	11/07/2017 15:49
1,2-Dichloroethane (1,2-DCA)	ND	0.0025	1	11/07/2017 15:49
1,1-Dichloroethene	ND	0.0025	1	11/07/2017 15:49
cis-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 15:49
trans-1,2-Dichloroethene	ND	0.0050	1	11/07/2017 15:49
1,2-Dichloropropane	ND	0.0050	1	11/07/2017 15:49
1,3-Dichloropropane	ND	0.0050	1	11/07/2017 15:49
2,2-Dichloropropane	ND	0.0050	1	11/07/2017 15:49

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-3.0	1711188-004A	Soil	11/06/2017 09:48	GC38 11071711.D	148225

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/07/2017 15:49
cis-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 15:49
trans-1,3-Dichloropropene	ND	0.0050	1	11/07/2017 15:49
Diisopropyl ether (DIPE)	ND	0.0050	1	11/07/2017 15:49
Ethylbenzene	ND	0.0050	1	11/07/2017 15:49
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/07/2017 15:49
Freon 113	ND	0.0050	1	11/07/2017 15:49
Hexachlorobutadiene	ND	0.0050	1	11/07/2017 15:49
Hexachloroethane	ND	0.0050	1	11/07/2017 15:49
2-Hexanone	ND	0.0050	1	11/07/2017 15:49
Isopropylbenzene	ND	0.0050	1	11/07/2017 15:49
4-Isopropyl toluene	ND	0.0050	1	11/07/2017 15:49
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/07/2017 15:49
Methylene chloride	ND	0.0050	1	11/07/2017 15:49
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/07/2017 15:49
Naphthalene	ND	0.0050	1	11/07/2017 15:49
n-Propyl benzene	ND	0.0050	1	11/07/2017 15:49
Styrene	ND	0.0050	1	11/07/2017 15:49
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/07/2017 15:49
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/07/2017 15:49
Tetrachloroethene	ND	0.00025	1	11/07/2017 15:49
Toluene	ND	0.0050	1	11/07/2017 15:49
1,2,3-Trichlorobenzene	ND	0.0050	1	11/07/2017 15:49
1,2,4-Trichlorobenzene	ND	0.0050	1	11/07/2017 15:49
1,1,1-Trichloroethane	ND	0.0050	1	11/07/2017 15:49
1,1,2-Trichloroethane	ND	0.0050	1	11/07/2017 15:49
Trichloroethene	ND	0.0050	1	11/07/2017 15:49
Trichlorofluoromethane	ND	0.0050	1	11/07/2017 15:49
1,2,3-Trichloropropane	ND	0.00025	1	11/07/2017 15:49
1,2,4-Trimethylbenzene	ND	0.0050	1	11/07/2017 15:49
1,3,5-Trimethylbenzene	ND	0.0050	1	11/07/2017 15:49
Vinyl Chloride	ND	0.00025	1	11/07/2017 15:49
Xylenes, Total	ND	0.0050	1	11/07/2017 15:49

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-3.0	1711188-004A	Soil	11/06/2017 09:48	GC38 11071711.D	148225

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	101		82-135	11/07/2017 15:49
Benzene-d6	94		55-122	11/07/2017 15:49
Ethylbenzene-d10	90		58-141	11/07/2017 15:49
1,2-DCB-d4	73		51-107	11/07/2017 15:49
Dibromofluoromethane	117		82-136	11/07/2017 15:49
Toluene-d8	115		92-139	11/07/2017 15:49

**Analyst(s):** HK





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4- 0.5	1711188-001A	Soil	11/06/2017 09:32	GC17 11101733.D	148515

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	11/11/2017 01:09
Acenaphthylene	ND	0.010	1	11/11/2017 01:09
Anthracene	ND	0.010	1	11/11/2017 01:09
Benzo (a) anthracene	<b>0.022</b>	0.010	1	11/11/2017 01:09
Benzo (a) pyrene	<b>0.024</b>	0.010	1	11/11/2017 01:09
Benzo (b) fluoranthene	<b>0.023</b>	0.010	1	11/11/2017 01:09
Benzo (g,h,i) perylene	<b>0.020</b>	0.010	1	11/11/2017 01:09
Benzo (k) fluoranthene	<b>0.011</b>	0.010	1	11/11/2017 01:09
Chrysene	<b>0.021</b>	0.010	1	11/11/2017 01:09
Dibenzo (a,h) anthracene	ND	0.010	1	11/11/2017 01:09
Fluoranthene	<b>0.027</b>	0.010	1	11/11/2017 01:09
Fluorene	ND	0.010	1	11/11/2017 01:09
Indeno (1,2,3-cd) pyrene	<b>0.013</b>	0.010	1	11/11/2017 01:09
1-Methylnaphthalene	ND	0.010	1	11/11/2017 01:09
2-Methylnaphthalene	ND	0.010	1	11/11/2017 01:09
Naphthalene	ND	0.010	1	11/11/2017 01:09
Phenanthrene	<b>0.013</b>	0.010	1	11/11/2017 01:09
Pyrene	<b>0.030</b>	0.010	1	11/11/2017 01:09
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	75	30-130		11/11/2017 01:09
2-Fluorobiphenyl	70	30-130		11/11/2017 01:09

**Analyst(s):** REB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-3.0	1711188-002A	Soil	11/06/2017 09:32	GC17 11101734.D	148515

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.020	2	11/11/2017 01:36
Acenaphthylene	ND	0.020	2	11/11/2017 01:36
Anthracene	ND	0.020	2	11/11/2017 01:36
Benzo (a) anthracene	<b>0.20</b>	0.020	2	11/11/2017 01:36
Benzo (a) pyrene	<b>0.26</b>	0.020	2	11/11/2017 01:36
Benzo (b) fluoranthene	<b>0.27</b>	0.020	2	11/11/2017 01:36
Benzo (g,h,i) perylene	<b>0.22</b>	0.020	2	11/11/2017 01:36
Benzo (k) fluoranthene	<b>0.097</b>	0.020	2	11/11/2017 01:36
Chrysene	<b>0.18</b>	0.020	2	11/11/2017 01:36
Dibenzo (a,h) anthracene	<b>0.029</b>	0.020	2	11/11/2017 01:36
Fluoranthene	<b>0.42</b>	0.020	2	11/11/2017 01:36
Fluorene	ND	0.020	2	11/11/2017 01:36
Indeno (1,2,3-cd) pyrene	<b>0.16</b>	0.020	2	11/11/2017 01:36
1-Methylnaphthalene	ND	0.020	2	11/11/2017 01:36
2-Methylnaphthalene	ND	0.020	2	11/11/2017 01:36
Naphthalene	ND	0.020	2	11/11/2017 01:36
Phenanthrene	<b>0.13</b>	0.020	2	11/11/2017 01:36
Pyrene	<b>0.53</b>	0.020	2	11/11/2017 01:36

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	76	30-130	11/11/2017 01:36
2-Fluorobiphenyl	69	30-130	11/11/2017 01:36

**Analyst(s):** REB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-0.5	1711188-003A	Soil	11/06/2017 09:48	GC17 11131711.D	148515

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.10	10	11/13/2017 13:57
Acenaphthylene	ND	0.10	10	11/13/2017 13:57
Anthracene	ND	0.10	10	11/13/2017 13:57
Benzo (a) anthracene	<b>0.15</b>	0.10	10	11/13/2017 13:57
Benzo (a) pyrene	ND	0.10	10	11/13/2017 13:57
Benzo (b) fluoranthene	<b>0.15</b>	0.10	10	11/13/2017 13:57
Benzo (g,h,i) perylene	<b>0.11</b>	0.10	10	11/13/2017 13:57
Benzo (k) fluoranthene	ND	0.10	10	11/13/2017 13:57
Chrysene	<b>0.14</b>	0.10	10	11/13/2017 13:57
Dibenzo (a,h) anthracene	ND	0.10	10	11/13/2017 13:57
Fluoranthene	<b>0.22</b>	0.10	10	11/13/2017 13:57
Fluorene	ND	0.10	10	11/13/2017 13:57
Indeno (1,2,3-cd) pyrene	ND	0.10	10	11/13/2017 13:57
1-Methylnaphthalene	ND	0.10	10	11/13/2017 13:57
2-Methylnaphthalene	ND	0.10	10	11/13/2017 13:57
Naphthalene	ND	0.10	10	11/13/2017 13:57
Phenanthrene	<b>0.15</b>	0.10	10	11/13/2017 13:57
Pyrene	<b>0.20</b>	0.10	10	11/13/2017 13:57

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	90	30-130	11/13/2017 13:57
2-Fluorobiphenyl	83	30-130	11/13/2017 13:57

**Analyst(s):** REB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-3.0	1711188-004A	Soil	11/06/2017 09:48	GC17 11101736.D	148515

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.050	5	11/11/2017 02:30
Acenaphthylene	ND	0.050	5	11/11/2017 02:30
Anthracene	ND	0.050	5	11/11/2017 02:30
Benzo (a) anthracene	<b>0.11</b>	0.050	5	11/11/2017 02:30
Benzo (a) pyrene	<b>0.12</b>	0.050	5	11/11/2017 02:30
Benzo (b) fluoranthene	<b>0.15</b>	0.050	5	11/11/2017 02:30
Benzo (g,h,i) perylene	<b>0.10</b>	0.050	5	11/11/2017 02:30
Benzo (k) fluoranthene	<b>0.062</b>	0.050	5	11/11/2017 02:30
Chrysene	<b>0.13</b>	0.050	5	11/11/2017 02:30
Dibenzo (a,h) anthracene	ND	0.050	5	11/11/2017 02:30
Fluoranthene	<b>0.21</b>	0.050	5	11/11/2017 02:30
Fluorene	ND	0.050	5	11/11/2017 02:30
Indeno (1,2,3-cd) pyrene	<b>0.079</b>	0.050	5	11/11/2017 02:30
1-Methylnaphthalene	ND	0.050	5	11/11/2017 02:30
2-Methylnaphthalene	ND	0.050	5	11/11/2017 02:30
Naphthalene	ND	0.050	5	11/11/2017 02:30
Phenanthrene	<b>0.13</b>	0.050	5	11/11/2017 02:30
Pyrene	<b>0.18</b>	0.050	5	11/11/2017 02:30

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	78	30-130	11/11/2017 02:30
2-Fluorobiphenyl	72	30-130	11/11/2017 02:30

**Analyst(s):** REB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4- 0.5	1711188-001A	Soil	11/06/2017 09:32	ICP-MS1 056SMPL.D	148210

Analytes	Result	RL	DF	Date Analyzed
Antimony	1.0	0.50	1	11/07/2017 22:15
Arsenic	6.0	0.50	1	11/07/2017 22:15
Barium	290	5.0	1	11/07/2017 22:15
Beryllium	ND	0.50	1	11/07/2017 22:15
Cadmium	0.64	0.25	1	11/07/2017 22:15
Chromium	38	0.50	1	11/07/2017 22:15
Cobalt	10	0.50	1	11/07/2017 22:15
Copper	27	0.50	1	11/07/2017 22:15
Lead	560	5.0	10	11/08/2017 11:38
Mercury	0.40	0.050	1	11/07/2017 22:15
Molybdenum	0.69	0.50	1	11/07/2017 22:15
Nickel	33	0.50	1	11/07/2017 22:15
Selenium	ND	0.50	1	11/07/2017 22:15
Silver	ND	0.50	1	11/07/2017 22:15
Thallium	ND	0.50	1	11/07/2017 22:15
Vanadium	36	0.50	1	11/07/2017 22:15
Zinc	210	5.0	1	11/07/2017 22:15

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	99	70-130	11/07/2017 22:15

**Analyst(s):** DB, ND



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-3.0	1711188-002A	Soil	11/06/2017 09:32	ICP-MS1 057SMPL.D	148210

Analytes	Result	RL	DF	Date Analyzed
Antimony	2.4	0.50	1	11/07/2017 22:21
Arsenic	6.3	0.50	1	11/07/2017 22:21
Barium	610	5.0	1	11/07/2017 22:21
Beryllium	ND	0.50	1	11/07/2017 22:21
Cadmium	3.0	0.25	1	11/07/2017 22:21
Chromium	40	0.50	1	11/07/2017 22:21
Cobalt	6.8	0.50	1	11/07/2017 22:21
Copper	61	0.50	1	11/07/2017 22:21
Lead	1200	5.0	10	11/08/2017 11:44
Mercury	1.0	0.050	1	11/07/2017 22:21
Molybdenum	0.66	0.50	1	11/07/2017 22:21
Nickel	29	0.50	1	11/07/2017 22:21
Selenium	ND	0.50	1	11/07/2017 22:21
Silver	0.52	0.50	1	11/07/2017 22:21
Thallium	ND	0.50	1	11/07/2017 22:21
Vanadium	26	0.50	1	11/07/2017 22:21
Zinc	680	5.0	1	11/07/2017 22:21

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	106	70-130	11/07/2017 22:21

**Analyst(s):** DB, ND



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-0.5	1711188-003A	Soil	11/06/2017 09:48	ICP-MS1 058SMPL.D	148210

Analytes	Result	RL	DF	Date Analyzed
Antimony	1.2	0.50	1	11/07/2017 22:27
Arsenic	4.5	0.50	1	11/07/2017 22:27
Barium	230	5.0	1	11/07/2017 22:27
Beryllium	ND	0.50	1	11/07/2017 22:27
Cadmium	0.64	0.25	1	11/07/2017 22:27
Chromium	30	0.50	1	11/07/2017 22:27
Cobalt	7.9	0.50	1	11/07/2017 22:27
Copper	27	0.50	1	11/07/2017 22:27
Lead	450	0.50	1	11/07/2017 22:27
Mercury	0.38	0.050	1	11/07/2017 22:27
Molybdenum	ND	0.50	1	11/07/2017 22:27
Nickel	29	0.50	1	11/07/2017 22:27
Selenium	ND	0.50	1	11/07/2017 22:27
Silver	ND	0.50	1	11/07/2017 22:27
Thallium	ND	0.50	1	11/07/2017 22:27
Vanadium	27	0.50	1	11/07/2017 22:27
Zinc	310	5.0	1	11/07/2017 22:27

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	96	70-130	11/07/2017 22:27

**Analyst(s):** DB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-3.0	1711188-004A	Soil	11/06/2017 09:48	ICP-MS1 059SMPL.D	148210

Analytes	Result	RL	DF	Date Analyzed
Antimony	0.73	0.50	1	11/07/2017 22:33
Arsenic	4.0	0.50	1	11/07/2017 22:33
Barium	160	5.0	1	11/07/2017 22:33
Beryllium	ND	0.50	1	11/07/2017 22:33
Cadmium	ND	0.25	1	11/07/2017 22:33
Chromium	25	0.50	1	11/07/2017 22:33
Cobalt	6.1	0.50	1	11/07/2017 22:33
Copper	20	0.50	1	11/07/2017 22:33
Lead	220	0.50	1	11/07/2017 22:33
Mercury	1.4	0.050	1	11/07/2017 22:33
Molybdenum	ND	0.50	1	11/07/2017 22:33
Nickel	23	0.50	1	11/07/2017 22:33
Selenium	ND	0.50	1	11/07/2017 22:33
Silver	ND	0.50	1	11/07/2017 22:33
Thallium	ND	0.50	1	11/07/2017 22:33
Vanadium	25	0.50	1	11/07/2017 22:33
Zinc	89	5.0	1	11/07/2017 22:33

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	94	70-130	11/07/2017 22:33

**Analyst(s):** DB





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17-11/9/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-0.5	1711188-001A	Soil	11/06/2017 09:32	GC19 11091709.D	148383

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/09/2017 16:37
MTBE	---	0.050	1	11/09/2017 16:37
Benzene	---	0.0050	1	11/09/2017 16:37
Toluene	---	0.0050	1	11/09/2017 16:37
Ethylbenzene	---	0.0050	1	11/09/2017 16:37
Xylenes	---	0.015	1	11/09/2017 16:37

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	88	62-126	11/09/2017 16:37

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-3.0	1711188-002A	Soil	11/06/2017 09:32	GC19 11101708.D	148383

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/10/2017 16:38
MTBE	---	0.050	1	11/10/2017 16:38
Benzene	---	0.0050	1	11/10/2017 16:38
Toluene	---	0.0050	1	11/10/2017 16:38
Ethylbenzene	---	0.0050	1	11/10/2017 16:38
Xylenes	---	0.015	1	11/10/2017 16:38

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	86	62-126	11/10/2017 16:38

Analyst(s): IA



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17-11/9/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-0.5	1711188-003A	Soil	11/06/2017 09:48	GC19 11081707.D	148224

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/08/2017 16:50
MTBE	---	0.050	1	11/08/2017 16:50
Benzene	---	0.0050	1	11/08/2017 16:50
Toluene	---	0.0050	1	11/08/2017 16:50
Ethylbenzene	---	0.0050	1	11/08/2017 16:50
Xylenes	---	0.015	1	11/08/2017 16:50

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	84	62-126	11/08/2017 16:50

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-3.0	1711188-004A	Soil	11/06/2017 09:48	GC19 11081723.D	148224

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/09/2017 01:04
MTBE	---	0.050	1	11/09/2017 01:04
Benzene	---	0.0050	1	11/09/2017 01:04
Toluene	---	0.0050	1	11/09/2017 01:04
Ethylbenzene	---	0.0050	1	11/09/2017 01:04
Xylenes	---	0.015	1	11/09/2017 01:04

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	84	62-126	11/09/2017 01:04

Analyst(s): IA



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3550B/3630C  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-0.5	1711188-001A	Soil	11/06/2017 09:32	GC9a 11071766.D	148223
<b>Analytes</b>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	11/08/2017 12:48
TPH-Motor Oil (C18-C36)	11		5.0	1	11/08/2017 12:48
<b>Surrogates</b>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	87		78-126		11/08/2017 12:48
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e7		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
A-1,2,3,4-3.0	1711188-002A	Soil	11/06/2017 09:32	GC39A 11101722.D	148223
<b>Analytes</b>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	3.2		2.0	2	11/10/2017 21:25
TPH-Motor Oil (C18-C36)	67		10	2	11/10/2017 21:25
<b>Surrogates</b>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	85		78-126		11/10/2017 21:25
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e7,e2		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-0.5	1711188-003A	Soil	11/06/2017 09:48	GC39A 11101718.D	148223
<b>Analytes</b>					
	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	7.9		2.0	2	11/10/2017 20:07
TPH-Motor Oil (C18-C36)	110		10	2	11/10/2017 20:07
<b>Surrogates</b>					
	<u>REC (%)</u>		<u>Limits</u>		
C9	86		78-126		11/10/2017 20:07
<u>Analyst(s):</u> TK			<u>Analytical Comments:</u> e7,e2		

(Cont.)



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/6/17 14:01  
**Date Prepared:** 11/6/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**Extraction Method:** SW3550B/3630C  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

## Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
B-1,2,3,4-3.0	1711188-004A	Soil	11/06/2017 09:48	GC39A 11101714.D	148223

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.8	1.0	1	11/10/2017 18:49
TPH-Motor Oil (C18-C36)	15	5.0	1	11/10/2017 18:49

Surrogates	REC (%)	Limits	Date Analyzed
C9	89	78-126	11/10/2017 18:49

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



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/7/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148225  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148225  
 1711188-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	0.133	0.10	0.20	-	67	48-156
tert-Amyl methyl ether (TAME)	ND	0.00583	0.0050	0.010	-	58	56-115
Benzene	ND	0.00828	0.0050	0.010	-	83	63-131
Bromobenzene	ND	0.00926	0.0050	0.010	-	93	66-127
Bromochloromethane	ND	0.00787	0.0050	0.010	-	79	64-124
Bromodichloromethane	ND	0.00734	0.00025	0.010	-	73	64-120
Bromoform	ND	0.00644	0.0050	0.010	-	64	48-92
Bromomethane	ND	0.0101	0.0050	0.010	-	101	25-163
2-Butanone (MEK)	ND	0.0234	0.020	0.040	-	59	51-133
t-Butyl alcohol (TBA)	ND	0.0203	0.050	0.20	-	10, F2	52-129
n-Butyl benzene	ND	0.0117	0.0050	0.010	-	117	83-200
sec-Butyl benzene	ND	0.0128	0.0050	0.010	-	128	81-199
tert-Butyl benzene	ND	0.0117	0.0050	0.010	-	117	79-178
Carbon Disulfide	ND	0.00719	0.0050	0.010	-	72	64-136
Carbon Tetrachloride	ND	0.00829	0.0050	0.010	-	83	66-140
Chlorobenzene	ND	0.00903	0.0050	0.010	-	90	73-116
Chloroethane	ND	0.00794	0.0050	0.050	-	16, F2	35-147
Chloroform	ND	0.00867	0.0050	0.010	-	87	65-130
Chloromethane	ND	0.00641	0.0050	0.010	-	64	30-137
2-Chlorotoluene	ND	0.0108	0.0050	0.010	-	108	75-152
4-Chlorotoluene	ND	0.0105	0.0050	0.010	-	105	71-148
Dibromochloromethane	ND	0.00726	0.0050	0.010	-	73	61-106
1,2-Dibromo-3-chloropropane	ND	0.00268	0.00025	0.0040	-	67	36-120
1,2-Dibromoethane (EDB)	ND	0.00769	0.00010	0.010	-	77	67-118
Dibromomethane	ND	0.00732	0.0050	0.010	-	73	61-116
1,2-Dichlorobenzene	ND	0.00789	0.0050	0.010	-	79	59-106
1,3-Dichlorobenzene	ND	0.00962	0.0050	0.010	-	96	75-129
1,4-Dichlorobenzene	ND	0.00905	0.0050	0.010	-	90	66-127
Dichlorodifluoromethane	ND	0.00301	0.0050	0.010	-	30	13-74
1,1-Dichloroethane	ND	0.00837	0.0050	0.010	-	84	65-134
1,2-Dichloroethane (1,2-DCA)	ND	0.00760	0.00025	0.010	-	76	57-131
1,1-Dichloroethene	ND	0.00866	0.00025	0.010	-	87	62-127
cis-1,2-Dichloroethene	ND	0.00829	0.0050	0.010	-	83	66-130
trans-1,2-Dichloroethene	ND	0.00847	0.0050	0.010	-	85	60-131
1,2-Dichloropropane	ND	0.00803	0.0050	0.010	-	80	63-127
1,3-Dichloropropane	ND	0.00816	0.0050	0.010	-	82	68-124
2,2-Dichloropropane	ND	0.00875	0.0050	0.010	-	87	63-150

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/7/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148225  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148225  
 1711188-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	0.00870	0.0050	0.010	-	87	67-134
cis-1,3-Dichloropropene	ND	0.00854	0.0050	0.010	-	85	65-138
trans-1,3-Dichloropropene	ND	0.00856	0.0050	0.010	-	86	66-124
Diisopropyl ether (DIPE)	ND	0.00711	0.0050	0.010	-	71	58-129
Ethylbenzene	ND	0.00920	0.0050	0.010	-	92	73-145
Ethyl tert-butyl ether (ETBE)	ND	0.00636	0.0050	0.010	-	64	62-125
Freon 113	ND	0.00685	0.0050	0.010	-	68	55-116
Hexachlorobutadiene	ND	0.0125	0.0050	0.010	-	125	75-178
Hexachloroethane	ND	0.0108	0.0050	0.010	-	108	75-152
2-Hexanone	ND	0.00590	0.0050	0.010	-	59	41-113
Isopropylbenzene	ND	0.0119	0.0050	0.010	-	119	67-172
4-Isopropyl toluene	ND	0.0118	0.0050	0.010	-	118	88-171
Methyl-t-butyl ether (MTBE)	ND	0.00661	0.0050	0.010	-	66	58-122
Methylene chloride	ND	0.00864	0.0050	0.010	-	86	57-140
4-Methyl-2-pentanone (MIBK)	ND	0.00536	0.0050	0.010	-	54	42-117
Naphthalene	ND	0.00366	0.0050	0.010	-	37	29-65
n-Propyl benzene	ND	0.0123	0.0050	0.010	-	123	85-174
Styrene	ND	0.00767	0.0050	0.010	-	77	63-126
1,1,1,2-Tetrachloroethane	ND	0.00873	0.0050	0.010	-	87	68-131
1,1,2,2-Tetrachloroethane	ND	0.00692	0.00025	0.010	-	69	45-121
Tetrachloroethene	ND	0.0107	0.00025	0.010	-	107	65-150
Toluene	ND	0.00908	0.0050	0.010	-	91	72-135
1,2,3-Trichlorobenzene	ND	0.00562	0.0050	0.010	-	56	35-80
1,2,4-Trichlorobenzene	ND	0.00713	0.0050	0.010	-	71	45-103
1,1,1-Trichloroethane	ND	0.00882	0.0050	0.010	-	88	67-137
1,1,2-Trichloroethane	ND	0.00794	0.0050	0.010	-	79	67-117
Trichloroethene	ND	0.00938	0.0050	0.010	-	94	62-135
Trichlorofluoromethane	ND	0.00594	0.0050	0.010	-	59	56-124
1,2,3-Trichloropropane	ND	0.00814	0.00025	0.010	-	81	58-133
1,2,4-Trimethylbenzene	ND	0.00988	0.0050	0.010	-	99	78-161
1,3,5-Trimethylbenzene	ND	0.0109	0.0050	0.010	-	109	85-170
Vinyl Chloride	ND	0.00927	0.00025	0.010	-	93	32-142
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/7/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148225  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148225  
 1711188-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
4-BFB	0.01248	0.0138		0.012	100	110	84-137
Benzene-d6	0.1049	0.0996		0.10	105	100	67-131
Ethylbenzene-d10	0.1092	0.107		0.10	109	107	78-153
1,2-DCB-d4	0.08419	0.0811		0.10	84	81	63-109
Dibromofluoromethane	0.1297	0.130		0.12	104	104	87-127
Toluene-d8	0.1453	0.148		0.12	116	119	93-141



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/7/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148225  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148225  
 1711188-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acetone	0.154	0.164	0.20	ND	67	72	36-141	6.77	30
tert-Amyl methyl ether (TAME)	0.00600	0.00662	0.010	ND	60	66	46-105	9.74	30
Benzene	0.00715	0.00765	0.010	ND	72	77	46-124	6.70	30
Bromobenzene	0.00766	0.00785	0.010	ND	77	79	50-119	2.52	30
Bromochloromethane	0.00718	0.00775	0.010	ND	72	78	42-122	7.67	30
Bromodichloromethane	0.00669	0.00724	0.010	ND	67	72	48-112	7.88	30
Bromoform	0.00653	0.00650	0.010	ND	65	65	36-90	0	30
Bromomethane	0.00789	0.00876	0.010	ND	79	88	10-149	10.4	30
2-Butanone (MEK)	0.0250	0.0266	0.040	ND	44	48	43-114	6.41	30
t-Butyl alcohol (TBA)	0.0236	0.0258	0.20	ND	12,F1	13,F1	33-123	8.75	30
n-Butyl benzene	0.00893	0.00874	0.010	ND	89	87	40-185	2.22	30
sec-Butyl benzene	0.00989	0.00982	0.010	ND	99	98	40-183	0.645	30
tert-Butyl benzene	0.00901	0.00879	0.010	ND	90	88	44-168	2.54	30
Carbon Disulfide	0.00604	0.00618	0.010	ND	60	62	23-139	2.33	30
Carbon Tetrachloride	0.00692	0.00730	0.010	ND	69	73	43-133	5.37	30
Chlorobenzene	0.00772	0.00756	0.010	ND	77	76	51-115	2.07	30
Chloroethane	0.00694	0.00731	0.050	ND	14,F1	15,F1	16-138	5.11	0
Chloroform	0.00764	0.00812	0.010	ND	76	81	54-117	6.14	30
Chloromethane	0.00559	0.00602	0.010	ND	56	60	14-128	7.42	30
2-Chlorotoluene	0.00859	0.00866	0.010	ND	86	87	54-141	0.793	30
4-Chlorotoluene	0.00858	0.00844	0.010	ND	86	84	52-134	1.62	30
Dibromochloromethane	0.00684	0.00682	0.010	ND	68	68	46-102	0	30
1,2-Dibromo-3-chloropropane	0.00266	0.00263	0.0040	ND	65	64	16-120	1.17	30
1,2-Dibromoethane (EDB)	0.00727	0.00718	0.010	ND	73	72	48-113	1.32	30
Dibromomethane	0.00695	0.00742	0.010	ND	69	74	44-110	6.63	30
1,2-Dichlorobenzene	0.00686	0.00684	0.010	ND	69	68	43-106	0.417	30
1,3-Dichlorobenzene	0.00803	0.00788	0.010	ND	80	79	49-128	1.82	30
1,4-Dichlorobenzene	0.00756	0.00763	0.010	ND	76	76	48-120	0	30
Dichlorodifluoromethane	0.00253	0.00258	0.010	ND	25	26	8-63	2.19	30
1,1-Dichloroethane	0.00715	0.00767	0.010	ND	72	77	50-122	6.98	30
1,2-Dichloroethane (1,2-DCA)	0.00698	0.00754	0.010	ND	70	75	46-116	7.60	30
1,1-Dichloroethene	0.00717	0.00767	0.010	ND	72	77	37-124	6.73	30
cis-1,2-Dichloroethene	0.00720	0.00781	0.010	ND	72	78	47-123	8.16	30
trans-1,2-Dichloroethene	0.00718	0.00764	0.010	ND	72	76	31-131	6.15	30
1,2-Dichloropropane	0.00717	0.00775	0.010	ND	72	78	50-116	7.77	30
1,3-Dichloropropane	0.00740	0.00735	0.010	ND	74	74	52-115	0	30
2,2-Dichloropropane	0.00749	0.00811	0.010	ND	75	81	43-137	7.85	30

(Cont.)





## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/7/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148225  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148225  
 1711188-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
1,1-Dichloropropene	0.00725	0.00780	0.010	ND	73	78	43-126	7.27	30
cis-1,3-Dichloropropene	0.00742	0.00745	0.010	ND	74	75	35-134	0.432	30
trans-1,3-Dichloropropene	0.00792	0.00774	0.010	ND	79	77	35-124	2.34	30
Diisopropyl ether (DIPE)	0.00696	0.00754	0.010	ND	70	75	49-116	7.98	30
Ethylbenzene	0.00766	0.00760	0.010	ND	77	76	49-137	0.863	30
Ethyl tert-butyl ether (ETBE)	0.00637	0.00694	0.010	ND	64	69	50-113	8.51	30
Freon 113	0.00560	0.00593	0.010	ND	56	59	28-114	5.78	30
Hexachlorobutadiene	0.00973	0.00955	0.010	ND	97	96	22-180	1.82	30
Hexachloroethane	0.00856	0.00860	0.010	ND	86	86	28-158	0	30
2-Hexanone	0.00645	0.00646	0.010	ND	64	65	31-102	0.247	30
Isopropylbenzene	0.00918	0.00919	0.010	ND	92	92	50-153	0	30
4-Isopropyl toluene	0.00932	0.00924	0.010	ND	93	92	41-171	0.903	30
Methyl-t-butyl ether (MTBE)	0.00674	0.00728	0.010	ND	67	73	48-110	7.64	30
Methylene chloride	0.00881	0.00912	0.010	ND	62	65	42-127	3.43	30
4-Methyl-2-pentanone (MIBK)	0.00596	0.00597	0.010	ND	60	60	24-114	0	30
Naphthalene	0.00393	0.00387	0.010	ND	38	37	19-69	1.58	30
n-Propyl benzene	0.00946	0.00940	0.010	ND	95	94	46-168	0.664	30
Styrene	0.00703	0.00702	0.010	ND	70	70	42-122	0	30
1,1,1,2-Tetrachloroethane	0.00763	0.00755	0.010	ND	76	76	52-121	0	30
1,1,2,2-Tetrachloroethane	0.00706	0.00701	0.010	ND	71	70	27-116	0.664	30
Tetrachloroethene	0.00848	0.00830	0.010	ND	84	83	37-149	2.19	30
Toluene	0.00763	0.00752	0.010	ND	76	75	52-124	1.49	30
1,2,3-Trichlorobenzene	0.00538	0.00516	0.010	ND	54	52	20-86	4.33	30
1,2,4-Trichlorobenzene	0.00652	0.00653	0.010	ND	65	65	24-107	0	30
1,1,1-Trichloroethane	0.00744	0.00792	0.010	ND	74	79	48-128	6.22	30
1,1,2-Trichloroethane	0.00736	0.00731	0.010	ND	74	73	51-110	0.693	30
Trichloroethene	0.00760	0.00820	0.010	ND	76	82	42-128	7.58	30
Trichlorofluoromethane	0.00571	0.00581	0.010	ND	57	58	31-121	1.88	30
1,2,3-Trichloropropane	0.00750	0.00746	0.010	ND	75	74	50-115	0.539	30
1,2,4-Trimethylbenzene	0.00809	0.00810	0.010	ND	81	81	48-151	0	30
1,3,5-Trimethylbenzene	0.00856	0.00845	0.010	ND	86	84	51-159	1.32	30
Vinyl Chloride	0.00780	0.00821	0.010	ND	78	82	11-136	5.04	30

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/7/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148225  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148225  
 1711188-002AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
<b>Surrogate Recovery</b>									
4-BFB	0.0133	0.0134	0.012		106	107	82-135	0.714	30
Benzene-d6	0.0891	0.0953	0.10		89	95	55-122	6.67	30
Ethylbenzene-d10	0.0931	0.0908	0.10		93	91	58-141	2.45	30
1,2-DCB-d4	0.0742	0.0742	0.10		74	148	51-107	0.0586	30
Dibromofluoromethane	0.141	0.155	0.12		113	124	82-136	9.47	30
Toluene-d8	0.143	0.143	0.12		114	114	92-139	0	30



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC17  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148515  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148515  
 1711188-004AMS/MSD

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.010	-	-	-	-
Acenaphthylene	ND	-	0.010	-	-	-	-
Anthracene	ND	-	0.010	-	-	-	-
Benzo (a) anthracene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.114	0.010	0.20	-	57	23-129
Benzo (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Chrysene	ND	0.143	0.010	0.20	-	71	38-104
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.172	0.010	0.20	-	86	59-106
2-Methylnaphthalene	ND	0.157	0.010	0.20	-	78	54-108
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.139	0.010	0.20	-	70	48-107
Pyrene	ND	0.130	0.010	0.20	-	65	40-104

**Surrogate Recovery**

1-Fluoronaphthalene	0.4912	0.430		0.50	98	86	63-123
2-Fluorobiphenyl	0.4857	0.402		0.50	97	80	55-127

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	NR	NR		0.12	NR	NR	-	NR	-
Chrysene	NR	NR		0.13	NR	NR	-	NR	-
1-Methylnaphthalene	NR	NR		ND<0.05	NR	NR	-	NR	-
2-Methylnaphthalene	NR	NR		ND<0.05	NR	NR	-	NR	-
Phenanthrene	NR	NR		0.13	NR	NR	-	NR	-
Pyrene	NR	NR		0.18	NR	NR	-	NR	-

**Surrogate Recovery**

1-Fluoronaphthalene	NR	NR			NR	NR	-	NR	-
2-Fluorobiphenyl	NR	NR			NR	NR	-	NR	-



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/6/17 - 11/7/17  
**Instrument:** ICP-MS2, ICP-MS3  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148210  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148210  
 1711183-027AMS/MSD

### QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	42.7	0.50	50	-	85	75-125
Arsenic	ND	42.2	0.50	50	-	84	75-125
Barium	ND	419	5.0	500	-	84	75-125
Beryllium	ND	41.3	0.50	50	-	83	75-125
Cadmium	ND	41.1	0.25	50	-	82	75-125
Chromium	ND	40.4	0.50	50	-	81	75-125
Cobalt	ND	40.9	0.50	50	-	82	75-125
Copper	ND	42.2	0.50	50	-	84	75-125
Lead	ND	42.4	0.50	50	-	85	75-125
Mercury	ND	1.06	0.050	1.25	-	85	75-125
Molybdenum	ND	42.1	0.50	50	-	84	75-125
Nickel	ND	42.3	0.50	50	-	85	75-125
Selenium	ND	41.8	0.50	50	-	84	75-125
Silver	ND	41.7	0.50	50	-	83	75-125
Thallium	ND	40.4	0.50	50	-	81	75-125
Vanadium	ND	40.8	0.50	50	-	82	75-125
Zinc	ND	426	5.0	500	-	85	75-125
<b>Surrogate Recovery</b>							
Terbium	497	431		500	99	86	70-130

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/6/17 - 11/7/17  
**Instrument:** ICP-MS2, ICP-MS3  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148210  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148210  
 1711183-027AMS/MSD

### 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	51.5	49.0	50	0.76	102	96	75-125	5.11	20
Arsenic	52.3	50.2	50	2.8	99	95	75-125	4.12	20
Barium	702	628	500	140	112	97	75-125	11.2	20
Beryllium	48.8	47.1	50	0.53	97	93	75-125	3.44	20
Cadmium	51.1	49.7	50	ND	102	99	75-125	2.72	20
Chromium	109	98.2	50	54	109	88	75-125	10.1	20
Cobalt	54.4	50.2	50	6.7	95	87	75-125	7.96	20
Copper	76.2	68.9	50	22	108	93	75-125	10.0	20
Lead	108	66.1	50	52.98	111	26,F10	75-125	48.4,F10	20
Mercury	1.39	1.30	1.25	0.094	104	96	75-125	6.77	20
Molybdenum	51.0	48.4	50	ND	102	96	75-125	5.33	20
Nickel	120	101	50	61	118	80	75-125	17.0	20
Selenium	47.7	47.5	50	ND	95	95	75-125	0	20
Silver	49.6	47.4	50	ND	99	95	75-125	4.43	20
Thallium	49.5	47.7	50	ND	99	95	75-125	3.75	20
Vanadium	98.6	87.8	50	37	122	101	75-125	11.5	20
Zinc	556	522	500	51	101	94	75-125	6.48	20

#### Surrogate Recovery

Terbium	548	521	500		110	104	70-130	5.09	20
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Analyte	DLT Result	DLTRef Val	%D	%D Limit
Antimony	ND<2.5	0.76	-	-
Arsenic	3.45	2.8	23.2	-
Barium	141	140	0.714	20
Beryllium	ND<2.5	0.53	-	-
Cadmium	ND<1.2	ND	-	-
Chromium	56.8	54	5.19	20
Cobalt	7.18	6.7	7.16	-
Copper	23.0	22	4.55	20
Lead	52.6	52.98	0.717	20
Mercury	ND<0.25	0.094	-	-
Molybdenum	ND<2.5	ND	-	-
Nickel	61.8	61	1.31	20
Selenium	ND<2.5	ND	-	-

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/6/17 - 11/7/17  
**Instrument:** ICP-MS2, ICP-MS3  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148210  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148210  
 1711183-027AMS/MSD

### QC Summary Report for Metals

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Silver	ND<2.5	ND	-	-
Thallium	ND<2.5	ND	-	-
Vanadium	39.3	37	6.22	20
Zinc	52.5	51	2.94	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/7/17  
**Instrument:** GC19  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148224  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148224  
 1711190-005AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	1.0	-	-	-
MTBE	ND	0.050	-	-	-
Benzene	ND	0.0050	-	-	-
Toluene	ND	0.0050	-	-	-
Ethylbenzene	ND	0.0050	-	-	-
Xylenes	ND	0.015	-	-	-

**Surrogate Recovery**

2-Fluorotoluene	0.09018		0.10	90	75-134
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.585	-	0.60	98	-	82-118	-	-
MTBE	0.111	-	0.10	111	-	61-119	-	-
Benzene	0.115	-	0.10	115	-	77-128	-	-
Toluene	0.117	-	0.10	117	-	74-132	-	-
Ethylbenzene	0.114	-	0.10	114	-	84-127	-	-
Xylenes	0.317	-	0.30	106	-	86-129	-	-

**Surrogate Recovery**

2-Fluorotoluene	0.0912	-	0.10	91	-	75-134	-	-
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		21	NR	NR	-	NR	-
MTBE	NR	NR		ND<0.5	NR	NR	-	NR	-
Benzene	NR	NR		ND<0.05	NR	NR	-	NR	-
Toluene	NR	NR		0.23	NR	NR	-	NR	-
Ethylbenzene	NR	NR		1.3	NR	NR	-	NR	-
Xylenes	NR	NR		1.7	NR	NR	-	NR	-

**Surrogate Recovery**

2-Fluorotoluene	NR	NR			NR	NR	-	NR	-
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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/8/17  
**Date Analyzed:** 11/10/17 - 11/14/17  
**Instrument:** GC19, GC7  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148383  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148383  
 1711338-009AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	1.0	-	-	-
MTBE	ND	0.050	-	-	-
Benzene	ND	0.0050	-	-	-
Toluene	ND	0.0050	-	-	-
Ethylbenzene	ND	0.0050	-	-	-
Xylenes	ND	0.015	-	-	-

**Surrogate Recovery**

2-Fluorotoluene	0.09272		0.10	93	75-134
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.596	-	0.60	99	-	82-118	-	-
MTBE	0.0782	-	0.10	78	-	61-119	-	-
Benzene	0.105	-	0.10	105	-	77-128	-	-
Toluene	0.0974	-	0.10	97	-	74-132	-	-
Ethylbenzene	0.114	-	0.10	114	-	84-127	-	-
Xylenes	0.349	-	0.30	116	-	86-129	-	-

**Surrogate Recovery**

2-Fluorotoluene	0.0926	-	0.10	93	-	75-134	-	-
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.590	0.621	0.60	ND	98	103	58-129	5.05	20
MTBE	0.0997	0.0989	0.10	ND	100	99	47-118	0.814	20
Benzene	0.117	0.112	0.10	ND	117	112	55-129	4.20	20
Toluene	0.116	0.117	0.10	ND	113	114	56-130	1.06	20
Ethylbenzene	0.120	0.116	0.10	ND	120	116	63-129	3.53	20
Xylenes	0.336	0.323	0.30	ND	109	105	64-131	3.92	20

**Surrogate Recovery**

2-Fluorotoluene	0.0929	0.0908	0.10		93	91	62-126	2.31	20
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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/6/17  
**Date Analyzed:** 11/8/17  
**Instrument:** GC6A, GC9a  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711188  
**BatchID:** 148223  
**Extraction Method:** SW3550B/3630C  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148223  
 1711188-001AMS/MSD

### QC Report for SW8015B w/ Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	33.4	1.0	40	-	83	75-128
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
<b>Surrogate Recovery</b>							
C9	21.28	22.2		25	85	89	72-122

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	29.4	30.9	40	ND	71	75	71-134	5.18	30
<b>Surrogate Recovery</b>									
C9	21.6	25.8	25		86	103	78-126	17.9	30

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



WaterTrax     WriteOn     EDF

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711188

ClientCode: EISI

Excel     EQuIS     Email     HardCopy     ThirdParty     J-flag  
 Detection Summary     Dry-Weight

**Report to:**

Peter Littman  
Environmental Investigation Services, In  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
(408) 871-1470    FAX: (408) 871-1520

Email: plittman@eis1.net  
cc/3rd Party:  
PO:  
ProjectNo: 1652-2A; 1226-1228 E 17th St.

**Bill to:**

Barbara  
Env. Investigation Svcs., Inc.  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
barbara@eis1.net

**Requested TAT: 5 days;**

**Date Received: 11/06/2017**

**Date Logged: 11/06/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1711188-001	A-1,2,3,4- 0.5	Soil	11/6/2017 09:32	<input type="checkbox"/>	A	A	A	A	A	A	A	A					
1711188-002	A-1,2,3,4-3.0	Soil	11/6/2017 09:32	<input type="checkbox"/>	A	A	A	A	A			A					
1711188-003	B-1,2,3,4-0.5	Soil	11/6/2017 09:48	<input type="checkbox"/>	A	A	A	A	A			A					
1711188-004	B-1,2,3,4-3.0	Soil	11/6/2017 09:48	<input type="checkbox"/>	A	A	A	A	A			A					

**Test Legend:**

1	8260B_Scan-SIM_S	2	8270_PNA_S	3	8270_SCSM_S [J]	4	CAM17MS_TTLC_S
5	G-MBTX_S	6	PREDF REPORT	7	TPH(DMO)WSG_S	8	
9		10		11		12	

**Prepared by: Kena Ponce**

The following SampIDs: 001A, 002A, 003A, 004A contain testgroup Multi RangeWSG\_S.

**Comments:**

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



### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A; 1226-1228 E 17th St.

**Work Order:** 1711188

**Client Contact:** Peter Littman

**QC Level:**

**Contact's Email:** plittman@eis1.net

**Comments:**

**Date Logged:** 11/6/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711188-001A	A-1,2,3,4- 0.5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 9:32	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
			SW8270C (Low Level SVOCs) with GPC Cleanup			<input type="checkbox"/>		5 days	<input checked="" type="checkbox"/>		
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
			SW8260B (VOCs, Scan SIM)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
1711188-002A	A-1,2,3,4-3.0	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 9:32	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
			SW8270C (Low Level SVOCs) with GPC Cleanup			<input type="checkbox"/>		5 days	<input checked="" type="checkbox"/>		
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
			SW8260B (VOCs, Scan SIM)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
1711188-003A	B-1,2,3,4-0.5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 9:48	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
			SW8270C (Low Level SVOCs) with GPC Cleanup			<input type="checkbox"/>		5 days	<input checked="" type="checkbox"/>		
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		

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

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



### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A; 1226-1228 E 17th St.

**Work Order:** 1711188

**Client Contact:** Peter Littman

**QC Level:**

**Contact's Email:** plittman@eis1.net

**Comments:**


**Date Logged:** 11/6/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711188-003A	B-1,2,3,4-0.5	Soil	SW8260B (VOCs, Scan SIM)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 9:48	5 days		<input type="checkbox"/>	
1711188-004A	B-1,2,3,4-3.0	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 9:48	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8270C (Low Level SVOCs) with GPC Cleanup			<input type="checkbox"/>		5 days		<input checked="" type="checkbox"/>	
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs, Scan SIM)			<input type="checkbox"/>	5 days		<input type="checkbox"/>		

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

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

 <b>McCAMPBELL ANALYTICAL, INC.</b> 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701 Telephone: (877) 252-9262 / Fax: (925) 252-9269 www.mccampbell.com      main@mccampbell.com					<b>CHAIN OF CUSTODY RECORD</b>																
					Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD <input checked="" type="checkbox"/>		Quote #								
J-Flag / MDL		ESL <input checked="" type="checkbox"/>		Cleanup Approved		Bottle Order #															
Delivery Format: PDF <input checked="" type="checkbox"/>		GeoTracker EDF <input checked="" type="checkbox"/>		EDD		Write On (DW)		EQuIS													
Report To: <u>Peter Littman</u> Bill To: <u>Same</u>					<b>Analysis Requested</b>																
Company: <u>Environmental Investigation Svcs (EIS)</u>					TPH as Gas (8021/8015) MTBE TPH as Diesel (8015) + Motor Oil Without Silica Gel TPH as Diesel (8015) + Motor Oil With Silica Gel Total Oil & Grease (1664 / 9071) Without Silica Gel Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel Total Petroleum Hydrocarbons (418.1) With Silica Gel EPA 505/608 / 8081 (Cl Pesticides) EPA 608 / 8082 PCB's ; Aroclors only EPA 524.2 / 624 / 8260 (VOCs) EPA 525.2 / 625 / 8270 (SVOCs) EPA 8270 SIM/ 8310 (PAHs / PNAAs) CAM 17 Metals (200.8 / 6020) Metals (200.8 / 6020) <u>Lead only</u>	Baylands Requirements		Lab to filter sample for dissolved metals analysis													
Email: <u>plittman@eis1.net</u>																					
Alt Email: <u>pmclaughlin@eis1.net</u> Tele: <u>(408) 402-9800</u>																					
Project Name:      Project #: <u>1652-2A</u>																					
Project Location: <u>1226-1228 E. 17th St PO # Oakland, CA</u>																					
Sampler Signature: <u>Philip McLaughlin</u>																					
SAMPLE ID Location / Field Point	Sampling		#Containers	Matrix	Preservative	TPH as Gas (8021/8015) MTBE	TPH as Diesel (8015) + Motor Oil Without Silica Gel	TPH as Diesel (8015) + Motor Oil With Silica Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA 505/608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM/ 8310 (PAHs / PNAAs)	CAM 17 Metals (200.8 / 6020)	Metals (200.8 / 6020) <u>Lead only</u>	Baylands Requirements	Lab to filter sample for dissolved metals analysis	
	Date	Time																			
<u>A-1-0.5</u>	<u>11/6/17</u>	<u>0918</u>	<u>1</u>	<u>Soil</u>	<u>ice</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>A-2-0.5</u>		<u>0923</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>A-3-0.5</u>		<u>0928</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>A-4-0.5</u>		<u>0932</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>A-1-3.0</u>		<u>0918</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>A-2-3.0</u>		<u>0923</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>A-3-3.0</u>		<u>0928</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>A-4-3.0</u>		<u>0932</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>B-1-0.5</u>		<u>0938</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>B-2-0.5</u>		<u>0943</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.																					
* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.																					
Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.																					
Relinquished By / Company Name					Date		Time		Received By / Company Name					Date		Time					
<u>Philip McLaughlin</u>					<u>11/6/17</u>		<u>1306</u>		<u>PTJ</u>					<u>11/6/17</u>		<u>1306</u>					
<u>PTJ</u>					<u>11/6/17</u>		<u>1401</u>		<u>[Signature]</u>					<u>11/6/17</u>		<u>1401</u>					

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

Temp 10.3 °C      Initials \_\_\_\_\_







Sample Receipt Checklist

Client Name: Environmental Investigation Services, Inc.
Project Name: 1652-2A; 1226-1228 E 17th St.
WorkOrder No: 1711188 Matrix: Soil
Carrier: Patrick Johnson (MAI Courier)

Date and Time Received 11/6/2017 14:01
Date Logged: 11/6/2017
Received by: Kena Ponce
Logged by: Kena Ponce

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes [checked] No [ ] NA [ ]
Sample/Temp Blank temperature Temp: 6.3°C NA [ ]
Water - VOA vials have zero headspace / no bubbles? Yes [ ] No [ ] NA [checked]
Sample labels checked for correct preservation? Yes [checked] No [ ]
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes [ ] No [ ] NA [checked]
Samples Received on Ice? Yes [checked] No [ ]

(Ice Type: WET ICE )

UCMR Samples:

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

Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1711261

**Report Created for:** Environmental Investigation Services, Inc.

15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032

**Project Contact:** Peter Littman

**Project P.O.:**

**Project Name:** 1652-2A; 1226-1228 E. 7th St.

**Project Received:** 11/07/2017

Analytical Report reviewed & approved for release on 11/16/2017 by:

Christine Askari  
Project Manager

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







## Glossary of Terms & Qualifier Definitions

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A; 1226-1228 E. 7th St.  
**WorkOrder:** 1711261

### Glossary Abbreviation

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



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

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A; 1226-1228 E. 7th St.  
**WorkOrder:** 1711261

### **Analytical Qualifiers**

e2 Diesel range compounds are significant; no recognizable pattern  
e7 Oil range compounds are significant

### **Quality Control Qualifiers**

F1 MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validates the prep batch.  
F2 LCS/LCSD recovery and/or RPD is out of acceptance criteria.



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-0.5	1711261-001A	Soil	11/06/2017 11:23	GC38 11131754.D	148336

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	11/14/2017 22:06
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/14/2017 22:06
Benzene	ND	0.0050	1	11/14/2017 22:06
Bromobenzene	ND	0.0050	1	11/14/2017 22:06
Bromochloromethane	ND	0.0050	1	11/14/2017 22:06
Bromodichloromethane	ND	0.0025	1	11/14/2017 22:06
Bromoform	ND	0.0050	1	11/14/2017 22:06
Bromomethane	ND	0.0050	1	11/14/2017 22:06
2-Butanone (MEK)	ND	0.020	1	11/14/2017 22:06
t-Butyl alcohol (TBA)	ND	0.050	1	11/14/2017 22:06
n-Butyl benzene	ND	0.0050	1	11/14/2017 22:06
sec-Butyl benzene	ND	0.0050	1	11/14/2017 22:06
tert-Butyl benzene	ND	0.0050	1	11/14/2017 22:06
Carbon Disulfide	ND	0.0050	1	11/14/2017 22:06
Carbon Tetrachloride	ND	0.0050	1	11/14/2017 22:06
Chlorobenzene	ND	0.0050	1	11/14/2017 22:06
Chloroethane	ND	0.0050	1	11/14/2017 22:06
Chloroform	ND	0.0050	1	11/14/2017 22:06
Chloromethane	ND	0.0050	1	11/14/2017 22:06
2-Chlorotoluene	ND	0.0050	1	11/14/2017 22:06
4-Chlorotoluene	ND	0.0050	1	11/14/2017 22:06
Dibromochloromethane	ND	0.0050	1	11/14/2017 22:06
1,2-Dibromo-3-chloropropane	ND	0.0025	1	11/14/2017 22:06
1,2-Dibromoethane (EDB)	ND	0.0010	1	11/14/2017 22:06
Dibromomethane	ND	0.0050	1	11/14/2017 22:06
1,2-Dichlorobenzene	ND	0.0050	1	11/14/2017 22:06
1,3-Dichlorobenzene	ND	0.0050	1	11/14/2017 22:06
1,4-Dichlorobenzene	ND	0.0050	1	11/14/2017 22:06
Dichlorodifluoromethane	ND	0.0050	1	11/14/2017 22:06
1,1-Dichloroethane	ND	0.0050	1	11/14/2017 22:06
1,2-Dichloroethane (1,2-DCA)	ND	0.0025	1	11/14/2017 22:06
1,1-Dichloroethene	ND	0.0025	1	11/14/2017 22:06
cis-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 22:06
trans-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 22:06
1,2-Dichloropropane	ND	0.0050	1	11/14/2017 22:06
1,3-Dichloropropane	ND	0.0050	1	11/14/2017 22:06
2,2-Dichloropropane	ND	0.0050	1	11/14/2017 22:06

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-0.5	1711261-001A	Soil	11/06/2017 11:23	GC38 11131754.D	148336

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/14/2017 22:06
cis-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 22:06
trans-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 22:06
Diisopropyl ether (DIPE)	ND	0.0050	1	11/14/2017 22:06
Ethylbenzene	ND	0.0050	1	11/14/2017 22:06
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/14/2017 22:06
Freon 113	ND	0.0050	1	11/14/2017 22:06
Hexachlorobutadiene	ND	0.0050	1	11/14/2017 22:06
Hexachloroethane	ND	0.0050	1	11/14/2017 22:06
2-Hexanone	ND	0.0050	1	11/14/2017 22:06
Isopropylbenzene	ND	0.0050	1	11/14/2017 22:06
4-Isopropyl toluene	ND	0.0050	1	11/14/2017 22:06
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/14/2017 22:06
Methylene chloride	ND	0.0050	1	11/14/2017 22:06
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/14/2017 22:06
Naphthalene	ND	0.0050	1	11/14/2017 22:06
n-Propyl benzene	ND	0.0050	1	11/14/2017 22:06
Styrene	ND	0.0050	1	11/14/2017 22:06
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/14/2017 22:06
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/14/2017 22:06
Tetrachloroethene	ND	0.00025	1	11/14/2017 22:06
Toluene	ND	0.0050	1	11/14/2017 22:06
1,2,3-Trichlorobenzene	ND	0.0050	1	11/14/2017 22:06
1,2,4-Trichlorobenzene	ND	0.0050	1	11/14/2017 22:06
1,1,1-Trichloroethane	ND	0.0050	1	11/14/2017 22:06
1,1,2-Trichloroethane	ND	0.0050	1	11/14/2017 22:06
Trichloroethene	ND	0.0050	1	11/14/2017 22:06
Trichlorofluoromethane	ND	0.0050	1	11/14/2017 22:06
1,2,3-Trichloropropane	ND	0.00025	1	11/14/2017 22:06
1,2,4-Trimethylbenzene	ND	0.0050	1	11/14/2017 22:06
1,3,5-Trimethylbenzene	ND	0.0050	1	11/14/2017 22:06
Vinyl Chloride	ND	0.00025	1	11/14/2017 22:06
Xylenes, Total	ND	0.0050	1	11/14/2017 22:06

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-0.5	1711261-001A	Soil	11/06/2017 11:23	GC38 11131754.D	148336

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	114		82-135	11/14/2017 22:06
Benzene-d6	99		55-122	11/14/2017 22:06
Ethylbenzene-d10	109		58-141	11/14/2017 22:06
1,2-DCB-d4	81		51-107	11/14/2017 22:06
Dibromofluoromethane	105		82-136	11/14/2017 22:06
Toluene-d8	128		92-139	11/14/2017 22:06

Analyst(s): HK



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-3.0	1711261-002A	Soil	11/06/2017 11:23	GC38 11131755.D	148336

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	11/14/2017 22:43
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/14/2017 22:43
Benzene	ND	0.0050	1	11/14/2017 22:43
Bromobenzene	ND	0.0050	1	11/14/2017 22:43
Bromochloromethane	ND	0.0050	1	11/14/2017 22:43
Bromodichloromethane	ND	0.0025	1	11/14/2017 22:43
Bromoform	ND	0.0050	1	11/14/2017 22:43
Bromomethane	ND	0.0050	1	11/14/2017 22:43
2-Butanone (MEK)	ND	0.020	1	11/14/2017 22:43
t-Butyl alcohol (TBA)	ND	0.050	1	11/14/2017 22:43
n-Butyl benzene	ND	0.0050	1	11/14/2017 22:43
sec-Butyl benzene	ND	0.0050	1	11/14/2017 22:43
tert-Butyl benzene	ND	0.0050	1	11/14/2017 22:43
Carbon Disulfide	ND	0.0050	1	11/14/2017 22:43
Carbon Tetrachloride	ND	0.0050	1	11/14/2017 22:43
Chlorobenzene	ND	0.0050	1	11/14/2017 22:43
Chloroethane	ND	0.0050	1	11/14/2017 22:43
Chloroform	ND	0.0050	1	11/14/2017 22:43
Chloromethane	ND	0.0050	1	11/14/2017 22:43
2-Chlorotoluene	ND	0.0050	1	11/14/2017 22:43
4-Chlorotoluene	ND	0.0050	1	11/14/2017 22:43
Dibromochloromethane	ND	0.0050	1	11/14/2017 22:43
1,2-Dibromo-3-chloropropane	ND	0.0025	1	11/14/2017 22:43
1,2-Dibromoethane (EDB)	ND	0.0010	1	11/14/2017 22:43
Dibromomethane	ND	0.0050	1	11/14/2017 22:43
1,2-Dichlorobenzene	ND	0.0050	1	11/14/2017 22:43
1,3-Dichlorobenzene	ND	0.0050	1	11/14/2017 22:43
1,4-Dichlorobenzene	ND	0.0050	1	11/14/2017 22:43
Dichlorodifluoromethane	ND	0.0050	1	11/14/2017 22:43
1,1-Dichloroethane	ND	0.0050	1	11/14/2017 22:43
1,2-Dichloroethane (1,2-DCA)	ND	0.0025	1	11/14/2017 22:43
1,1-Dichloroethene	ND	0.0025	1	11/14/2017 22:43
cis-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 22:43
trans-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 22:43
1,2-Dichloropropane	ND	0.0050	1	11/14/2017 22:43
1,3-Dichloropropane	ND	0.0050	1	11/14/2017 22:43
2,2-Dichloropropane	ND	0.0050	1	11/14/2017 22:43

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-3.0	1711261-002A	Soil	11/06/2017 11:23	GC38 11131755.D	148336

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/14/2017 22:43
cis-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 22:43
trans-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 22:43
Diisopropyl ether (DIPE)	ND	0.0050	1	11/14/2017 22:43
Ethylbenzene	ND	0.0050	1	11/14/2017 22:43
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/14/2017 22:43
Freon 113	ND	0.0050	1	11/14/2017 22:43
Hexachlorobutadiene	ND	0.0050	1	11/14/2017 22:43
Hexachloroethane	ND	0.0050	1	11/14/2017 22:43
2-Hexanone	ND	0.0050	1	11/14/2017 22:43
Isopropylbenzene	ND	0.0050	1	11/14/2017 22:43
4-Isopropyl toluene	ND	0.0050	1	11/14/2017 22:43
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/14/2017 22:43
Methylene chloride	ND	0.0050	1	11/14/2017 22:43
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/14/2017 22:43
Naphthalene	ND	0.0050	1	11/14/2017 22:43
n-Propyl benzene	ND	0.0050	1	11/14/2017 22:43
Styrene	ND	0.0050	1	11/14/2017 22:43
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/14/2017 22:43
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/14/2017 22:43
Tetrachloroethene	ND	0.00025	1	11/14/2017 22:43
Toluene	ND	0.0050	1	11/14/2017 22:43
1,2,3-Trichlorobenzene	ND	0.0050	1	11/14/2017 22:43
1,2,4-Trichlorobenzene	ND	0.0050	1	11/14/2017 22:43
1,1,1-Trichloroethane	ND	0.0050	1	11/14/2017 22:43
1,1,2-Trichloroethane	ND	0.0050	1	11/14/2017 22:43
Trichloroethene	ND	0.0050	1	11/14/2017 22:43
Trichlorofluoromethane	ND	0.0050	1	11/14/2017 22:43
1,2,3-Trichloropropane	ND	0.00025	1	11/14/2017 22:43
1,2,4-Trimethylbenzene	ND	0.0050	1	11/14/2017 22:43
1,3,5-Trimethylbenzene	ND	0.0050	1	11/14/2017 22:43
Vinyl Chloride	ND	0.00025	1	11/14/2017 22:43
Xylenes, Total	ND	0.0050	1	11/14/2017 22:43

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-3.0	1711261-002A	Soil	11/06/2017 11:23	GC38 11131755.D	148336

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	114		82-135	11/14/2017 22:43
Benzene-d6	109		55-122	11/14/2017 22:43
Ethylbenzene-d10	110		58-141	11/14/2017 22:43
1,2-DCB-d4	83		51-107	11/14/2017 22:43
Dibromofluoromethane	121		82-136	11/14/2017 22:43
Toluene-d8	127		92-139	11/14/2017 22:43

Analyst(s): HK





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-0.5	1711261-003A	Soil	11/06/2017 13:18	GC38 11131756.D	148336
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	0.10	1	11/14/2017 23:21	
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/14/2017 23:21	
Benzene	ND	0.0050	1	11/14/2017 23:21	
Bromobenzene	ND	0.0050	1	11/14/2017 23:21	
Bromochloromethane	ND	0.0050	1	11/14/2017 23:21	
Bromodichloromethane	ND	0.0025	1	11/14/2017 23:21	
Bromoform	ND	0.0050	1	11/14/2017 23:21	
Bromomethane	ND	0.0050	1	11/14/2017 23:21	
2-Butanone (MEK)	ND	0.020	1	11/14/2017 23:21	
t-Butyl alcohol (TBA)	ND	0.050	1	11/14/2017 23:21	
n-Butyl benzene	ND	0.0050	1	11/14/2017 23:21	
sec-Butyl benzene	ND	0.0050	1	11/14/2017 23:21	
tert-Butyl benzene	ND	0.0050	1	11/14/2017 23:21	
Carbon Disulfide	ND	0.0050	1	11/14/2017 23:21	
Carbon Tetrachloride	ND	0.0050	1	11/14/2017 23:21	
Chlorobenzene	ND	0.0050	1	11/14/2017 23:21	
Chloroethane	ND	0.0050	1	11/14/2017 23:21	
Chloroform	ND	0.0050	1	11/14/2017 23:21	
Chloromethane	ND	0.0050	1	11/14/2017 23:21	
2-Chlorotoluene	ND	0.0050	1	11/14/2017 23:21	
4-Chlorotoluene	ND	0.0050	1	11/14/2017 23:21	
Dibromochloromethane	ND	0.0050	1	11/14/2017 23:21	
1,2-Dibromo-3-chloropropane	ND	0.0025	1	11/14/2017 23:21	
1,2-Dibromoethane (EDB)	ND	0.0010	1	11/14/2017 23:21	
Dibromomethane	ND	0.0050	1	11/14/2017 23:21	
1,2-Dichlorobenzene	ND	0.0050	1	11/14/2017 23:21	
1,3-Dichlorobenzene	ND	0.0050	1	11/14/2017 23:21	
1,4-Dichlorobenzene	ND	0.0050	1	11/14/2017 23:21	
Dichlorodifluoromethane	ND	0.0050	1	11/14/2017 23:21	
1,1-Dichloroethane	ND	0.0050	1	11/14/2017 23:21	
1,2-Dichloroethane (1,2-DCA)	ND	0.0025	1	11/14/2017 23:21	
1,1-Dichloroethene	ND	0.0025	1	11/14/2017 23:21	
cis-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 23:21	
trans-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 23:21	
1,2-Dichloropropane	ND	0.0050	1	11/14/2017 23:21	
1,3-Dichloropropane	ND	0.0050	1	11/14/2017 23:21	
2,2-Dichloropropane	ND	0.0050	1	11/14/2017 23:21	

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-0.5	1711261-003A	Soil	11/06/2017 13:18	GC38 11131756.D	148336

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/14/2017 23:21
cis-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 23:21
trans-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 23:21
Diisopropyl ether (DIPE)	ND	0.0050	1	11/14/2017 23:21
Ethylbenzene	ND	0.0050	1	11/14/2017 23:21
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/14/2017 23:21
Freon 113	ND	0.0050	1	11/14/2017 23:21
Hexachlorobutadiene	ND	0.0050	1	11/14/2017 23:21
Hexachloroethane	ND	0.0050	1	11/14/2017 23:21
2-Hexanone	ND	0.0050	1	11/14/2017 23:21
Isopropylbenzene	ND	0.0050	1	11/14/2017 23:21
4-Isopropyl toluene	ND	0.0050	1	11/14/2017 23:21
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/14/2017 23:21
Methylene chloride	ND	0.0050	1	11/14/2017 23:21
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/14/2017 23:21
Naphthalene	ND	0.0050	1	11/14/2017 23:21
n-Propyl benzene	ND	0.0050	1	11/14/2017 23:21
Styrene	ND	0.0050	1	11/14/2017 23:21
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/14/2017 23:21
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/14/2017 23:21
Tetrachloroethene	ND	0.00025	1	11/14/2017 23:21
Toluene	ND	0.0050	1	11/14/2017 23:21
1,2,3-Trichlorobenzene	ND	0.0050	1	11/14/2017 23:21
1,2,4-Trichlorobenzene	ND	0.0050	1	11/14/2017 23:21
1,1,1-Trichloroethane	ND	0.0050	1	11/14/2017 23:21
1,1,2-Trichloroethane	ND	0.0050	1	11/14/2017 23:21
Trichloroethene	ND	0.0050	1	11/14/2017 23:21
Trichlorofluoromethane	ND	0.0050	1	11/14/2017 23:21
1,2,3-Trichloropropane	ND	0.00025	1	11/14/2017 23:21
1,2,4-Trimethylbenzene	ND	0.0050	1	11/14/2017 23:21
1,3,5-Trimethylbenzene	ND	0.0050	1	11/14/2017 23:21
Vinyl Chloride	ND	0.00025	1	11/14/2017 23:21
Xylenes, Total	ND	0.0050	1	11/14/2017 23:21

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# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-0.5	1711261-003A	Soil	11/06/2017 13:18	GC38 11131756.D	148336

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	111		82-135	11/14/2017 23:21
Benzene-d6	98		55-122	11/14/2017 23:21
Ethylbenzene-d10	107		58-141	11/14/2017 23:21
1,2-DCB-d4	80		51-107	11/14/2017 23:21
Dibromofluoromethane	106		82-136	11/14/2017 23:21
Toluene-d8	127		92-139	11/14/2017 23:21

Analyst(s): HK



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-3.0	1711261-004A	Soil	11/06/2017 13:18	GC38 11131757.D	148336

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	11/14/2017 23:58
tert-Amyl methyl ether (TAME)	ND	0.0050	1	11/14/2017 23:58
Benzene	ND	0.0050	1	11/14/2017 23:58
Bromobenzene	ND	0.0050	1	11/14/2017 23:58
Bromochloromethane	ND	0.0050	1	11/14/2017 23:58
Bromodichloromethane	ND	0.0025	1	11/14/2017 23:58
Bromoform	ND	0.0050	1	11/14/2017 23:58
Bromomethane	ND	0.0050	1	11/14/2017 23:58
2-Butanone (MEK)	ND	0.020	1	11/14/2017 23:58
t-Butyl alcohol (TBA)	ND	0.050	1	11/14/2017 23:58
n-Butyl benzene	ND	0.0050	1	11/14/2017 23:58
sec-Butyl benzene	ND	0.0050	1	11/14/2017 23:58
tert-Butyl benzene	ND	0.0050	1	11/14/2017 23:58
Carbon Disulfide	ND	0.0050	1	11/14/2017 23:58
Carbon Tetrachloride	ND	0.0050	1	11/14/2017 23:58
Chlorobenzene	ND	0.0050	1	11/14/2017 23:58
Chloroethane	ND	0.0050	1	11/14/2017 23:58
Chloroform	ND	0.0050	1	11/14/2017 23:58
Chloromethane	ND	0.0050	1	11/14/2017 23:58
2-Chlorotoluene	ND	0.0050	1	11/14/2017 23:58
4-Chlorotoluene	ND	0.0050	1	11/14/2017 23:58
Dibromochloromethane	ND	0.0050	1	11/14/2017 23:58
1,2-Dibromo-3-chloropropane	ND	0.0025	1	11/14/2017 23:58
1,2-Dibromoethane (EDB)	ND	0.0010	1	11/14/2017 23:58
Dibromomethane	ND	0.0050	1	11/14/2017 23:58
1,2-Dichlorobenzene	ND	0.0050	1	11/14/2017 23:58
1,3-Dichlorobenzene	ND	0.0050	1	11/14/2017 23:58
1,4-Dichlorobenzene	ND	0.0050	1	11/14/2017 23:58
Dichlorodifluoromethane	ND	0.0050	1	11/14/2017 23:58
1,1-Dichloroethane	ND	0.0050	1	11/14/2017 23:58
1,2-Dichloroethane (1,2-DCA)	ND	0.0025	1	11/14/2017 23:58
1,1-Dichloroethene	ND	0.0025	1	11/14/2017 23:58
cis-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 23:58
trans-1,2-Dichloroethene	ND	0.0050	1	11/14/2017 23:58
1,2-Dichloropropane	ND	0.0050	1	11/14/2017 23:58
1,3-Dichloropropane	ND	0.0050	1	11/14/2017 23:58
2,2-Dichloropropane	ND	0.0050	1	11/14/2017 23:58

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-3.0	1711261-004A	Soil	11/06/2017 13:18	GC38 11131757.D	148336

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	11/14/2017 23:58
cis-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 23:58
trans-1,3-Dichloropropene	ND	0.0050	1	11/14/2017 23:58
Diisopropyl ether (DIPE)	ND	0.0050	1	11/14/2017 23:58
Ethylbenzene	ND	0.0050	1	11/14/2017 23:58
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	11/14/2017 23:58
Freon 113	ND	0.0050	1	11/14/2017 23:58
Hexachlorobutadiene	ND	0.0050	1	11/14/2017 23:58
Hexachloroethane	ND	0.0050	1	11/14/2017 23:58
2-Hexanone	ND	0.0050	1	11/14/2017 23:58
Isopropylbenzene	ND	0.0050	1	11/14/2017 23:58
4-Isopropyl toluene	ND	0.0050	1	11/14/2017 23:58
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	11/14/2017 23:58
Methylene chloride	ND	0.0050	1	11/14/2017 23:58
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	11/14/2017 23:58
Naphthalene	ND	0.0050	1	11/14/2017 23:58
n-Propyl benzene	ND	0.0050	1	11/14/2017 23:58
Styrene	ND	0.0050	1	11/14/2017 23:58
1,1,1,2-Tetrachloroethane	ND	0.0050	1	11/14/2017 23:58
1,1,2,2-Tetrachloroethane	ND	0.00025	1	11/14/2017 23:58
Tetrachloroethene	ND	0.00025	1	11/14/2017 23:58
Toluene	ND	0.0050	1	11/14/2017 23:58
1,2,3-Trichlorobenzene	ND	0.0050	1	11/14/2017 23:58
1,2,4-Trichlorobenzene	ND	0.0050	1	11/14/2017 23:58
1,1,1-Trichloroethane	ND	0.0050	1	11/14/2017 23:58
1,1,2-Trichloroethane	ND	0.0050	1	11/14/2017 23:58
Trichloroethene	ND	0.0050	1	11/14/2017 23:58
Trichlorofluoromethane	ND	0.0050	1	11/14/2017 23:58
1,2,3-Trichloropropane	ND	0.00025	1	11/14/2017 23:58
1,2,4-Trimethylbenzene	ND	0.0050	1	11/14/2017 23:58
1,3,5-Trimethylbenzene	ND	0.0050	1	11/14/2017 23:58
Vinyl Chloride	ND	0.00025	1	11/14/2017 23:58
Xylenes, Total	ND	0.0050	1	11/14/2017 23:58

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-3.0	1711261-004A	Soil	11/06/2017 13:18	GC38 11131757.D	148336

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
4-BFB	115		82-135	11/14/2017 23:58
Benzene-d6	99		55-122	11/14/2017 23:58
Ethylbenzene-d10	109		58-141	11/14/2017 23:58
1,2-DCB-d4	83		51-107	11/14/2017 23:58
Dibromofluoromethane	104		82-136	11/14/2017 23:58
Toluene-d8	128		92-139	11/14/2017 23:58

Analyst(s): HK



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/8/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-0.5	1711261-001A	Soil	11/06/2017 11:23	GC17 11131724.D	148349

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	11/13/2017 20:04
Acenaphthylene	ND	0.010	1	11/13/2017 20:04
Anthracene	ND	0.010	1	11/13/2017 20:04
Benzo (a) anthracene	<b>0.038</b>	0.010	1	11/13/2017 20:04
Benzo (a) pyrene	<b>0.030</b>	0.010	1	11/13/2017 20:04
Benzo (b) fluoranthene	<b>0.035</b>	0.010	1	11/13/2017 20:04
Benzo (g,h,i) perylene	<b>0.021</b>	0.010	1	11/13/2017 20:04
Benzo (k) fluoranthene	<b>0.017</b>	0.010	1	11/13/2017 20:04
Chrysene	<b>0.034</b>	0.010	1	11/13/2017 20:04
Dibenzo (a,h) anthracene	ND	0.010	1	11/13/2017 20:04
Fluoranthene	<b>0.041</b>	0.010	1	11/13/2017 20:04
Fluorene	ND	0.010	1	11/13/2017 20:04
Indeno (1,2,3-cd) pyrene	<b>0.013</b>	0.010	1	11/13/2017 20:04
1-Methylnaphthalene	ND	0.010	1	11/13/2017 20:04
2-Methylnaphthalene	ND	0.010	1	11/13/2017 20:04
Naphthalene	ND	0.010	1	11/13/2017 20:04
Phenanthrene	<b>0.011</b>	0.010	1	11/13/2017 20:04
Pyrene	<b>0.047</b>	0.010	1	11/13/2017 20:04

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	92	30-130	11/13/2017 20:04
2-Fluorobiphenyl	79	30-130	11/13/2017 20:04

**Analyst(s):** REB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/8/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-3.0	1711261-002A	Soil	11/06/2017 11:23	GC17 11131725.D	148349

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	11/13/2017 20:32
Acenaphthylene	ND	0.010	1	11/13/2017 20:32
Anthracene	ND	0.010	1	11/13/2017 20:32
Benzo (a) anthracene	ND	0.010	1	11/13/2017 20:32
Benzo (a) pyrene	ND	0.010	1	11/13/2017 20:32
Benzo (b) fluoranthene	ND	0.010	1	11/13/2017 20:32
Benzo (g,h,i) perylene	ND	0.010	1	11/13/2017 20:32
Benzo (k) fluoranthene	ND	0.010	1	11/13/2017 20:32
Chrysene	ND	0.010	1	11/13/2017 20:32
Dibenzo (a,h) anthracene	ND	0.010	1	11/13/2017 20:32
Fluoranthene	ND	0.010	1	11/13/2017 20:32
Fluorene	ND	0.010	1	11/13/2017 20:32
Indeno (1,2,3-cd) pyrene	ND	0.010	1	11/13/2017 20:32
1-Methylnaphthalene	ND	0.010	1	11/13/2017 20:32
2-Methylnaphthalene	ND	0.010	1	11/13/2017 20:32
Naphthalene	ND	0.010	1	11/13/2017 20:32
Phenanthrene	ND	0.010	1	11/13/2017 20:32
Pyrene	ND	0.010	1	11/13/2017 20:32
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	96	30-130		11/13/2017 20:32
2-Fluorobiphenyl	92	30-130		11/13/2017 20:32

**Analyst(s):** REB





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/8/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-0.5	1711261-003A	Soil	11/06/2017 13:18	GC17 11101739.D	148349

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	11/11/2017 03:51
Acenaphthylene	ND	0.010	1	11/11/2017 03:51
Anthracene	ND	0.010	1	11/11/2017 03:51
Benzo (a) anthracene	<b>0.023</b>	0.010	1	11/11/2017 03:51
Benzo (a) pyrene	<b>0.020</b>	0.010	1	11/11/2017 03:51
Benzo (b) fluoranthene	<b>0.019</b>	0.010	1	11/11/2017 03:51
Benzo (g,h,i) perylene	<b>0.016</b>	0.010	1	11/11/2017 03:51
Benzo (k) fluoranthene	ND	0.010	1	11/11/2017 03:51
Chrysene	<b>0.017</b>	0.010	1	11/11/2017 03:51
Dibenzo (a,h) anthracene	ND	0.010	1	11/11/2017 03:51
Fluoranthene	<b>0.020</b>	0.010	1	11/11/2017 03:51
Fluorene	ND	0.010	1	11/11/2017 03:51
Indeno (1,2,3-cd) pyrene	<b>0.010</b>	0.010	1	11/11/2017 03:51
1-Methylnaphthalene	ND	0.010	1	11/11/2017 03:51
2-Methylnaphthalene	ND	0.010	1	11/11/2017 03:51
Naphthalene	ND	0.010	1	11/11/2017 03:51
Phenanthrene	ND	0.010	1	11/11/2017 03:51
Pyrene	<b>0.024</b>	0.010	1	11/11/2017 03:51
Surrogates	REC (%)	Limits		
1-Fluoronaphthalene	77	30-130		11/11/2017 03:51
2-Fluorobiphenyl	72	30-130		11/11/2017 03:51

**Analyst(s):** REB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/8/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-3.0	1711261-004A	Soil	11/06/2017 13:18	GC17 11101740.D	148349

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.010	1	11/11/2017 04:18
Acenaphthylene	ND	0.010	1	11/11/2017 04:18
Anthracene	ND	0.010	1	11/11/2017 04:18
Benzo (a) anthracene	<b>0.013</b>	0.010	1	11/11/2017 04:18
Benzo (a) pyrene	<b>0.017</b>	0.010	1	11/11/2017 04:18
Benzo (b) fluoranthene	<b>0.012</b>	0.010	1	11/11/2017 04:18
Benzo (g,h,i) perylene	<b>0.014</b>	0.010	1	11/11/2017 04:18
Benzo (k) fluoranthene	ND	0.010	1	11/11/2017 04:18
Chrysene	ND	0.010	1	11/11/2017 04:18
Dibenzo (a,h) anthracene	ND	0.010	1	11/11/2017 04:18
Fluoranthene	ND	0.010	1	11/11/2017 04:18
Fluorene	ND	0.010	1	11/11/2017 04:18
Indeno (1,2,3-cd) pyrene	ND	0.010	1	11/11/2017 04:18
1-Methylnaphthalene	ND	0.010	1	11/11/2017 04:18
2-Methylnaphthalene	ND	0.010	1	11/11/2017 04:18
Naphthalene	ND	0.010	1	11/11/2017 04:18
Phenanthrene	ND	0.010	1	11/11/2017 04:18
Pyrene	ND	0.010	1	11/11/2017 04:18

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	77	30-130	11/11/2017 04:18
2-Fluorobiphenyl	73	30-130	11/11/2017 04:18

**Analyst(s):** REB



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-0.5	1711261-001A	Soil	11/06/2017 11:23	ICP-MS1 135SMPL.D	148329

Analytes	Result	RL	DF	Date Analyzed
Antimony	0.69	0.50	1	11/09/2017 00:58
Arsenic	7.1	0.50	1	11/09/2017 00:58
Barium	210	5.0	1	11/09/2017 00:58
Beryllium	ND	0.50	1	11/09/2017 00:58
Cadmium	0.43	0.25	1	11/09/2017 00:58
Chromium	43	0.50	1	11/09/2017 00:58
Cobalt	9.1	0.50	1	11/09/2017 00:58
Copper	22	0.50	1	11/09/2017 00:58
Lead	280	0.50	1	11/09/2017 00:58
Mercury	0.14	0.050	1	11/09/2017 00:58
Molybdenum	ND	0.50	1	11/09/2017 00:58
Nickel	39	0.50	1	11/09/2017 00:58
Selenium	ND	0.50	1	11/09/2017 00:58
Silver	ND	0.50	1	11/09/2017 00:58
Thallium	ND	0.50	1	11/09/2017 00:58
Vanadium	40	0.50	1	11/09/2017 00:58
Zinc	210	5.0	1	11/09/2017 00:58

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	104	70-130	11/09/2017 00:58

**Analyst(s):** JC



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-3.0	1711261-002A	Soil	11/06/2017 11:23	ICP-MS1 136SMPL.D	148329

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	11/09/2017 01:04
Arsenic	<b>4.3</b>	0.50	1	11/09/2017 01:04
Barium	<b>180</b>	5.0	1	11/09/2017 01:04
Beryllium	ND	0.50	1	11/09/2017 01:04
Cadmium	<b>0.31</b>	0.25	1	11/09/2017 01:04
Chromium	<b>43</b>	0.50	1	11/09/2017 01:04
Cobalt	<b>10</b>	0.50	1	11/09/2017 01:04
Copper	<b>16</b>	0.50	1	11/09/2017 01:04
Lead	<b>27</b>	0.50	1	11/09/2017 01:04
Mercury	ND	0.050	1	11/09/2017 01:04
Molybdenum	ND	0.50	1	11/09/2017 01:04
Nickel	<b>41</b>	0.50	1	11/09/2017 01:04
Selenium	ND	0.50	1	11/09/2017 01:04
Silver	ND	0.50	1	11/09/2017 01:04
Thallium	ND	0.50	1	11/09/2017 01:04
Vanadium	<b>39</b>	0.50	1	11/09/2017 01:04
Zinc	<b>47</b>	5.0	1	11/09/2017 01:04

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	104	70-130	11/09/2017 01:04

**Analyst(s):** JC



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

## CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-0.5	1711261-003A	Soil	11/06/2017 13:18	ICP-MS1 137SMPL.D	148329

Analytes	Result	RL	DF	Date Analyzed
Antimony	2.8	0.50	1	11/09/2017 01:10
Arsenic	4.4	0.50	1	11/09/2017 01:10
Barium	130	5.0	1	11/09/2017 01:10
Beryllium	ND	0.50	1	11/09/2017 01:10
Cadmium	ND	0.25	1	11/09/2017 01:10
Chromium	27	0.50	1	11/09/2017 01:10
Cobalt	8.4	0.50	1	11/09/2017 01:10
Copper	18	0.50	1	11/09/2017 01:10
Lead	84	0.50	1	11/09/2017 01:10
Mercury	0.089	0.050	1	11/09/2017 01:10
Molybdenum	ND	0.50	1	11/09/2017 01:10
Nickel	26	0.50	1	11/09/2017 01:10
Selenium	ND	0.50	1	11/09/2017 01:10
Silver	ND	0.50	1	11/09/2017 01:10
Thallium	ND	0.50	1	11/09/2017 01:10
Vanadium	26	0.50	1	11/09/2017 01:10
Zinc	87	5.0	1	11/09/2017 01:10

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	103	70-130	11/09/2017 01:10

Analyst(s): JC



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg

### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-3.0	1711261-004A	Soil	11/06/2017 13:18	ICP-MS1 134SMPL.D	148329

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	11/09/2017 00:52
Arsenic	<b>3.5</b>	0.50	1	11/09/2017 00:52
Barium	<b>140</b>	5.0	1	11/09/2017 00:52
Beryllium	ND	0.50	1	11/09/2017 00:52
Cadmium	ND	0.25	1	11/09/2017 00:52
Chromium	<b>33</b>	0.50	1	11/09/2017 00:52
Cobalt	<b>9.4</b>	0.50	1	11/09/2017 00:52
Copper	<b>12</b>	0.50	1	11/09/2017 00:52
Lead	<b>24</b>	0.50	1	11/09/2017 00:52
Mercury	<b>0.24</b>	0.050	1	11/09/2017 00:52
Molybdenum	ND	0.50	1	11/09/2017 00:52
Nickel	<b>29</b>	0.50	1	11/09/2017 00:52
Selenium	ND	0.50	1	11/09/2017 00:52
Silver	ND	0.50	1	11/09/2017 00:52
Thallium	ND	0.50	1	11/09/2017 00:52
Vanadium	<b>30</b>	0.50	1	11/09/2017 00:52
Zinc	<b>27</b>	5.0	1	11/09/2017 00:52

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	112	70-130	11/09/2017 00:52

**Analyst(s):** JC



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-0.5	1711261-001A	Soil	11/06/2017 11:23	GC7 11091710.D	148262

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/09/2017 14:13
MTBE	---	0.050	1	11/09/2017 14:13
Benzene	---	0.0050	1	11/09/2017 14:13
Toluene	---	0.0050	1	11/09/2017 14:13
Ethylbenzene	---	0.0050	1	11/09/2017 14:13
Xylenes	---	0.015	1	11/09/2017 14:13

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	98	62-126	11/09/2017 14:13

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-3.0	1711261-002A	Soil	11/06/2017 11:23	GC7 11101754.D	148262

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/11/2017 13:53
MTBE	---	0.050	1	11/11/2017 13:53
Benzene	---	0.0050	1	11/11/2017 13:53
Toluene	---	0.0050	1	11/11/2017 13:53
Ethylbenzene	---	0.0050	1	11/11/2017 13:53
Xylenes	---	0.015	1	11/11/2017 13:53

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	90	62-126	11/11/2017 13:53

Analyst(s): IA



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-0.5	1711261-003A	Soil	11/06/2017 13:18	GC19 11101741.D	148262

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/11/2017 09:20
MTBE	---	0.050	1	11/11/2017 09:20
Benzene	---	0.0050	1	11/11/2017 09:20
Toluene	---	0.0050	1	11/11/2017 09:20
Ethylbenzene	---	0.0050	1	11/11/2017 09:20
Xylenes	---	0.015	1	11/11/2017 09:20
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	94	62-126		11/11/2017 09:20

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-3.0	1711261-004A	Soil	11/06/2017 13:18	GC7 11091738.D	148262

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	1.0	1	11/10/2017 04:13
MTBE	---	0.050	1	11/10/2017 04:13
Benzene	---	0.0050	1	11/10/2017 04:13
Toluene	---	0.0050	1	11/10/2017 04:13
Ethylbenzene	---	0.0050	1	11/10/2017 04:13
Xylenes	---	0.015	1	11/10/2017 04:13
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	88	62-126		11/10/2017 04:13

Analyst(s): IA





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17-11/14/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3550B/3630C  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-0.5	1711261-001A	Soil	11/06/2017 11:23	GC6B 11101731.D	148328

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.5	1.0	1	11/11/2017 03:30
TPH-Motor Oil (C18-C36)	14	5.0	1	11/11/2017 03:30

Surrogates	REC (%)	Limits	Date Analyzed
C9	98	78-126	11/11/2017 03:30

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
C-1,2,3,4-3.0	1711261-002A	Soil	11/06/2017 11:23	GC6B 11101735.D	148328

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	11/11/2017 04:48
TPH-Motor Oil (C18-C36)	ND	5.0	1	11/11/2017 04:48

Surrogates	REC (%)	Limits	Date Analyzed
C9	99	78-126	11/11/2017 04:48

**Analyst(s):** TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-0.5	1711261-003A	Soil	11/06/2017 13:18	GC39B 11141759.D	148678

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	11/15/2017 07:00
TPH-Motor Oil (C18-C36)	6.7	5.0	1	11/15/2017 07:00

Surrogates	REC (%)	Limits	Date Analyzed
C9	97	78-126	11/15/2017 07:00

**Analyst(s):** TK **Analytical Comments:** e7

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/7/17-11/14/17  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**Extraction Method:** SW3550B/3630C  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
D-1,2,3,4-3.0	1711261-004A	Soil	11/06/2017 13:18	GC6B 11101749.D	148328

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND	1.0	1	11/11/2017 09:19
TPH-Motor Oil (C18-C36)	ND	5.0	1	11/11/2017 09:19

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	99	78-126	11/11/2017 09:19

Analyst(s): TK



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148336  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148336  
 1711261-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	0.180	0.10	0.20	-	90	48-156
tert-Amyl methyl ether (TAME)	ND	0.00758	0.0050	0.010	-	76	56-115
Benzene	ND	0.00839	0.0050	0.010	-	84	63-131
Bromobenzene	ND	0.00906	0.0050	0.010	-	91	66-127
Bromochloromethane	ND	0.00830	0.0050	0.010	-	83	64-124
Bromodichloromethane	ND	0.00830	0.00025	0.010	-	83	64-120
Bromoform	ND	0.00684	0.0050	0.010	-	68	48-92
Bromomethane	ND	0.0102	0.0050	0.010	-	102	25-163
2-Butanone (MEK)	ND	0.0299	0.020	0.040	-	75	51-133
t-Butyl alcohol (TBA)	ND	ND	0.050	0.20	-	15, F2	52-129
n-Butyl benzene	ND	0.0106	0.0050	0.010	-	106	83-200
sec-Butyl benzene	ND	0.0112	0.0050	0.010	-	112	81-199
tert-Butyl benzene	ND	0.0109	0.0050	0.010	-	109	79-178
Carbon Disulfide	ND	0.00776	0.0050	0.010	-	78	64-136
Carbon Tetrachloride	ND	0.00846	0.0050	0.010	-	85	66-140
Chlorobenzene	ND	0.00857	0.0050	0.010	-	86	73-116
Chloroethane	ND	0.00859	0.0050	0.050	-	17, F2	35-147
Chloroform	ND	0.00908	0.0050	0.010	-	91	65-130
Chloromethane	ND	0.00914	0.0050	0.010	-	91	30-137
2-Chlorotoluene	ND	0.00988	0.0050	0.010	-	99	75-152
4-Chlorotoluene	ND	0.00992	0.0050	0.010	-	99	71-148
Dibromochloromethane	ND	0.00759	0.0050	0.010	-	76	61-106
1,2-Dibromo-3-chloropropane	ND	0.00271	0.00025	0.0040	-	68	36-120
1,2-Dibromoethane (EDB)	ND	0.00813	0.00010	0.010	-	81	67-118
Dibromomethane	ND	0.00806	0.0050	0.010	-	81	61-116
1,2-Dichlorobenzene	ND	0.00770	0.0050	0.010	-	77	59-106
1,3-Dichlorobenzene	ND	0.00896	0.0050	0.010	-	90	75-129
1,4-Dichlorobenzene	ND	0.00896	0.0050	0.010	-	90	66-127
Dichlorodifluoromethane	ND	ND	0.0050	0.010	-	40	13-74
1,1-Dichloroethane	ND	0.00895	0.0050	0.010	-	90	65-134
1,2-Dichloroethane (1,2-DCA)	ND	0.00809	0.00025	0.010	-	81	57-131
1,1-Dichloroethene	ND	0.00932	0.00025	0.010	-	93	62-127
cis-1,2-Dichloroethene	ND	0.00885	0.0050	0.010	-	89	66-130
trans-1,2-Dichloroethene	ND	0.00879	0.0050	0.010	-	88	60-131
1,2-Dichloropropane	ND	0.00874	0.0050	0.010	-	87	63-127
1,3-Dichloropropane	ND	0.00829	0.0050	0.010	-	83	68-124
2,2-Dichloropropane	ND	0.00866	0.0050	0.010	-	87	63-150

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148336  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148336  
 1711261-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	0.00900	0.0050	0.010	-	90	67-134
cis-1,3-Dichloropropene	ND	0.00823	0.0050	0.010	-	82	65-138
trans-1,3-Dichloropropene	ND	0.00823	0.0050	0.010	-	82	66-124
Diisopropyl ether (DIPE)	ND	0.00848	0.0050	0.010	-	85	58-129
Ethylbenzene	ND	0.00890	0.0050	0.010	-	89	73-145
Ethyl tert-butyl ether (ETBE)	ND	0.00806	0.0050	0.010	-	81	62-125
Freon 113	ND	0.00680	0.0050	0.010	-	68	55-116
Hexachlorobutadiene	ND	0.0102	0.0050	0.010	-	101	75-178
Hexachloroethane	ND	0.00987	0.0050	0.010	-	99	75-152
2-Hexanone	ND	0.00532	0.0050	0.010	-	53	41-113
Isopropylbenzene	ND	0.0109	0.0050	0.010	-	109	67-172
4-Isopropyl toluene	ND	0.0112	0.0050	0.010	-	112	88-171
Methyl-t-butyl ether (MTBE)	ND	0.00773	0.0050	0.010	-	77	58-122
Methylene chloride	ND	0.00954	0.0050	0.010	-	95	57-140
4-Methyl-2-pentanone (MIBK)	ND	0.00634	0.0050	0.010	-	63	42-117
Naphthalene	ND	ND	0.0050	0.010	-	44	29-65
n-Propyl benzene	ND	0.0107	0.0050	0.010	-	107	85-174
Styrene	ND	0.00751	0.0050	0.010	-	75	63-126
1,1,1,2-Tetrachloroethane	ND	0.00845	0.0050	0.010	-	84	68-131
1,1,2,2-Tetrachloroethane	ND	0.00726	0.00025	0.010	-	73	45-121
Tetrachloroethene	ND	0.00911	0.00025	0.010	-	91	65-150
Toluene	ND	0.00846	0.0050	0.010	-	85	72-135
1,2,3-Trichlorobenzene	ND	0.00607	0.0050	0.010	-	61	35-80
1,2,4-Trichlorobenzene	ND	0.00744	0.0050	0.010	-	74	45-103
1,1,1-Trichloroethane	ND	0.00913	0.0050	0.010	-	91	67-137
1,1,2-Trichloroethane	ND	0.00818	0.0050	0.010	-	82	67-117
Trichloroethene	ND	0.00935	0.0050	0.010	-	93	62-135
Trichlorofluoromethane	ND	0.00695	0.0050	0.010	-	70	56-124
1,2,3-Trichloropropane	ND	0.00826	0.00025	0.010	-	83	58-133
1,2,4-Trimethylbenzene	ND	0.0110	0.0050	0.010	-	110	78-161
1,3,5-Trimethylbenzene	ND	0.0109	0.0050	0.010	-	109	85-170
Vinyl Chloride	ND	0.0105	0.00025	0.010	-	105	32-142
Xylenes, Total	ND	-	0.0050	-	-	-	-

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148336  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148336  
 1711261-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
4-BFB	0.01453	0.0144		0.012	116	115	84-137
Benzene-d6	0.1117	0.110		0.10	112	110	67-131
Ethylbenzene-d10	0.1123	0.111		0.10	112	111	78-153
1,2-DCB-d4	0.08527	0.0821		0.10	85	82	63-109
Dibromofluoromethane	0.1422	0.144		0.12	114	115	87-127
Toluene-d8	0.1588	0.158		0.12	127	126	93-141

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148336  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148336  
 1711261-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acetone	0.168	0.166	0.20	ND	84	83	36-141	0.893	30
tert-Amyl methyl ether (TAME)	0.00707	0.00683	0.010	ND	71	68	46-105	3.51	30
Benzene	0.00756	0.00741	0.010	ND	76	74	46-124	1.91	30
Bromobenzene	0.00914	0.00883	0.010	ND	91	88	50-119	3.48	30
Bromochloromethane	0.00769	0.00744	0.010	ND	77	74	42-122	3.20	30
Bromodichloromethane	0.00760	0.00744	0.010	ND	76	74	48-112	2.22	30
Bromoform	0.00707	0.00669	0.010	ND	71	67	36-90	5.58	30
Bromomethane	0.00899	0.00837	0.010	ND	90	84	10-149	7.16	30
2-Butanone (MEK)	0.0290	0.0271	0.040	ND	72	68	43-114	6.59	30
t-Butyl alcohol (TBA)	ND	ND	0.20	ND	14,F1	14,F1	33-123	0	30
n-Butyl benzene	0.0100	0.0102	0.010	ND	100	102	40-185	1.94	30
sec-Butyl benzene	0.0108	0.0107	0.010	ND	108	107	40-183	1.61	30
tert-Butyl benzene	0.0107	0.0104	0.010	ND	107	103	44-168	3.73	30
Carbon Disulfide	0.00629	0.00637	0.010	ND	63	64	23-139	1.25	30
Carbon Tetrachloride	0.00760	0.00757	0.010	ND	76	76	43-133	0	30
Chlorobenzene	0.00856	0.00829	0.010	ND	86	83	51-115	3.24	30
Chloroethane	0.00784	0.00736	0.050	ND	16	15,F1	16-138	6.29	30
Chloroform	0.00820	0.00818	0.010	ND	82	82	54-117	0	30
Chloromethane	0.00820	0.00820	0.010	ND	82	82	14-128	0	30
2-Chlorotoluene	0.00999	0.00920	0.010	ND	100	92	54-141	8.21	30
4-Chlorotoluene	0.00958	0.00945	0.010	ND	96	94	52-134	1.37	30
Dibromochloromethane	0.00771	0.00758	0.010	ND	77	76	46-102	1.70	30
1,2-Dibromo-3-chloropropane	0.00292	0.00281	0.0040	ND	73	70	16-120	4.11	30
1,2-Dibromoethane (EDB)	0.00831	0.00805	0.010	ND	83	81	48-113	3.18	30
Dibromomethane	0.00747	0.00716	0.010	ND	75	72	44-110	4.26	30
1,2-Dichlorobenzene	0.00775	0.00746	0.010	ND	77	75	43-106	3.83	30
1,3-Dichlorobenzene	0.00894	0.00850	0.010	ND	89	85	49-128	5.14	30
1,4-Dichlorobenzene	0.00893	0.00849	0.010	ND	89	85	48-120	5.08	30
Dichlorodifluoromethane	ND	ND	0.010	ND	36	36	8-63	0	30
1,1-Dichloroethane	0.00812	0.00800	0.010	ND	81	80	50-122	1.48	30
1,2-Dichloroethane (1,2-DCA)	0.00745	0.00723	0.010	ND	74	72	46-116	3.01	30
1,1-Dichloroethene	0.00837	0.00842	0.010	ND	84	84	37-124	0	30
cis-1,2-Dichloroethene	0.00807	0.00799	0.010	ND	81	80	47-123	0.907	30
trans-1,2-Dichloroethene	0.00759	0.00758	0.010	ND	76	76	31-131	0	30
1,2-Dichloropropane	0.00796	0.00774	0.010	ND	80	77	50-116	2.88	30
1,3-Dichloropropane	0.00860	0.00838	0.010	ND	86	84	52-115	2.61	30
2,2-Dichloropropane	0.00783	0.00782	0.010	ND	78	78	43-137	0	30

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148336  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148336  
 1711261-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
1,1-Dichloropropene	0.00809	0.00816	0.010	ND	81	82	43-126	0.836	30
cis-1,3-Dichloropropene	0.00804	0.00807	0.010	ND	80	81	35-134	0.411	30
trans-1,3-Dichloropropene	0.00819	0.00791	0.010	ND	82	79	35-124	3.43	30
Diisopropyl ether (DIPE)	0.00766	0.00750	0.010	ND	77	75	49-116	2.16	30
Ethylbenzene	0.00866	0.00853	0.010	ND	87	85	49-137	1.46	30
Ethyl tert-butyl ether (ETBE)	0.00745	0.00722	0.010	ND	74	72	50-113	3.08	30
Freon 113	0.00594	0.00614	0.010	ND	59	61	28-114	3.31	30
Hexachlorobutadiene	0.0101	0.00931	0.010	ND	101	93	22-180	7.75	30
Hexachloroethane	0.00995	0.00956	0.010	ND	100	96	28-158	4.04	30
2-Hexanone	0.00585	0.00509	0.010	ND	46	38	31-102	14.0	30
Isopropylbenzene	0.0106	0.0103	0.010	ND	106	103	50-153	3.45	30
4-Isopropyl toluene	0.0124	0.0126	0.010	ND	114	116	41-171	1.82	30
Methyl-t-butyl ether (MTBE)	0.00720	0.00708	0.010	ND	72	71	48-110	1.79	30
Methylene chloride	0.00867	0.00854	0.010	ND	64	62	42-127	1.58	30
4-Methyl-2-pentanone (MIBK)	0.00692	0.00667	0.010	ND	69	67	24-114	3.65	30
Naphthalene	ND	ND	0.010	ND	44	45	19-69	1.92	30
n-Propyl benzene	0.0105	0.0106	0.010	ND	105	106	46-168	0.877	30
Styrene	0.00736	0.00718	0.010	ND	74	72	42-122	2.39	30
1,1,1,2-Tetrachloroethane	0.00840	0.00829	0.010	ND	84	83	52-121	1.29	30
1,1,2,2-Tetrachloroethane	0.00769	0.00733	0.010	ND	76	73	27-116	4.85	30
Tetrachloroethene	0.00892	0.00901	0.010	ND	89	90	37-149	0.996	30
Toluene	0.00842	0.00830	0.010	ND	84	83	52-124	1.40	30
1,2,3-Trichlorobenzene	0.00590	0.00581	0.010	ND	59	58	20-86	1.55	30
1,2,4-Trichlorobenzene	0.00750	0.00720	0.010	ND	75	72	24-107	4.09	30
1,1,1-Trichloroethane	0.00821	0.00821	0.010	ND	82	82	48-128	0	30
1,1,2-Trichloroethane	0.00846	0.00807	0.010	ND	85	81	51-110	4.72	30
Trichloroethene	0.00836	0.00824	0.010	ND	84	82	42-128	1.40	30
Trichlorofluoromethane	0.00594	0.00584	0.010	ND	59	58	31-121	1.57	30
1,2,3-Trichloropropane	0.00866	0.00822	0.010	ND	86	82	50-115	5.27	30
1,2,4-Trimethylbenzene	0.0108	0.0105	0.010	ND	108	105	48-151	2.86	30
1,3,5-Trimethylbenzene	0.0105	0.0104	0.010	ND	105	104	51-159	1.12	30
Vinyl Chloride	0.00940	0.00950	0.010	ND	94	95	11-136	1.10	30

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148336  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148336  
 1711261-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
<b>Surrogate Recovery</b>									
4-BFB	0.0147	0.0143	0.012		118	114	82-135	3.03	30
Benzene-d6	0.0986	0.0978	0.10		99	98	55-122	0.815	30
Ethylbenzene-d10	0.107	0.107	0.10		107	107	58-141	0	30
1,2-DCB-d4	0.0823	0.0805	0.10		82	161	51-107	2.22	30
Dibromofluoromethane	0.133	0.133	0.12		106	107	82-136	0.251	30
Toluene-d8	0.159	0.159	0.12		127	127	92-139	0	30





## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/8/17  
**Date Analyzed:** 11/9/17  
**Instrument:** GC35  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148349  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8270C-SIM  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-148349  
 1711250-026AMS/MSD

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.010	-	-	-	-
Acenaphthylene	ND	-	0.010	-	-	-	-
Anthracene	ND	-	0.010	-	-	-	-
Benzo (a) anthracene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.139	0.010	0.20	-	69	23-129
Benzo (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Chrysene	ND	0.166	0.010	0.20	-	83	38-104
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.193	0.010	0.20	-	97	59-106
2-Methylnaphthalene	ND	0.181	0.010	0.20	-	91	54-108
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.168	0.010	0.20	-	84	48-107
Pyrene	ND	0.199	0.010	0.20	-	99	40-104

**Surrogate Recovery**

1-Fluoronaphthalene	0.5393	0.495		0.50	108	99	63-123
2-Fluorobiphenyl	0.5378	0.450		0.50	108	90	55-127

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	0.155	0.171	0.20	ND	78	85	9-156	9.46	30
Chrysene	0.170	0.181	0.20	ND	83	88	33-115	6.29	30
1-Methylnaphthalene	0.197	0.207	0.20	ND	99	104	13-167	5.00	30
2-Methylnaphthalene	0.181	0.195	0.20	ND	91	97	25-152	7.02	30
Phenanthrene	0.179	0.188	0.20	ND	90	94	30-138	4.78	30
Pyrene	0.222	0.210	0.20	ND	111	105	29-125	5.69	30

**Surrogate Recovery**

1-Fluoronaphthalene	0.419	0.439	0.50		84	88	56-153	4.66	30
2-Fluorobiphenyl	0.437	0.431	0.50		87	86	50-150	1.21	30



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/8/17 - 11/9/17  
**Instrument:** ICP-MS1, ICP-MS3  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148329  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148329  
 1711256-004AMS/MSD

### QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	50.4	0.50	50	-	101	75-125
Arsenic	ND	50.3	0.50	50	-	101	75-125
Barium	ND	504	5.0	500	-	101	75-125
Beryllium	ND	51.6	0.50	50	-	103	75-125
Cadmium	ND	49.8	0.25	50	-	100	75-125
Chromium	ND	49.9	0.50	50	-	100	75-125
Cobalt	ND	48.1	0.50	50	-	96	75-125
Copper	ND	51.4	0.50	50	-	103	75-125
Lead	ND	49.5	0.50	50	-	99	75-125
Mercury	ND	1.24	0.050	1.25	-	99	75-125
Molybdenum	ND	49.5	0.50	50	-	99	75-125
Nickel	ND	51.1	0.50	50	-	102	75-125
Selenium	ND	50.8	0.50	50	-	102	75-125
Silver	ND	49.5	0.50	50	-	99	75-125
Thallium	ND	48.9	0.50	50	-	98	75-125
Vanadium	ND	50.3	0.50	50	-	101	75-125
Zinc	ND	501	5.0	500	-	100	75-125
<b>Surrogate Recovery</b>							
Terbium	487.5	544		500	98	109	70-130

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/8/17 - 11/9/17  
**Instrument:** ICP-MS1, ICP-MS3  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148329  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148329  
 1711256-004AMS/MSD

### 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	47.6	48.6	50	ND	95	96	75-125	1.93	20
Arsenic	51.2	50.5	50	3.3	96	94	75-125	1.36	20
Barium	649	678	500	130	104	110	75-125	4.34	20
Beryllium	49.7	50.2	50	ND	98	99	75-125	1.02	20
Cadmium	47.1	47.8	50	ND	94	95	75-125	1.31	20
Chromium	102	108	50	46	112	124	75-125	5.42	20
Cobalt	54.2	55.2	50	10	88	90	75-125	1.85	20
Copper	71.4	74.2	50	22	99	104	75-125	3.83	20
Lead	52.1	52.6	50	4.5	95	96	75-125	1.07	20
Mercury	1.43	1.26	1.25	0.056	110	96	75-125	12.5	20
Molybdenum	47.2	47.5	50	ND	94	94	75-125	0	20
Nickel	108	114	50	52	112	123	75-125	4.60	20
Selenium	48.4	49.0	50	ND	96	98	75-125	1.27	20
Silver	45.8	45.8	50	ND	91	92	75-125	0.196	20
Thallium	47.3	47.5	50	ND	95	95	75-125	0	20
Vanadium	102	106	50	44	116	123	75-125	3.74	20
Zinc	520	524	500	41	96	97	75-125	0.747	20

**Surrogate Recovery**

Terbium	514	524	500		103	105	70-130	1.81	20
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Analyte	DLT Result	DLTRef Val	%D	%D Limit
Antimony	ND<2.5	ND	-	-
Arsenic	2.67	3.3	19.1	-
Barium	119	130	8.46	-
Beryllium	ND<2.5	ND	-	-
Cadmium	ND<1.2	ND	-	-
Chromium	44.7	46	2.83	20
Cobalt	10.1	10	1.00	-
Copper	20.9	22	5.00	20
Lead	4.25	4.5	5.56	-
Mercury	ND<0.25	0.056	-	-
Molybdenum	ND<2.5	ND	-	-
Nickel	49.2	52	5.38	20
Selenium	ND<2.5	ND	-	-

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/8/17 - 11/9/17  
**Instrument:** ICP-MS1, ICP-MS3  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148329  
**Extraction Method:** SW3050B  
**Analytical Method:** SW6020  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148329  
 1711256-004AMS/MSD

### QC Summary Report for Metals

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Silver	ND<2.5	ND	-	-
Thallium	ND<2.5	ND	-	-
Vanadium	43.1	44	2.05	20
Zinc	38.3	41	6.59	-

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/8/17  
**Instrument:** GC19  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148262  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148262  
 1711239-001AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	1.0	-	-	-
MTBE	ND	0.050	-	-	-
Benzene	ND	0.0050	-	-	-
Toluene	ND	0.0050	-	-	-
Ethylbenzene	ND	0.0050	-	-	-
Xylenes	ND	0.015	-	-	-

**Surrogate Recovery**

2-Fluorotoluene	0.09034		0.10	90	75-134
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	0.588	-	0.60	98	-	82-118	-	-
MTBE	0.116	-	0.10	116	-	61-119	-	-
Benzene	0.115	-	0.10	115	-	77-128	-	-
Toluene	0.116	-	0.10	116	-	74-132	-	-
Ethylbenzene	0.114	-	0.10	114	-	84-127	-	-
Xylenes	0.315	-	0.30	105	-	86-129	-	-

**Surrogate Recovery**

2-Fluorotoluene	0.0900	-	0.10	90	-	75-134	-	-
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		ND	NR	NR	-	NR	-
MTBE	NR	NR		ND	NR	NR	-	NR	-
Benzene	NR	NR		ND	NR	NR	-	NR	-
Toluene	NR	NR		0.011	NR	NR	-	NR	-
Ethylbenzene	NR	NR		ND	NR	NR	-	NR	-
Xylenes	NR	NR		0.017	NR	NR	-	NR	-

**Surrogate Recovery**

2-Fluorotoluene	NR	NR			NR	NR	-	NR	-
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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/7/17  
**Date Analyzed:** 11/8/17 - 11/9/17  
**Instrument:** GC11A, GC9b  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148328  
**Extraction Method:** SW3550B/3630C  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148328  
 1711256-010AMS/MSD

### QC Report for SW8015B w/ Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	38.4	1.0	40	-	96	75-128
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
<b>Surrogate Recovery</b>							
C9	25.21	25.3		25	101	101	72-122

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	39.1	40.7	40	ND	98	102	71-134	4.11	30
<b>Surrogate Recovery</b>									
C9	27.0	26.3	25		108	105	78-126	2.62	30

(Cont.)

NELAP 4033ORELAP



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/14/17  
**Date Analyzed:** 11/15/17  
**Instrument:** GC39A, GC9b  
**Matrix:** Soil  
**Project:** 1652-2A; 1226-1228 E. 7th St.

**WorkOrder:** 1711261  
**BatchID:** 148678  
**Extraction Method:** SW3550B/3630C  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-148678  
 1711538-033AMS/MSD

### QC Report for SW8015B w/ Silica Gel Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	37.5	1.0	40	-	94	75-128
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
<b>Surrogate Recovery</b>							
C9	22.86	22.8		25	91	91	72-122

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	30.2	30.2	40	ND	76	75	71-134	0.0669	30
<b>Surrogate Recovery</b>									
C9	24.6	25.0	25		98	100	78-126	1.75	30



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711261

ClientCode: EISI

- WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQulS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag  
 Detection Summary   
  Dry-Weight

Report to:  
Peter Littman  
Environmental Investigation Services, In  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
(408) 871-1470    FAX: (408) 871-1520

Email: plittman@eis1.net; tyler@eis1.net; diana@  
cc/3rd Party:  
PO:  
ProjectNo: 1652-2A; 1226-1228 E. 7th St.

Bill to:  
Barbara  
Env. Investigation Svcs., Inc.  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
barbara@eis1.net

Requested TAT: 5 days;  
  
Date Received: 11/07/2017  
Date Logged: 11/07/2017

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1711261-001	C-1,2,3,4-0.5	Soil	11/6/2017 11:23	<input type="checkbox"/>	A	A	A	A	A	A						
1711261-002	C-1,2,3,4-3.0	Soil	11/6/2017 11:23	<input type="checkbox"/>	A	A	A	A		A						
1711261-003	D-1,2,3,4-0.5	Soil	11/6/2017 13:18	<input type="checkbox"/>	A	A	A	A		A						
1711261-004	D-1,2,3,4-3.0	Soil	11/6/2017 13:18	<input type="checkbox"/>	A	A	A	A		A						

Test Legend:

1	8260B_Scan-SIM_S	2	8270_PNA_S	3	CAM17MS_TTLC_S	4	G-MBTEX_S
5	PREDF REPORT	6	TPH(DMO)WSG_S	7		8	
9		10		11		12	

Prepared by: Kena Ponce

The following SampIDs: 001A, 002A, 003A, 004A contain testgroup Multi RangeWSG\_S.

Comments:

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





### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A; 1226-1228 E. 7th St.

**Work Order:** 1711261

**Client Contact:** Peter Littman

**QC Level:** LEVEL 2

**Contact's Email:** plittman@eis1.net; tyler@eis1.net; diana@eis1.net

**Comments:**

**Date Logged:** 11/7/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711261-001A	C-1,2,3,4-0.5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 11:23	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days			
			SW8260B (VOCs, Scan SIM)			<input type="checkbox"/>		5 days			
1711261-002A	C-1,2,3,4-3.0	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 11:23	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days			
			SW8260B (VOCs, Scan SIM)			<input type="checkbox"/>		5 days			
1711261-003A	D-1,2,3,4-0.5	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 13:18	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days			
			SW8260B (VOCs, Scan SIM)			<input type="checkbox"/>		5 days			
1711261-004A	D-1,2,3,4-3.0	Soil	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 13:18	5 days		<input type="checkbox"/>	
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days			
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days			

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

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



### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A; 1226-1228 E. 7th St.

**Work Order:** 1711261

**Client Contact:** Peter Littman

**QC Level:** LEVEL 2

**Contact's Email:** plittman@eis1.net; tyler@eis1.net; diana@eis1.net

**Comments:**

**Date Logged:** 11/7/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag


Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711261-004A	D-1,2,3,4-3.0	Soil	SW8260B (VOCs, Scan SIM)	4 / (4:1)	Acetate Liner	<input type="checkbox"/>	11/6/2017 13:18	5 days		<input type="checkbox"/>	

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

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





 <b>McCAMPBELL ANALYTICAL, INC.</b> 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701 Telephone: (877) 252-9262 / Fax: (925) 252-9269 www.mccampbell.com      main@mccampbell.com				<b>CHAIN OF CUSTODY RECORD</b>																	
				Turn Around Time: 1 Day Rush			2 Day Rush			3 Day Rush			STD <input checked="" type="checkbox"/>		Quote #						
J-Flag / MDL			ESL <input checked="" type="checkbox"/>			Cleanup Approved			Bottle Order #												
Delivery Format: PDF <input checked="" type="checkbox"/>			GeoTracker EDF <input checked="" type="checkbox"/>			EDD			Write On (DW)			EQuIS									
Report To: <u>Peter Littman</u> Bill To: <u>same</u>				<b>Analysis Requested</b>																	
Company: <u>Environmental Investigation Svcs (EIS)</u>				TPH as Gas (8021/8015) MTBE TPH as Diesel (8015) + Motor Oil Without Silica Gel TPH as Diesel (8015) + Motor Oil With Silica Gel Total Oil & Grease (1664/9071) Without Silica Gel Total Petroleum Hydrocarbons - Oil & Grease (1664/9071) With Silica Gel Total Petroleum Hydrocarbons (418-1) With Silica Gel EPA 505/608/8081 (CI Pesticides) EPA 608/8082 PCB's; Aroclors only EPA 524.2/624/8260 (VOCs) EPA 525.2/625/8270 (SVOCs) EPA 8270 SIM/8310 (PAHs/PNAs) CAM 17 Metals (200.8/6020) Metals (200.8/6020) <b>Lead only</b>	Baylands Requirements Lab to filter sample for dissolved metals analysis																
Email: <u>plittman@eis1.net</u>																					
Alt Email: <u>pmclaughlin@eis1.net</u> Tele: <u>(408) 402-9800</u>																					
Project Name:      Project #: <u>1652-2A</u>																					
Project Location: <u>1226-1228 E. 17th St PO # Oakland, CA</u>																					
Sampler Signature: <u>Philip McLaughlin</u>																					
SAMPLE ID Location / Field Point		Sampling Date      Time		#Containers	Matrix	Preservative															
D-1-0.5		11/4/17 1305			Soil	ice															
D-2-0.5		1313					} 4:1 Comp analysis														
D-3-0.5		1315																			
D-4-0.5		1318																			
D-1-3.0		1305																			
D-2-3.0		1313					} 4:1 Comp analysis														
D-3-3.0		1315																			
D-4-3.0		1318																			

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

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

Relinquished By / Company Name				Date		Time		Received By / Company Name				Date		Time		Comments / Instructions
<u>Philip McLaughlin</u>				<u>11/7/17</u>		<u>2040</u>		<u>[Signature]</u>				<u>11/4/17</u>		<u>2040</u>		

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other  
 Preservative Code: 1=4°C    2=HCl    3=H<sub>2</sub>SO<sub>4</sub>    4=HNO<sub>3</sub>    5=NaOH    6=ZnOAc/NaOH    7=None  
 Temp \_\_\_\_\_ °C      Initials \_\_\_\_\_



### Sample Receipt Checklist

Client Name: **Environmental Investigation Services, Inc.**  
 Project Name: **1652-2A; 1226-1228 E. 7th St.**  
 WorkOrder No: **1711261** Matrix: Soil  
 Carrier: Client Drop-In

Date and Time Received: **11/7/2017 20:40**  
 Date Logged: **11/7/2017**  
 Received by: **Kena Ponce**  
 Logged by: **Kena Ponce**

**Chain of Custody (COC) Information**

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

**Sample Receipt Information**

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

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No  NA   
 Sample/Temp Blank temperature Temp: 5.6°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

**UCMR Samples:**

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

-----  
 Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1711259

**Report Created for:** Environmental Investigation Services, Inc.

15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032

**Project Contact:** Peter Littman

**Project P.O.:**

**Project Name:** 1652-2A; 1226-1228 E 17th St.

**Project Received:** 11/07/2017

Analytical Report reviewed & approved for release on 11/15/2017 by:

Christine Askari  
Project Manager

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





## Glossary of Terms & Qualifier Definitions

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A; 1226-1228 E 17th St.  
**WorkOrder:** 1711259

### Glossary Abbreviation

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



## Glossary of Terms & Qualifier Definitions

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A; 1226-1228 E 17th St.  
**WorkOrder:** 1711259

### Analytical Qualifiers

S Surrogate spike recovery outside accepted recovery limits  
b1 Aqueous sample that contains greater than ~1 vol. % sediment  
c11 The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data has been reported.

### Quality Control Qualifiers

F1 MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validates the prep batch.  
F2 LCS/LCSD recovery and/or RPD is out of acceptance criteria.





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/14/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-20-W	1711259-001B	Water	11/06/2017 13:30	GC38 11131748.D	148739

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	11/14/2017 16:38
tert-Amyl methyl ether (TAME)	ND	0.50	1	11/14/2017 16:38
Benzene	ND	0.20	1	11/14/2017 16:38
Bromobenzene	ND	0.50	1	11/14/2017 16:38
Bromochloromethane	ND	0.50	1	11/14/2017 16:38
Bromodichloromethane	ND	0.010	1	11/14/2017 16:38
Bromoform	ND	0.50	1	11/14/2017 16:38
Bromomethane	ND	0.50	1	11/14/2017 16:38
2-Butanone (MEK)	ND	2.0	1	11/14/2017 16:38
t-Butyl alcohol (TBA)	ND	2.0	1	11/14/2017 16:38
n-Butyl benzene	ND	0.50	1	11/14/2017 16:38
sec-Butyl benzene	ND	0.50	1	11/14/2017 16:38
tert-Butyl benzene	ND	0.50	1	11/14/2017 16:38
Carbon Disulfide	ND	0.50	1	11/14/2017 16:38
Carbon Tetrachloride	ND	0.20	1	11/14/2017 16:38
Chlorobenzene	ND	0.50	1	11/14/2017 16:38
Chloroethane	ND	0.50	1	11/14/2017 16:38
Chloroform	ND	0.10	1	11/14/2017 16:38
Chloromethane	ND	0.50	1	11/14/2017 16:38
2-Chlorotoluene	ND	0.50	1	11/14/2017 16:38
4-Chlorotoluene	ND	0.50	1	11/14/2017 16:38
Dibromochloromethane	ND	0.15	1	11/14/2017 16:38
1,2-Dibromo-3-chloropropane	ND	0.0050	1	11/14/2017 16:38
1,2-Dibromoethane (EDB)	ND	0.0050	1	11/14/2017 16:38
Dibromomethane	ND	0.50	1	11/14/2017 16:38
1,2-Dichlorobenzene	ND	0.50	1	11/14/2017 16:38
1,3-Dichlorobenzene	ND	0.50	1	11/14/2017 16:38
1,4-Dichlorobenzene	ND	0.50	1	11/14/2017 16:38
Dichlorodifluoromethane	ND	0.50	1	11/14/2017 16:38
1,1-Dichloroethane	ND	0.50	1	11/14/2017 16:38
1,2-Dichloroethane (1,2-DCA)	ND	0.010	1	11/14/2017 16:38
1,1-Dichloroethene	<b>0.022</b>	0.010	1	11/14/2017 16:38
cis-1,2-Dichloroethene	ND	0.50	1	11/14/2017 16:38
trans-1,2-Dichloroethene	ND	0.50	1	11/14/2017 16:38
1,2-Dichloropropane	ND	0.20	1	11/14/2017 16:38
1,3-Dichloropropane	ND	0.50	1	11/14/2017 16:38
2,2-Dichloropropane	ND	0.50	1	11/14/2017 16:38

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/14/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-20-W	1711259-001B	Water	11/06/2017 13:30	GC38 11131748.D	148739

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	11/14/2017 16:38
cis-1,3-Dichloropropene	ND	0.50	1	11/14/2017 16:38
trans-1,3-Dichloropropene	ND	0.50	1	11/14/2017 16:38
Diisopropyl ether (DIPE)	ND	0.50	1	11/14/2017 16:38
Ethylbenzene	ND	0.50	1	11/14/2017 16:38
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	11/14/2017 16:38
Freon 113	ND	0.50	1	11/14/2017 16:38
Hexachlorobutadiene	ND	0.50	1	11/14/2017 16:38
Hexachloroethane	ND	0.50	1	11/14/2017 16:38
2-Hexanone	ND	0.50	1	11/14/2017 16:38
Isopropylbenzene	ND	0.50	1	11/14/2017 16:38
4-Isopropyl toluene	ND	0.50	1	11/14/2017 16:38
Methyl-t-butyl ether (MTBE)	ND	0.50	1	11/14/2017 16:38
Methylene chloride	ND	0.50	1	11/14/2017 16:38
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	11/14/2017 16:38
Naphthalene	ND	0.10	1	11/14/2017 16:38
n-Propyl benzene	ND	0.50	1	11/14/2017 16:38
Styrene	ND	0.50	1	11/14/2017 16:38
1,1,1,2-Tetrachloroethane	ND	0.50	1	11/14/2017 16:38
1,1,2,2-Tetrachloroethane	ND	0.020	1	11/14/2017 16:38
Tetrachloroethene	ND	0.020	1	11/14/2017 16:38
Toluene	ND	0.50	1	11/14/2017 16:38
1,2,3-Trichlorobenzene	ND	0.50	1	11/14/2017 16:38
1,2,4-Trichlorobenzene	ND	0.50	1	11/14/2017 16:38
1,1,1-Trichloroethane	ND	0.50	1	11/14/2017 16:38
1,1,2-Trichloroethane	ND	0.20	1	11/14/2017 16:38
Trichloroethene	<b>0.77</b>	0.20	1	11/14/2017 16:38
Trichlorofluoromethane	ND	0.50	1	11/14/2017 16:38
1,2,3-Trichloropropane	ND	0.0050	1	11/14/2017 16:38
1,2,4-Trimethylbenzene	ND	0.50	1	11/14/2017 16:38
1,3,5-Trimethylbenzene	ND	0.50	1	11/14/2017 16:38
Vinyl Chloride	<b>0.016</b>	0.0050	1	11/14/2017 16:38
Xylenes, Total	ND	0.50	1	11/14/2017 16:38

(Cont.)



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/14/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-20-W	1711259-001B	Water	11/06/2017 13:30	GC38 11131748.D	148739

Analytes	Result	RL	DF	Date Analyzed
Surrogates	REC (%)	Limits		
Dibromofluoromethane	111	78-134		11/14/2017 16:38
Toluene-d8	118	82-120		11/14/2017 16:38
4-BFB	100	69-131		11/14/2017 16:38

**Analyst(s):** HK

**Analytical Comments:** b1



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-20-W	1711259-001A	Water	11/06/2017 13:30	GC12 11101726.D	148542

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	11/11/2017 01:45
MTBE	---	5.0	1	11/11/2017 01:45
Benzene	---	0.50	1	11/11/2017 01:45
Toluene	---	0.50	1	11/11/2017 01:45
Ethylbenzene	---	0.50	1	11/11/2017 01:45
Xylenes	---	1.5	1	11/11/2017 01:45

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	119	S	89-115	11/11/2017 01:45

**Analyst(s):** IA

**Analytical Comments:** c11,b1



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/7/17 20:40  
**Date Prepared:** 11/9/17  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**Extraction Method:** SW3510C/3630C  
**Analytical Method:** SW8015B  
**Unit:** µg/L

## Total Extractable Petroleum Hydrocarbons w/ SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-20-W	1711259-001A	Water	11/06/2017 13:30	GC11B 11091793.D	148430

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	37	1	11/10/2017 16:44
TPH-Motor Oil (C18-C36)	ND	79	1	11/10/2017 16:44

Surrogates	REC (%)	Limits	Date Analyzed
C26	86	71-134	11/10/2017 16:44

**Analyst(s):** TK      **Analytical Comments:** b1



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/14/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Water  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**BatchID:** 148739  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS/LCSD-148739

### QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.20	-	-	-
Bromobenzene	ND	0.50	-	-	-
Bromochloromethane	ND	0.50	-	-	-
Bromodichloromethane	ND	0.010	-	-	-
Bromoform	ND	0.50	-	-	-
Bromomethane	ND	0.50	-	-	-
2-Butanone (MEK)	ND	2.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.20	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.10	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.15	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.0050	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0050	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.010	-	-	-
1,1-Dichloroethene	ND	0.010	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.20	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/14/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Water  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**BatchID:** 148739  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS/LCSD-148739

### QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Freon 113	ND	0.50	-	-	-
Hexachlorobutadiene	ND	0.50	-	-	-
Hexachloroethane	ND	0.50	-	-	-
2-Hexanone	ND	0.50	-	-	-
Isopropylbenzene	ND	0.50	-	-	-
4-Isopropyl toluene	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.10	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.020	-	-	-
Tetrachloroethene	ND	0.020	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.20	-	-	-
Trichloroethene	ND	0.20	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.0050	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.0050	-	-	-
Xylenes, Total	ND	0.50	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	29.27		25	117	91-133
Toluene-d8	30.01		25	120	87-127
4-BFB	2.623		2.5	105	66-140

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/14/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Water  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**BatchID:** 148739  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS/LCSD-148739

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	15.6	16.8	20	78	84	47-122	7.48	20
tert-Amyl methyl ether (TAME)	1.68	1.76	2	84	88	62-121	4.49	20
Benzene	1.68	1.73	2	84	87	74-121	2.97	20
Bromobenzene	1.89	1.86	2	95	93	63-127	1.45	20
Bromochloromethane	1.70	1.77	2	85	88	70-126	3.91	20
Bromodichloromethane	1.75	1.79	2	88	90	66-127	2.42	20
Bromoform	1.72	1.76	2	86	88	60-119	2.07	20
Bromomethane	2.09	1.83	2	105	92	32-155	13.4	20
2-Butanone (MEK)	7.02	7.07	8	88	88	51-117	0	20
t-Butyl alcohol (TBA)	6.30	6.55	8	79	82	41-122	3.91	20
n-Butyl benzene	1.80	1.85	2	90	93	73-137	3.22	20
sec-Butyl benzene	1.84	1.87	2	92	94	71-137	1.80	20
tert-Butyl benzene	1.95	1.91	2	97	96	61-136	1.98	20
Carbon Disulfide	1.82	1.88	2	91	94	61-139	3.28	20
Carbon Tetrachloride	1.81	1.85	2	90	92	69-137	2.20	20
Chlorobenzene	1.85	1.89	2	92	94	71-122	2.11	20
Chloroethane	1.91	1.91	2	95	96	54-132	0.313	20
Chloroform	1.82	1.88	2	91	94	73-122	2.99	20
Chloromethane	1.88	1.86	2	94	93	48-136	0.899	20
2-Chlorotoluene	1.85	1.88	2	93	94	65-134	1.30	20
4-Chlorotoluene	1.88	1.92	2	94	96	65-130	2.03	20
Dibromochloromethane	1.85	1.89	2	92	94	65-121	2.21	20
1,2-Dibromo-3-chloropropane	1.68	1.71	2	84	85	41-132	1.58	20
1,2-Dibromoethane (EDB)	1.81	1.87	2	91	93	67-125	3.09	20
Dibromomethane	1.70	1.77	2	85	88	68-121	4.12	20
1,2-Dichlorobenzene	1.78	1.76	2	89	88	69-128	0.644	20
1,3-Dichlorobenzene	1.82	1.83	2	91	92	71-131	0.932	20
1,4-Dichlorobenzene	1.83	1.87	2	91	93	70-128	2.19	20
Dichlorodifluoromethane	1.73	1.73	2	86	86	21-158	0	20
1,1-Dichloroethane	1.82	1.87	2	91	93	73-123	2.79	20
1,2-Dichloroethane (1,2-DCA)	1.66	1.72	2	83	86	61-127	3.11	20
1,1-Dichloroethene	1.83	1.87	2	92	93	68-130	1.98	20
cis-1,2-Dichloroethene	1.81	1.86	2	90	93	72-123	3.06	20
trans-1,2-Dichloroethene	1.82	1.88	2	91	94	64-138	3.30	20
1,2-Dichloropropane	1.76	1.81	2	88	90	71-121	2.95	20
1,3-Dichloropropane	1.83	1.89	2	92	94	69-120	3.07	20
2,2-Dichloropropane	1.87	2.01	2	93	101	64-142	7.59	20
1,1-Dichloropropene	1.82	1.87	2	91	94	70-130	2.70	20
cis-1,3-Dichloropropene	1.87	1.93	2	94	97	58-136	3.17	20

(Cont.)





## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/14/17  
**Date Analyzed:** 11/14/17  
**Instrument:** GC38  
**Matrix:** Water  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**BatchID:** 148739  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS/LCSD-148739

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	1.88	1.93	2	94	97	66-119	2.87	20
Diisopropyl ether (DIPE)	1.74	1.78	2	87	89	66-123	2.50	20
Ethylbenzene	1.77	1.81	2	88	91	71-125	2.56	20
Ethyl tert-butyl ether (ETBE)	1.74	1.80	2	87	90	67-122	3.35	20
Freon 113	1.71	1.74	2	86	87	68-132	1.43	20
Hexachlorobutadiene	1.79	1.83	2	89	91	56-155	2.21	20
Hexachloroethane	1.84	1.80	2	92	90	61-129	2.58	20
2-Hexanone	1.67	1.72	2	83	86	51-115	3.12	20
Isopropylbenzene	1.93	1.94	2	96	97	66-134	0.863	20
4-Isopropyl toluene	1.89	1.91	2	95	96	70-136	1.06	20
Methyl-t-butyl ether (MTBE)	1.65	1.70	2	83	85	64-118	2.60	20
Methylene chloride	1.70	1.69	2	85	85	62-121	0	20
4-Methyl-2-pentanone (MIBK)	1.65	1.72	2	83	86	51-115	3.97	20
Naphthalene	1.76	1.74	2	88	87	55-137	1.54	20
n-Propyl benzene	1.85	1.87	2	92	94	63-140	1.36	20
Styrene	1.71	1.72	2	86	86	62-133	0	20
1,1,1,2-Tetrachloroethane	1.81	1.85	2	90	93	69-128	2.55	20
1,1,2,2-Tetrachloroethane	1.77	1.81	2	88	91	60-118	2.42	20
Tetrachloroethene	1.84	1.89	2	92	95	63-136	2.75	20
Toluene	2.25	1.81	2	112	90	67-124	21.7,F2	20
1,2,3-Trichlorobenzene	1.72	1.78	2	86	89	57-145	3.68	20
1,2,4-Trichlorobenzene	1.80	1.85	2	90	93	60-144	3.03	20
1,1,1-Trichloroethane	1.86	1.91	2	93	95	70-133	2.34	20
1,1,2-Trichloroethane	1.84	1.88	2	92	94	65-125	2.46	20
Trichloroethene	1.75	1.82	2	88	91	67-133	3.39	20
Trichlorofluoromethane	1.65	1.69	2	83	85	59-145	2.41	20
1,2,3-Trichloropropane	1.78	1.82	2	89	91	65-115	2.03	20
1,2,4-Trimethylbenzene	1.92	1.96	2	96	98	67-136	1.74	20
1,3,5-Trimethylbenzene	1.94	1.96	2	97	98	68-135	1.10	20
Vinyl Chloride	1.87	1.86	2	93	93	53-146	0	20
Xylenes, Total	5.39	5.55	6	90	92	68-128	2.91	20
<b>Surrogate Recovery</b>								
Dibromofluoromethane	27.3	27.2	25	109	109	91-133	0	20
Toluene-d8	29.9	29.7	25	120	119	87-127	0.865	20
4-BFB	2.64	2.64	2.5	106	106	66-140	0	20



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC12  
**Matrix:** Water  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**BatchID:** 148542  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L  
**Sample ID:** MB/LCS-148542  
 1711242-001AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g) (C6-C12)	ND	50	-	-	-
MTBE	ND	5.0	-	-	-
Benzene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Xylenes	ND	1.5	-	-	-

**Surrogate Recovery**

aaa-TFT	11.05		10	111	89-116
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH(btex)	57.7	-	60	96	-	78-116	-	-
MTBE	11.9	-	10	119	-	72-122	-	-
Benzene	11.0	-	10	110	-	81-123	-	-
Toluene	10.8	-	10	108	-	83-129	-	-
Ethylbenzene	9.95	-	10	100	-	88-126	-	-
Xylenes	27.2	-	30	91	-	87-131	-	-

**Surrogate Recovery**

aaa-TFT	11.4	-	10	114	-	89-116	-	-
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	56.3	51.0	60	ND	94	85	63-133	9.94	20
MTBE	11.9	11.4	10	ND	119	114	69-122	4.07	20
Benzene	10.9	10.0	10	ND	109	100	84-125	8.79	20
Toluene	10.9	9.94	10	ND	109	99	87-131	9.07	20
Ethylbenzene	9.89	9.18	10	ND	99	92	92-126	7.40	20
Xylenes	26.8	25.2	30	ND	89	84,F1	88-132	6.08	20

**Surrogate Recovery**

aaa-TFT	11.6	11.1	10		116	111	90-117	4.05	20
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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/9/17  
**Date Analyzed:** 11/9/17  
**Instrument:** GC11A  
**Matrix:** Water  
**Project:** 1652-2A; 1226-1228 E 17th St.

**WorkOrder:** 1711259  
**BatchID:** 148430  
**Extraction Method:** SW3510C/3630C  
**Analytical Method:** SW8015B  
**Unit:** µg/L  
**Sample ID:** MB/LCS/LCSD-148430

### QC Report for SW8015B w/ SG Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	35	-	-	-
TPH-Motor Oil (C18-C36)	ND	75	-	-	-
<b>Surrogate Recovery</b>					
C26	112.8		125	90	71-134

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	187	181	200	94	91	70-130	3.35	30
<b>Surrogate Recovery</b>								
C26	115	112	125	92	90	71-134	2.48	30



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

WaterTrax     WriteOn     EDF

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711259

ClientCode: EISI

Excel     EQuIS     Email     HardCopy     ThirdParty     J-flag  
 Detection Summary     Dry-Weight

**Report to:**

Peter Littman  
Environmental Investigation Services, In  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
(408) 871-1470    FAX: (408) 871-1520

Email: plittman@eis1.net  
cc/3rd Party: pmclaughlin@esi1.net;  
PO:  
ProjectNo: 1652-2A; 1226-1228 E 17th St.

**Bill to:**

Barbara  
Env. Investigation Svcs., Inc.  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
barbara@eis1.net

**Requested TAT: 5 days;**

**Date Received: 11/07/2017**

**Date Logged: 11/07/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1711259-001	SB-20-W	Water	11/6/2017 13:30	<input type="checkbox"/>	B	A	A	A									

**Test Legend:**

1	8260B_Scan-SIM_W	2	G-MBTEX_W	3	PREDF REPORT	4	TPH(DMO)LVWSG_W
5		6		7		8	
9		10		11		12	

**Prepared by: Kena Ponce**

The following SampID: 001A contains testgroup Multi RangeLVWSG\_W.

**Comments:**

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



### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A; 1226-1228 E 17th St.

**Work Order:** 1711259

**Client Contact:** Peter Littman

**QC Level:** LEVEL 2

**Contact's Email:** plittman@eis1.net

**Comments:**


**Date Logged:** 11/7/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711259-001A	SB-20-W	Water	Multi-Range LV TPH(g,d,mo) w/ S.G. Clean-Up	3	VOA w/ HCl & 1-1La	<input type="checkbox"/>	11/6/2017 13:30	5 days	2%+	<input type="checkbox"/>	
1711259-001B	SB-20-W	Water	SW8260B (VOCs, Scan SIM)	2	VOA w/ HCl	<input type="checkbox"/>	11/6/2017 13:30	5 days	2%+	<input type="checkbox"/>	

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

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



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

**CHAIN OF CUSTODY RECORD**

Turn Around Time: 1 Day Rush	2 Day Rush	3 Day Rush	STD	<input checked="" type="checkbox"/>	Quote #
J-Flag / MDL	ESI <input checked="" type="checkbox"/>	Cleanup Approved	Bottle Order #		
Delivery Format: PDF	<input checked="" type="checkbox"/>	GeoTracker	EDF <input checked="" type="checkbox"/>	EDD	Write On (DW)
			EQuIS		

Report To: Peter Littman      Bill To: same  
 Company: Environmental Investigation Svcs (EIS)  
 Email: plittman@eis1.net  
 Alt Email: pmclaughlin@eis1.net      Tele: (408) 402-9800  
 Project Name:      Project #: 1652-2A  
 Project Location: 1226-1228 E. 17th St PO # Oakland, CA  
 Sampler Signature: Philipp McLaughlin

**Analysis Requested**

SAMPLE ID Location / Field Point	Sampling		# Containers	Matrix	Preservative	TPH as Gas (8021/8015) TPH as Diesel (8015) + Motor Oil Without Silica Gel	TPH as Diesel (8015) + Motor Oil With Silica Gel	Total Oil & Grease (1664 / 9071) Without Silica Gel	Total Petroleum Hydrocarbons - Oil & Grease (1664 / 9071) With Silica Gel	Total Petroleum Hydrocarbons (418.1) With Silica Gel	EPA 505/608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ; Aroclors only	EPA 524.2 / 624/ 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)*	Metals (200.8 / 6020)	Baylands Requirements	Lab to filter sample for dissolved metals analysis	
	Date	Time																		
SB-20-W	11/6/17	1330	5	water	ice/hel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>							

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

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

Relinquished By / Company Name				Received By / Company Name				Comments / Instructions
Date	Time	Date	Time	Date	Time			
<u>11/7/17</u>	<u>2040</u>	<u>11/7/17</u>	<u>2040</u>					

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other  
 Preservative Code: 1=4°C    2=HCl    3=H<sub>2</sub>SO<sub>4</sub>    4=HNO<sub>3</sub>    5=NaOH    6=ZnOAc/NaOH    7=None  
 Temp \_\_\_\_\_ °C      Initials \_\_\_\_\_





### Sample Receipt Checklist

Client Name: **Environmental Investigation Services, Inc.**  
 Project Name: **1652-2A; 1226-1228 E 17th St.**  
 WorkOrder No: **1711259** Matrix: Water  
 Carrier: Client Drop-In

Date and Time Received: **11/7/2017 20:40**  
 Date Logged: **11/7/2017**  
 Received by: **Kena Ponce**  
 Logged by: **Kena Ponce**

#### Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
COC agrees with Quote?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

#### Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Sample/Temp Blank temperature	Temp: 4.3°C		NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE )

#### UCMR Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1711352 **Amended:** 11/17/2017

**Report Created for:** Environmental Investigation Services, Inc.

15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032

**Project Contact:** Peter Littman

**Project P.O.:**

**Project Name:** 1652-2A

**Project Received:** 11/08/2017

Analytical Report reviewed & approved for release on 11/16/2017 by:

Jennifer Lagerbom  
Project Manager

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







## Glossary of Terms & Qualifier Definitions

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A  
**WorkOrder:** 1711352

### Glossary Abbreviation

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



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

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A  
**WorkOrder:** 1711352

### **Analytical Qualifiers**

a10 Reporting limit changed due to variable volume of air that pumped through each filter / sorbent tube.  
c10 Estimated value.  
j1 See attached narrative

### **Quality Control Qualifiers**

F2 LCS/LCSD recovery and/or RPD is out of acceptance criteria.



## Case Narrative

**Client:** Environmental Investigation Services, Inc.  
**Project:** 1652-2A

**Work Order:** 1711352  
November 16, 2017

### TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Active Soil Gas Advisory of July 2015.

j1) C10= estimated value

Propene is estimated for all TO15 samples due to low recovery of the LCS for batch number 148571.



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/13/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

### Atmospheric Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5B	1711352-002A	SoilGas	11/07/2017 13:53	GC26 1113170807.D	148589

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.96	27.85	HK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	11	0.40	1	11/13/2017 09:48

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4B	1711352-004A	SoilGas	11/07/2017 16:14	GC26 1113170809.D	148589

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.57	HK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	14	0.40	1	11/13/2017 10:09

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3B	1711352-007A	SoilGas	11/08/2017 11:45	GC26 1113170811.D	148589

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.64	27.26	HK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	14	0.40	1	11/13/2017 10:31



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/13/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

## Atmospheric Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3B DUP	1711352-008A	SoilGas	11/08/2017 11:45	GC26 1113170813.D	148589

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.65	27.24	HK

Analytes	Result	RL	DF	Date Analyzed
Oxygen	13	0.40	1	11/13/2017 10:52



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

## Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5A	1711352-001A	SoilGas	11/07/2017 13:12	GC26 1110170906.D	148478

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.23	28.37	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	11/10/2017 09:48

SV-5B	1711352-002A	SoilGas	11/07/2017 13:53	GC26 1110170908.D	148478
-------	--------------	---------	------------------	-------------------	--------

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.96	27.85	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	11/10/2017 10:01

SV-4A	1711352-003A	SoilGas	11/07/2017 15:29	GC26 1110170910.D	148478
-------	--------------	---------	------------------	-------------------	--------

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.37	26.75	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	11/10/2017 10:14



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

### Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4B	1711352-004A	SoilGas	11/07/2017 16:14	GC26 1110170912.D	148478

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.57	AK

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Helium	ND	0.050	1	11/10/2017 10:27

SV-3A	1711352-005A	SoilGas	11/08/2017 10:33	GC26 1110170914.D	148478
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Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.81	27.53	AK

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Helium	ND	0.050	1	11/10/2017 10:39

SV-3A DUP	1711352-006A	SoilGas	11/08/2017 10:33	GC26 1110170916.D	148478
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Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.88	27.66	AK

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Helium	ND	0.050	1	11/10/2017 10:52



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

### Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3B	1711352-007A	SoilGas	11/08/2017 11:45	GC26 1110170918.D	148478

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.64	27.26	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	11/10/2017 11:05

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3B DUP	1711352-008A	SoilGas	11/08/2017 11:45	GC26 1110170920.D	148478

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.65	27.24	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	0.083	0.050	1	11/10/2017 11:18





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

### Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5B	1711352-002A	SoilGas	11/07/2017 13:53	GC26 1110170119.D	148577

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.96	27.85	HK

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	6.4	0.16	40	11/10/2017 17:07
Methane	ND	0.00020	1	11/10/2017 14:57

SV-4B	1711352-004A	SoilGas	11/07/2017 16:14	GC26 1110170112.D	148577
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Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.33	26.57	HK

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	0.89	0.0040	1	11/10/2017 15:19
Methane	ND	0.00020	1	11/10/2017 15:19

SV-3B	1711352-007A	SoilGas	11/08/2017 11:45	GC26 1110170106.D	148577
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Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.64	27.26	HK

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	0.87	0.0040	1	11/10/2017 13:57
Methane	ND	0.00020	1	11/10/2017 13:57



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/10/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %

## Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3B DUP	1711352-008A	SoilGas	11/08/2017 11:45	GC26 1110170108.D	148577

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.65	27.24	HK

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	0.87	0.0040	1	11/10/2017 14:18
Methane	ND	0.00020	1	11/10/2017 14:18



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5A	1711352-001A	SoilGas	11/07/2017 13:12	GC24 11101730.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.23	28.37	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	11/11/2017 10:36
Acrolein	ND	5.8	1	11/11/2017 10:36
Acrylonitrile	ND	1.1	1	11/11/2017 10:36
tert-Amyl methyl ether (TAME)	ND	2.1	1	11/11/2017 10:36
Benzene	<b>4.7</b>	1.6	1	11/11/2017 10:36
Benzyl chloride	ND	2.6	1	11/11/2017 10:36
Bromodichloromethane	ND	3.5	1	11/11/2017 10:36
Bromoform	ND	5.2	1	11/11/2017 10:36
Bromomethane	ND	2.0	1	11/11/2017 10:36
1,3-Butadiene	ND	1.1	1	11/11/2017 10:36
2-Butanone (MEK)	ND	75	1	11/11/2017 10:36
t-Butyl alcohol (TBA)	ND	31	1	11/11/2017 10:36
Carbon Disulfide	<b>17</b>	1.6	1	11/11/2017 10:36
Carbon Tetrachloride	ND	3.2	1	11/11/2017 10:36
Chlorobenzene	ND	2.4	1	11/11/2017 10:36
Chloroethane	ND	1.3	1	11/11/2017 10:36
Chloroform	ND	2.4	1	11/11/2017 10:36
Chloromethane	ND	1.0	1	11/11/2017 10:36
Cyclohexane	ND	18	1	11/11/2017 10:36
Dibromochloromethane	ND	4.4	1	11/11/2017 10:36
1,2-Dibromo-3-chloropropane	ND	0.12	1	11/11/2017 10:36
1,2-Dibromoethane (EDB)	ND	3.9	1	11/11/2017 10:36
1,2-Dichlorobenzene	ND	3.0	1	11/11/2017 10:36
1,3-Dichlorobenzene	<b>14</b>	3.0	1	11/11/2017 10:36
1,4-Dichlorobenzene	ND	3.0	1	11/11/2017 10:36
Dichlorodifluoromethane	ND	2.5	1	11/11/2017 10:36
1,1-Dichloroethane	ND	2.0	1	11/11/2017 10:36
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	11/11/2017 10:36
1,1-Dichloroethene	ND	2.0	1	11/11/2017 10:36
cis-1,2-Dichloroethene	ND	2.0	1	11/11/2017 10:36
trans-1,2-Dichloroethene	ND	2.0	1	11/11/2017 10:36
1,2-Dichloropropane	ND	2.4	1	11/11/2017 10:36
cis-1,3-Dichloropropene	ND	2.3	1	11/11/2017 10:36

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## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5A	1711352-001A	SoilGas	11/07/2017 13:12	GC24 11101730.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.23	28.37	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	11/11/2017 10:36
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	11/11/2017 10:36
Diisopropyl ether (DIPE)	ND	2.1	1	11/11/2017 10:36
1,4-Dioxane	ND	1.8	1	11/11/2017 10:36
Ethanol	ND	96	1	11/11/2017 10:36
Ethyl acetate	ND	1.8	1	11/11/2017 10:36
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	11/11/2017 10:36
Ethylbenzene	2.3	2.2	1	11/11/2017 10:36
4-Ethyltoluene	ND	2.5	1	11/11/2017 10:36
Freon 113	ND	3.9	1	11/11/2017 10:36
Heptane	490	21	1	11/11/2017 10:36
Hexachlorobutadiene	ND	5.4	1	11/11/2017 10:36
Hexane	630	18	1	11/11/2017 10:36
2-Hexanone	ND	2.1	1	11/11/2017 10:36
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	11/11/2017 10:36
Methyl-t-butyl ether (MTBE)	ND	1.8	1	11/11/2017 10:36
Methylene chloride	ND	8.8	1	11/11/2017 10:36
Methyl methacrylate	ND	2.1	1	11/11/2017 10:36
Naphthalene	ND	5.3	1	11/11/2017 10:36
Propene	ND	88	1	11/11/2017 10:36
Styrene	ND	2.2	1	11/11/2017 10:36
1,1,1,2-Tetrachloroethane	ND	3.5	1	11/11/2017 10:36
1,1,2,2-Tetrachloroethane	ND	3.5	1	11/11/2017 10:36
Tetrachloroethene	ND	3.4	1	11/11/2017 10:36
Tetrahydrofuran	ND	3.0	1	11/11/2017 10:36
Toluene	3.0	1.9	1	11/11/2017 10:36
1,2,4-Trichlorobenzene	ND	3.8	1	11/11/2017 10:36
1,1,1-Trichloroethane	ND	2.8	1	11/11/2017 10:36
1,1,2-Trichloroethane	ND	2.8	1	11/11/2017 10:36
Trichloroethene	ND	2.8	1	11/11/2017 10:36
Trichlorofluoromethane	ND	2.8	1	11/11/2017 10:36
1,2,4-Trimethylbenzene	4.4	2.5	1	11/11/2017 10:36
1,3,5-Trimethylbenzene	ND	2.5	1	11/11/2017 10:36

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5A	1711352-001A	SoilGas	11/07/2017 13:12	GC24 11101730.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
14.23	28.37	AK

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	11/11/2017 10:36
Vinyl Chloride	ND	1.3	1	11/11/2017 10:36
Xylenes, Total	ND	6.6	1	11/11/2017 10:36
Surrogates	REC (%)	Limits		Date Analyzed
1,2-DCA-d4	106	70-130		11/11/2017 10:36
Toluene-d8	102	70-130		11/11/2017 10:36
4-BFB	93	70-130		11/11/2017 10:36

Analytical Comments: c10,j1



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4A	1711352-003A	SoilGas	11/07/2017 15:29	GC24 11101731.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.37	26.75	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	11/11/2017 11:18
Acrolein	ND	5.8	1	11/11/2017 11:18
Acrylonitrile	ND	1.1	1	11/11/2017 11:18
tert-Amyl methyl ether (TAME)	ND	2.1	1	11/11/2017 11:18
Benzene	<b>2.0</b>	1.6	1	11/11/2017 11:18
Benzyl chloride	ND	2.6	1	11/11/2017 11:18
Bromodichloromethane	ND	3.5	1	11/11/2017 11:18
Bromoform	ND	5.2	1	11/11/2017 11:18
Bromomethane	ND	2.0	1	11/11/2017 11:18
1,3-Butadiene	ND	1.1	1	11/11/2017 11:18
2-Butanone (MEK)	ND	75	1	11/11/2017 11:18
t-Butyl alcohol (TBA)	ND	31	1	11/11/2017 11:18
Carbon Disulfide	<b>2.1</b>	1.6	1	11/11/2017 11:18
Carbon Tetrachloride	ND	3.2	1	11/11/2017 11:18
Chlorobenzene	ND	2.4	1	11/11/2017 11:18
Chloroethane	ND	1.3	1	11/11/2017 11:18
Chloroform	ND	2.4	1	11/11/2017 11:18
Chloromethane	ND	1.0	1	11/11/2017 11:18
Cyclohexane	ND	18	1	11/11/2017 11:18
Dibromochloromethane	ND	4.4	1	11/11/2017 11:18
1,2-Dibromo-3-chloropropane	ND	0.12	1	11/11/2017 11:18
1,2-Dibromoethane (EDB)	ND	3.9	1	11/11/2017 11:18
1,2-Dichlorobenzene	ND	3.0	1	11/11/2017 11:18
1,3-Dichlorobenzene	<b>13</b>	3.0	1	11/11/2017 11:18
1,4-Dichlorobenzene	ND	3.0	1	11/11/2017 11:18
Dichlorodifluoromethane	ND	2.5	1	11/11/2017 11:18
1,1-Dichloroethane	ND	2.0	1	11/11/2017 11:18
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	11/11/2017 11:18
1,1-Dichloroethene	ND	2.0	1	11/11/2017 11:18
cis-1,2-Dichloroethene	ND	2.0	1	11/11/2017 11:18
trans-1,2-Dichloroethene	ND	2.0	1	11/11/2017 11:18
1,2-Dichloropropane	ND	2.4	1	11/11/2017 11:18
cis-1,3-Dichloropropene	ND	2.3	1	11/11/2017 11:18

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4A	1711352-003A	SoilGas	11/07/2017 15:29	GC24 11101731.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.37	26.75	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	11/11/2017 11:18
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	11/11/2017 11:18
Diisopropyl ether (DIPE)	ND	2.1	1	11/11/2017 11:18
1,4-Dioxane	ND	1.8	1	11/11/2017 11:18
Ethanol	ND	96	1	11/11/2017 11:18
Ethyl acetate	ND	1.8	1	11/11/2017 11:18
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	11/11/2017 11:18
Ethylbenzene	ND	2.2	1	11/11/2017 11:18
4-Ethyltoluene	ND	2.5	1	11/11/2017 11:18
Freon 113	ND	3.9	1	11/11/2017 11:18
Heptane	ND	21	1	11/11/2017 11:18
Hexachlorobutadiene	ND	5.4	1	11/11/2017 11:18
Hexane	ND	18	1	11/11/2017 11:18
2-Hexanone	ND	2.1	1	11/11/2017 11:18
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	11/11/2017 11:18
Methyl-t-butyl ether (MTBE)	ND	1.8	1	11/11/2017 11:18
Methylene chloride	ND	8.8	1	11/11/2017 11:18
Methyl methacrylate	ND	2.1	1	11/11/2017 11:18
Naphthalene	ND	5.3	1	11/11/2017 11:18
Propene	ND	88	1	11/11/2017 11:18
Styrene	ND	2.2	1	11/11/2017 11:18
1,1,1,2-Tetrachloroethane	ND	3.5	1	11/11/2017 11:18
1,1,2,2-Tetrachloroethane	ND	3.5	1	11/11/2017 11:18
Tetrachloroethene	ND	3.4	1	11/11/2017 11:18
Tetrahydrofuran	ND	3.0	1	11/11/2017 11:18
Toluene	ND	1.9	1	11/11/2017 11:18
1,2,4-Trichlorobenzene	ND	3.8	1	11/11/2017 11:18
1,1,1-Trichloroethane	ND	2.8	1	11/11/2017 11:18
1,1,2-Trichloroethane	ND	2.8	1	11/11/2017 11:18
Trichloroethene	ND	2.8	1	11/11/2017 11:18
Trichlorofluoromethane	ND	2.8	1	11/11/2017 11:18
1,2,4-Trimethylbenzene	4.1	2.5	1	11/11/2017 11:18
1,3,5-Trimethylbenzene	ND	2.5	1	11/11/2017 11:18

(Cont.)



# Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m³

## Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4A	1711352-003A	SoilGas	11/07/2017 15:29	GC24 11101731.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.37	26.75	AK

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	11/11/2017 11:18
Vinyl Chloride	ND	1.3	1	11/11/2017 11:18
Xylenes, Total	ND	6.6	1	11/11/2017 11:18

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	96	70-130	11/11/2017 11:18
Toluene-d8	101	70-130	11/11/2017 11:18
4-BFB	99	70-130	11/11/2017 11:18

Analytical Comments: c10,j1





## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3A	1711352-005A	SoilGas	11/08/2017 10:33	GC24 11101732.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.81	27.53	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	11/11/2017 12:00
Acrolein	ND	5.8	1	11/11/2017 12:00
Acrylonitrile	ND	1.1	1	11/11/2017 12:00
tert-Amyl methyl ether (TAME)	ND	2.1	1	11/11/2017 12:00
Benzene	ND	1.6	1	11/11/2017 12:00
Benzyl chloride	ND	2.6	1	11/11/2017 12:00
Bromodichloromethane	ND	3.5	1	11/11/2017 12:00
Bromoform	ND	5.2	1	11/11/2017 12:00
Bromomethane	ND	2.0	1	11/11/2017 12:00
1,3-Butadiene	ND	1.1	1	11/11/2017 12:00
2-Butanone (MEK)	ND	75	1	11/11/2017 12:00
t-Butyl alcohol (TBA)	ND	31	1	11/11/2017 12:00
Carbon Disulfide	ND	1.6	1	11/11/2017 12:00
Carbon Tetrachloride	ND	3.2	1	11/11/2017 12:00
Chlorobenzene	ND	2.4	1	11/11/2017 12:00
Chloroethane	ND	1.3	1	11/11/2017 12:00
Chloroform	ND	2.4	1	11/11/2017 12:00
Chloromethane	ND	1.0	1	11/11/2017 12:00
Cyclohexane	ND	18	1	11/11/2017 12:00
Dibromochloromethane	ND	4.4	1	11/11/2017 12:00
1,2-Dibromo-3-chloropropane	ND	0.12	1	11/11/2017 12:00
1,2-Dibromoethane (EDB)	ND	3.9	1	11/11/2017 12:00
1,2-Dichlorobenzene	ND	3.0	1	11/11/2017 12:00
1,3-Dichlorobenzene	<b>6.0</b>	3.0	1	11/11/2017 12:00
1,4-Dichlorobenzene	ND	3.0	1	11/11/2017 12:00
Dichlorodifluoromethane	ND	2.5	1	11/11/2017 12:00
1,1-Dichloroethane	ND	2.0	1	11/11/2017 12:00
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	11/11/2017 12:00
1,1-Dichloroethene	ND	2.0	1	11/11/2017 12:00
cis-1,2-Dichloroethene	ND	2.0	1	11/11/2017 12:00
trans-1,2-Dichloroethene	ND	2.0	1	11/11/2017 12:00
1,2-Dichloropropane	ND	2.4	1	11/11/2017 12:00
cis-1,3-Dichloropropene	ND	2.3	1	11/11/2017 12:00

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3A	1711352-005A	SoilGas	11/08/2017 10:33	GC24 11101732.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.81	27.53	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	11/11/2017 12:00
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	11/11/2017 12:00
Diisopropyl ether (DIPE)	ND	2.1	1	11/11/2017 12:00
1,4-Dioxane	ND	1.8	1	11/11/2017 12:00
Ethanol	ND	96	1	11/11/2017 12:00
Ethyl acetate	ND	1.8	1	11/11/2017 12:00
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	11/11/2017 12:00
Ethylbenzene	ND	2.2	1	11/11/2017 12:00
4-Ethyltoluene	ND	2.5	1	11/11/2017 12:00
Freon 113	ND	3.9	1	11/11/2017 12:00
Heptane	ND	21	1	11/11/2017 12:00
Hexachlorobutadiene	ND	5.4	1	11/11/2017 12:00
Hexane	ND	18	1	11/11/2017 12:00
2-Hexanone	ND	2.1	1	11/11/2017 12:00
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	11/11/2017 12:00
Methyl-t-butyl ether (MTBE)	ND	1.8	1	11/11/2017 12:00
Methylene chloride	ND	8.8	1	11/11/2017 12:00
Methyl methacrylate	ND	2.1	1	11/11/2017 12:00
Naphthalene	ND	5.3	1	11/11/2017 12:00
Propene	ND	88	1	11/11/2017 12:00
Styrene	ND	2.2	1	11/11/2017 12:00
1,1,1,2-Tetrachloroethane	ND	3.5	1	11/11/2017 12:00
1,1,2,2-Tetrachloroethane	ND	3.5	1	11/11/2017 12:00
Tetrachloroethene	ND	3.4	1	11/11/2017 12:00
Tetrahydrofuran	ND	3.0	1	11/11/2017 12:00
Toluene	ND	1.9	1	11/11/2017 12:00
1,2,4-Trichlorobenzene	ND	3.8	1	11/11/2017 12:00
1,1,1-Trichloroethane	ND	2.8	1	11/11/2017 12:00
1,1,2-Trichloroethane	ND	2.8	1	11/11/2017 12:00
Trichloroethene	ND	2.8	1	11/11/2017 12:00
Trichlorofluoromethane	ND	2.8	1	11/11/2017 12:00
1,2,4-Trimethylbenzene	ND	2.5	1	11/11/2017 12:00
1,3,5-Trimethylbenzene	ND	2.5	1	11/11/2017 12:00

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3A	1711352-005A	SoilGas	11/08/2017 10:33	GC24 11101732.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.81	27.53	AK

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	11/11/2017 12:00
Vinyl Chloride	ND	1.3	1	11/11/2017 12:00
Xylenes, Total	ND	6.6	1	11/11/2017 12:00
Surrogates	REC (%)	Limits		Date Analyzed
1,2-DCA-d4	97	70-130		11/11/2017 12:00
Toluene-d8	101	70-130		11/11/2017 12:00
4-BFB	92	70-130		11/11/2017 12:00

Analytical Comments: c10,j1



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3A DUP	1711352-006A	SoilGas	11/08/2017 10:33	GC24 11101729.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.88	27.66	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	11/11/2017 09:55
Acrolein	ND	5.8	1	11/11/2017 09:55
Acrylonitrile	ND	1.1	1	11/11/2017 09:55
tert-Amyl methyl ether (TAME)	ND	2.1	1	11/11/2017 09:55
Benzene	ND	1.6	1	11/11/2017 09:55
Benzyl chloride	ND	2.6	1	11/11/2017 09:55
Bromodichloromethane	ND	3.5	1	11/11/2017 09:55
Bromoform	ND	5.2	1	11/11/2017 09:55
Bromomethane	ND	2.0	1	11/11/2017 09:55
1,3-Butadiene	ND	1.1	1	11/11/2017 09:55
2-Butanone (MEK)	ND	75	1	11/11/2017 09:55
t-Butyl alcohol (TBA)	ND	31	1	11/11/2017 09:55
Carbon Disulfide	ND	1.6	1	11/11/2017 09:55
Carbon Tetrachloride	ND	3.2	1	11/11/2017 09:55
Chlorobenzene	ND	2.4	1	11/11/2017 09:55
Chloroethane	ND	1.3	1	11/11/2017 09:55
Chloroform	ND	2.4	1	11/11/2017 09:55
Chloromethane	ND	1.0	1	11/11/2017 09:55
Cyclohexane	ND	18	1	11/11/2017 09:55
Dibromochloromethane	ND	4.4	1	11/11/2017 09:55
1,2-Dibromo-3-chloropropane	ND	0.12	1	11/11/2017 09:55
1,2-Dibromoethane (EDB)	ND	3.9	1	11/11/2017 09:55
1,2-Dichlorobenzene	ND	3.0	1	11/11/2017 09:55
1,3-Dichlorobenzene	5.1	3.0	1	11/11/2017 09:55
1,4-Dichlorobenzene	ND	3.0	1	11/11/2017 09:55
Dichlorodifluoromethane	ND	2.5	1	11/11/2017 09:55
1,1-Dichloroethane	ND	2.0	1	11/11/2017 09:55
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	11/11/2017 09:55
1,1-Dichloroethene	ND	2.0	1	11/11/2017 09:55
cis-1,2-Dichloroethene	ND	2.0	1	11/11/2017 09:55
trans-1,2-Dichloroethene	ND	2.0	1	11/11/2017 09:55
1,2-Dichloropropane	ND	2.4	1	11/11/2017 09:55
cis-1,3-Dichloropropene	ND	2.3	1	11/11/2017 09:55

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3A DUP	1711352-006A	SoilGas	11/08/2017 10:33	GC24 11101729.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.88	27.66	AK

Analytes	Result	RL	DF	Date Analyzed
trans-1,3-Dichloropropene	ND	2.3	1	11/11/2017 09:55
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	11/11/2017 09:55
Diisopropyl ether (DIPE)	ND	2.1	1	11/11/2017 09:55
1,4-Dioxane	ND	1.8	1	11/11/2017 09:55
Ethanol	ND	96	1	11/11/2017 09:55
Ethyl acetate	ND	1.8	1	11/11/2017 09:55
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	11/11/2017 09:55
Ethylbenzene	ND	2.2	1	11/11/2017 09:55
4-Ethyltoluene	ND	2.5	1	11/11/2017 09:55
Freon 113	ND	3.9	1	11/11/2017 09:55
Heptane	ND	21	1	11/11/2017 09:55
Hexachlorobutadiene	ND	5.4	1	11/11/2017 09:55
Hexane	ND	18	1	11/11/2017 09:55
2-Hexanone	ND	2.1	1	11/11/2017 09:55
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	11/11/2017 09:55
Methyl-t-butyl ether (MTBE)	ND	1.8	1	11/11/2017 09:55
Methylene chloride	ND	8.8	1	11/11/2017 09:55
Methyl methacrylate	ND	2.1	1	11/11/2017 09:55
Naphthalene	ND	5.3	1	11/11/2017 09:55
Propene	ND	88	1	11/11/2017 09:55
Styrene	ND	2.2	1	11/11/2017 09:55
1,1,1,2-Tetrachloroethane	ND	3.5	1	11/11/2017 09:55
1,1,2,2-Tetrachloroethane	ND	3.5	1	11/11/2017 09:55
Tetrachloroethene	ND	3.4	1	11/11/2017 09:55
Tetrahydrofuran	ND	3.0	1	11/11/2017 09:55
Toluene	ND	1.9	1	11/11/2017 09:55
1,2,4-Trichlorobenzene	ND	3.8	1	11/11/2017 09:55
1,1,1-Trichloroethane	ND	2.8	1	11/11/2017 09:55
1,1,2-Trichloroethane	ND	2.8	1	11/11/2017 09:55
Trichloroethene	ND	2.8	1	11/11/2017 09:55
Trichlorofluoromethane	ND	2.8	1	11/11/2017 09:55
1,2,4-Trimethylbenzene	ND	2.5	1	11/11/2017 09:55
1,3,5-Trimethylbenzene	ND	2.5	1	11/11/2017 09:55

(Cont.)



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-3A DUP	1711352-006A	SoilGas	11/08/2017 10:33	GC24 11101729.D	148571

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.88	27.66	AK

Analytes	Result	RL	DF	Date Analyzed
Vinyl Acetate	ND	18	1	11/11/2017 09:55
Vinyl Chloride	ND	1.3	1	11/11/2017 09:55
Xylenes, Total	ND	6.6	1	11/11/2017 09:55

Surrogates	REC (%)	Limits	Date Analyzed
1,2-DCA-d4	98	70-130	11/11/2017 09:55
Toluene-d8	101	70-130	11/11/2017 09:55
4-BFB	100	70-130	11/11/2017 09:55

Analytical Comments: c10,j1



## Analytical Report

**Client:** Environmental Investigation Services, Inc.  
**Date Received:** 11/8/17 16:30  
**Date Prepared:** 11/11/17  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**Extraction Method:** TO17  
**Analytical Method:** TO17  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds by TO17

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-5B	1711352-002A	SoilGas	11/07/2017 13:53	GC37 F1110171209.D	148540

Analytes	Result	RL	DF	Date Analyzed
Naphthalene	ND	2.7	1	11/11/2017 00:51

Surrogates	REC (%)	Limits	Date Analyzed
4-BFB	84	70-130	11/11/2017 00:51

**Analyst(s):** KBO **Analytical Comments:** a10

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SV-4B	1711352-004A	SoilGas	11/07/2017 16:14	GC37 F1110171210.D	148540

Analytes	Result	RL	DF	Date Analyzed
Naphthalene	ND	2.7	1	11/11/2017 01:39

Surrogates	REC (%)	Limits	Date Analyzed
4-BFB	81	70-130	11/11/2017 01:39

**Analyst(s):** KBO **Analytical Comments:** a10



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/13/17  
**Date Analyzed:** 11/13/17  
**Instrument:** GC26  
**Matrix:** SoilGas  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148589  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %  
**Sample ID:** MB/LCS-148589

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### QC Summary Report for ASTM D1946-90

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Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Oxygen	ND	0.610	0.20	0.70	-	87	70-130

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC26  
**Matrix:** Soilgas  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148478  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %  
**Sample ID:** MB/LCS-148478

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### QC Summary Report for ASTM D1946-90

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Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	0.0916	0.025	0.10	-	92	60-140

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC26  
**Matrix:** SoilGas  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148577  
**Extraction Method:** ASTM D 1946-90  
**Analytical Method:** ASTM D 1946-90  
**Unit:** %  
**Sample ID:** MB/LCS-148577

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### QC Summary Report for ASTM D1946-90

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Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	0.00882	0.00010	0.010	-	88	70-130

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## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC24  
**Matrix:** SoilGas  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148571  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>  
**Sample ID:** MB/LCS-148571

### QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	72.8	30	60	-	121	60-140
Acrolein	ND	42.9	2.9	58.25	-	74	60-140
Acrylonitrile	ND	53.6	0.55	55	-	97	60-140
tert-Amyl methyl ether (TAME)	ND	106	1.0	105	-	101	60-140
Benzene	ND	73.0	0.80	80	-	91	60-140
Benzyl chloride	ND	88.0	1.3	132.5	-	66	60-140
Bromodichloromethane	ND	174	1.8	175	-	99	60-140
Bromoform	ND	221	2.6	262.5	-	84	60-140
Bromomethane	ND	74.0	1.0	97.5	-	76	60-140
1,3-Butadiene	ND	57.1	0.55	55	-	104	60-140
2-Butanone (MEK)	ND	74.6	38	75	-	100	60-140
t-Butyl alcohol (TBA)	ND	86.6	16	77.5	-	112	60-140
Carbon Disulfide	ND	73.1	0.80	80	-	91	60-140
Carbon Tetrachloride	ND	123	1.6	160	-	77	60-140
Chlorobenzene	ND	109	1.2	117.5	-	92	60-140
Chloroethane	ND	61.7	0.65	67.5	-	91	60-140
Chloroform	ND	98.6	1.2	122.5	-	80	60-140
Chloromethane	ND	43.8	0.50	52.5	-	83	60-140
Cyclohexane	ND	78.6	9.0	87.5	-	90	60-140
Dibromochloromethane	ND	206	2.2	217.5	-	95	60-140
1,2-Dibromo-3-chloropropane	0.1636	289	0.060	245	-	118	60-140
1,2-Dibromoethane (EDB)	ND	170	2.0	195	-	87	60-140
1,2-Dichlorobenzene	ND	150	1.5	152.5	-	98	60-140
1,3-Dichlorobenzene	ND	149	1.5	152.5	-	98	60-140
1,4-Dichlorobenzene	ND	148	1.5	152.5	-	97	60-140
Dichlorodifluoromethane	ND	74.9	1.2	125	-	60	60-140
1,1-Dichloroethane	ND	91.0	1.0	102.5	-	89	60-140
1,2-Dichloroethane (1,2-DCA)	ND	79.2	1.0	102.5	-	77	60-140
1,1-Dichloroethene	ND	98.3	1.0	100	-	98	60-140
cis-1,2-Dichloroethene	ND	89.7	1.0	100	-	90	60-140
trans-1,2-Dichloroethene	ND	89.7	1.0	100	-	90	60-140
1,2-Dichloropropane	ND	110	1.2	117.5	-	94	60-140
cis-1,3-Dichloropropene	ND	109	1.2	115	-	95	60-140
trans-1,3-Dichloropropene	ND	107	1.2	115	-	93	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	158	1.8	177.5	-	89	60-140
Diisopropyl ether (DIPE)	ND	94.0	1.0	105	-	90	60-140
1,4-Dioxane	ND	117	0.90	92.5	-	126	60-140

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC24  
**Matrix:** SoilGas  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148571  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>  
**Sample ID:** MB/LCS-148571

### QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethanol	ND	64.1	48	47.5	-	135	60-140
Ethyl acetate	ND	89.1	0.90	92.5	-	96	60-140
Ethyl tert-butyl ether (ETBE)	ND	95.6	1.0	105	-	91	60-140
Ethylbenzene	ND	99.1	1.1	110	-	90	60-140
4-Ethyltoluene	ND	117	1.2	125	-	93	60-140
Freon 113	ND	170	2.0	195	-	87	60-140
Heptane	ND	99.8	10	105	-	95	60-140
Hexachlorobutadiene	ND	273	2.7	270	-	101	60-140
Hexane	ND	81.5	9.0	90	-	91	60-140
2-Hexanone	ND	101	1.0	105	-	97	60-140
Isopropyl Alcohol	ND	66.4	25	62.5	-	106	60-140
4-Methyl-2-pentanone (MIBK)	ND	104	1.0	105	-	99	60-140
Methyl-t-butyl ether (MTBE)	ND	84.2	0.90	92.5	-	91	60-140
Methylene chloride	ND	71.9	4.4	87.5	-	82	60-140
Methyl methacrylate	ND	89.4	1.0	104	-	86	60-140
Naphthalene	ND	256	2.6	265	-	97	60-140
Propene	ND	1.02	44	42.5	-	2, F2	60-140
Styrene	ND	74.4	1.1	107.5	-	69	60-140
1,1,1,2-Tetrachloroethane	ND	129	1.8	175	-	74	60-140
1,1,2,2-Tetrachloroethane	ND	164	1.8	175	-	94	60-140
Tetrachloroethene	ND	151	1.7	172	-	88	60-140
Tetrahydrofuran	ND	63.5	1.5	75	-	85	60-140
Toluene	ND	88.6	0.95	95	-	93	60-140
1,2,4-Trichlorobenzene	ND	201	1.9	187.5	-	107	60-140
1,1,1-Trichloroethane	ND	142	1.4	137.5	-	103	60-140
1,1,2-Trichloroethane	ND	124	1.4	137.5	-	90	60-140
Trichloroethene	ND	130	1.4	137.5	-	94	60-140
Trichlorofluoromethane	ND	122	1.4	142.5	-	86	60-140
1,2,4-Trimethylbenzene	ND	114	1.2	125	-	91	60-140
1,3,5-Trimethylbenzene	ND	109	1.2	125	-	87	60-140
Vinyl Acetate	ND	98.6	9.0	90	-	109	60-140
Vinyl Chloride	ND	68.4	0.65	65	-	105	60-140
Xylenes, Total	ND	299	3.3	330	-	91	60-140

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC24  
**Matrix:** SoilGas  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148571  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>  
**Sample ID:** MB/LCS-148571

### QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
1,2-DCA-d4	467.5	487		500	94	97	70-130
Toluene-d8	504.8	507		500	101	101	70-130
4-BFB	494.7	504		500	99	101	70-130



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC37  
**Matrix:** Sorbent Tube  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148540  
**Extraction Method:** TO17  
**Analytical Method:** TO17  
**Unit:** µg/m<sup>3</sup>  
**Sample ID:** MB/LCS-148540

### QC Summary Report for VOCs by TO17

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1,1-Trichloroethane	ND	51.6	2.0	50	-	103	60-140
1,1-Dichloroethane	ND	38.6	2.0	50	-	77	60-140
1,1-Dichloroethene	ND	60.4	2.0	50	-	121	60-140
1,1-Dichloropropene	ND	55.6	2.0	50	-	111	60-140
2,2-Dichloropropane	ND	50.0	2.0	50	-	100	60-140
2-Butanone (MEK)	ND	210	8.0	200	-	105	60-140
2-Hexanone	ND	34.5	2.0	50	-	69	60-140
4-Methyl-2-pentanone (MIBK)	ND	38.7	2.0	50	-	77	60-140
Acetone	ND	1080	20	1000	-	108	60-140
Bromochloromethane	ND	53.9	2.0	50	-	108	60-140
Carbon Disulfide	ND	56.5	2.0	50	-	113	60-140
Carbon Tetrachloride	ND	42.1	2.0	50	-	84	60-140
Chloroform	ND	62.1	2.0	50	-	124	60-140
cis-1,2-Dichloroethene	ND	53.0	2.0	50	-	106	60-140
Dibromomethane	ND	48.9	2.0	50	-	98	60-140
Dichlorodifluoromethane	ND	39.9	2.0	50	-	80	60-140
Diisopropyl ether (DIPE)	ND	53.4	2.0	50	-	107	60-140
Ethyl tert-butyl ether (ETBE)	ND	37.9	2.0	50	-	76	60-140
Methylene chloride	ND	50.0	2.0	50	-	100	60-140
n-Butyl benzene	ND	38.9	2.0	50	-	78	60-140
t-Butyl alcohol (TBA)	ND	143	8.0	200	-	71	60-140
tert-Amyl methyl ether (TAME)	ND	54.1	2.0	50	-	108	60-140
Tetrahydrofuran	ND	320	2.0	500	-	64	60-140
trans-1,2-Dichloroethene	ND	53.6	2.0	50	-	107	60-140
Trichlorofluoromethane	ND	55.1	2.0	50	-	110	60-140
Benzene	ND	54.4	2.0	50	-	109	60-140
Bromobenzene	ND	44.7	2.0	50	-	89	60-140
Bromodichloromethane	ND	50.7	2.0	50	-	101	60-140
Bromoform	ND	47.0	2.0	50	-	94	60-140
sec-Butyl benzene	ND	39.6	2.0	50	-	79	60-140
tert-Butyl benzene	ND	44.6	2.0	50	-	89	60-140
Chlorobenzene	ND	44.0	2.0	50	-	88	60-140
2-Chlorotoluene	ND	46.6	2.0	50	-	93	60-140
4-Chlorotoluene	ND	45.2	2.0	50	-	90	60-140
Dibromochloromethane	ND	48.5	2.0	50	-	97	60-140
1,2-Dibromo-3-chloropropane	ND	15.6	2.0	20	-	78	60-140
1,2-Dibromoethane (EDB)	ND	43.8	2.0	50	-	88	60-140

(Cont.)



## Quality Control Report

**Client:** Environmental Investigation Services, Inc.  
**Date Prepared:** 11/10/17  
**Date Analyzed:** 11/10/17  
**Instrument:** GC37  
**Matrix:** Sorbent Tube  
**Project:** 1652-2A

**WorkOrder:** 1711352  
**BatchID:** 148540  
**Extraction Method:** TO17  
**Analytical Method:** TO17  
**Unit:** µg/m<sup>3</sup>  
**Sample ID:** MB/LCS-148540

### QC Summary Report for VOCs by TO17

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,2-Dichlorobenzene	ND	47.9	2.0	50	-	96	60-140
1,3-Dichlorobenzene	ND	48.8	2.0	50	-	98	60-140
1,4-Dichlorobenzene	ND	48.7	2.0	50	-	97	60-140
1,2-Dichloroethane (1,2-DCA)	ND	36.3	2.0	50	-	73	60-140
1,2-Dichloropropane	ND	36.9	2.0	50	-	74	60-140
1,3-Dichloropropane	ND	50.6	2.0	50	-	101	60-140
cis-1,3-Dichloropropene	ND	49.4	2.0	50	-	99	60-140
trans-1,3-Dichloropropene	ND	51.8	2.0	50	-	104	60-140
Ethylbenzene	ND	43.9	2.0	50	-	88	60-140
Hexachlorobutadiene	ND	43.6	2.0	50	-	87	60-140
Isopropylbenzene	ND	39.8	2.0	50	-	80	60-140
4-Isopropyl toluene	ND	43.1	2.0	50	-	86	60-140
Methyl-t-butyl ether (MTBE)	ND	50.8	2.0	50	-	102	60-140
Naphthalene	ND	36.3	2.0	50	-	73	60-140
n-Propyl benzene	ND	45.7	2.0	50	-	91	60-140
Styrene	ND	38.3	2.0	50	-	77	60-140
1,1,1,2-Tetrachloroethane	ND	44.5	2.0	50	-	89	60-140
1,1,2,2-Tetrachloroethane	ND	43.0	2.0	50	-	86	60-140
Tetrachloroethene	ND	68.8	2.0	50	-	138	60-140
Toluene	ND	47.3	2.0	50	-	95	60-140
1,2,3-Trichlorobenzene	ND	43.0	2.0	50	-	86	60-140
1,2,4-Trichlorobenzene	ND	44.2	2.0	50	-	88	60-140
1,1,2-Trichloroethane	ND	49.0	2.0	50	-	98	60-140
Trichloroethene	ND	54.0	2.0	50	-	108	60-140
1,2,3-Trichloropropane	ND	37.0	2.0	50	-	74	60-140
1,2,4-Trimethylbenzene	ND	41.8	2.0	50	-	84	60-140
1,3,5-Trimethylbenzene	ND	40.5	2.0	50	-	81	60-140
Xylenes, Total	ND	130	6.0	150	-	87	60-140
<b>Surrogate Recovery</b>							
1,2-DCA-d4	70.31	82.0		100	70	82	70-130
toluene-d8	84.66	99.8		100	85	100	70-130
4-BFB	80.33	88.6		100	80	89	70-130



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1711352

ClientCode: EISI

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

**Report to:**

Peter Littman  
Environmental Investigation Services, Inc  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
(408) 871-1470    FAX: (408) 871-1520

Email: plittman@eis1.net  
cc/3rd Party: pmclaughlin@esi1.net; pmcl2@gmail.com;  
PO:  
ProjectNo: 1652-2A

**Bill to:**

Barbara  
Env. Investigation Svcs., Inc.  
15951 Los Gatos Blvd., Suite 17  
Los Gatos, CA 95032  
barbara@eis1.net

**Requested TAT: 5 days;**

**Date Received: 11/08/2017**

**Date Logged: 11/09/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1711352-001	SV-5A	SoilGas	11/7/2017 13:12	<input type="checkbox"/>		A				A		A	A	A			
1711352-002	SV-5B	SoilGas	11/7/2017 13:53	<input type="checkbox"/>	A	A	A	A							A		
1711352-003	SV-4A	SoilGas	11/7/2017 15:29	<input type="checkbox"/>		A						A	A	A			
1711352-004	SV-4B	SoilGas	11/7/2017 16:14	<input type="checkbox"/>	A	A	A	A							A		
1711352-005	SV-3A	SoilGas	11/8/2017 10:33	<input type="checkbox"/>		A						A	A	A			
1711352-006	SV-3A DUP	SoilGas	11/8/2017 10:33	<input type="checkbox"/>		A						A	A	A			
1711352-007	SV-3B	SoilGas	11/8/2017 11:45	<input type="checkbox"/>	A	A	A	A							A		
1711352-008	SV-3B DUP	SoilGas	11/8/2017 11:45	<input type="checkbox"/>	A	A	A	A							A		
1711352-009	Unused Summa	SoilGas	<Not Provided>	<input type="checkbox"/>							A					A	

**Test Legend:**

1	ATMOSPHERICGAS_SG(%)	2	HELIUM_LC_SOILGAS(%)	3	LG_SUMMA_SOILGAS(%)	4	PRDamaged equipfee
5	PREDF REPORT	6	PRUNUSEDSUMMA	7	TO15_HIGHLEVEL_SOIL(UG/M3)	8	TO15_Scan-SIM_SOIL(UG/M3) [N]
9	TO15-8260_SOIL(UG/M3) [N]	10	TO17VOC_ST(UGM3)	11	UNUSED_SUMMA	12	

**Prepared by: Jena Alfaro**

The following SampIDs: 001A, 003A, 005A, 006A contain testgroup TO15He\_SG(UG/M3).; The following SampIDs: 002A, 004A, 007A, 008A contain testgroup TO17+Helium\_SG(UG/M3).

**Comments:** TO17 FOR 007 & 008 will not be done due to damaged tubes; all 4 ST were damaged in the field. Only data fro -002 and -004 was recovered.

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





### WORK ORDER SUMMARY

Client Name: ENVIRONMENTAL INVESTIGATION SERVICES, IN Project: 1652-2A

Work Order: 1711352

Client Contact: Peter Littman

QC Level: LEVEL 2

Contact's Email: plittman@eis1.net

Comments: TO17 FOR 007 & 008 will not be done due to damaged tubes; all 4 ST were damaged in the field. Only data fro -002 and -004 was

Date Logged: 11/9/2017

WaterTrax  WriteOn  EDF  Excel  Fax  Email  HardCopy  ThirdParty  J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711352-001A	SV-5A	SoilGas	TO15 w/ Helium	1	1L Summa	<input type="checkbox"/>	11/7/2017 13:12	5 days		<input type="checkbox"/>	
1711352-002A	SV-5B	SoilGas	ASTM D1946-90 (CO, CO2, C1-C6) <Carbon Monoxide_2, Methane_4> TO17 with Helium as a Leak Check ASTM D1946-90 (N2 O2) <Oxygen>	2	1L Summa & Sorbent Tube	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	11/7/2017 13:53	5 days 5 days 5 days		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
1711352-003A	SV-4A	SoilGas	TO15 w/ Helium	1	1L Summa	<input type="checkbox"/>	11/7/2017 15:29	5 days		<input type="checkbox"/>	
1711352-004A	SV-4B	SoilGas	ASTM D1946-90 (CO, CO2, C1-C6) <Carbon Monoxide_2, Methane_4> TO17 with Helium as a Leak Check ASTM D1946-90 (N2 O2) <Oxygen>	2	1L Summa & Sorbent Tube	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	11/7/2017 16:14	5 days 5 days 5 days		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
1711352-005A	SV-3A	SoilGas	TO15 w/ Helium	1	1L Summa	<input type="checkbox"/>	11/8/2017 10:33	5 days		<input type="checkbox"/>	
1711352-006A	SV-3A DUP	SoilGas	TO15 w/ Helium	1	1L Summa	<input type="checkbox"/>	11/8/2017 10:33	5 days		<input type="checkbox"/>	
1711352-007A	SV-3B	SoilGas	ASTM D1946-90 (CO, CO2, C1-C6) <Carbon Monoxide_2, Methane_4> TO17 with Helium as a Leak Check ASTM D1946-90 (N2 O2) <Oxygen>	2	1L Summa & Sorbent Tube	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	11/8/2017 11:45	5 days 5 days 5 days		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
1711352-008A	SV-3B DUP	SoilGas	ASTM D1946-90 (CO, CO2, C1-C6) <Carbon Monoxide_2, Methane_4> TO17 with Helium as a Leak Check	2	1L Summa & Sorbent Tube	<input type="checkbox"/> <input type="checkbox"/>	11/8/2017 11:45	5 days 5 days		<input type="checkbox"/> <input type="checkbox"/>	

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

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



### WORK ORDER SUMMARY

**Client Name:** ENVIRONMENTAL INVESTIGATION SERVICES, IN **Project:** 1652-2A

**Work Order:** 1711352

**Client Contact:** Peter Littman

**QC Level:** LEVEL 2

**Contact's Email:** plittman@eis1.net

**Comments:** TO17 FOR 007 & 008 will not be done due to damaged tubes; all 4 ST were damaged in the field. Only data fro -002 and -004 was


**Date Logged:** 11/9/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1711352-008A	SV-3B DUP	SoilGas	ASTM D1946-90 (N2 O2) <Oxygen>	2	1L Summa & Sorbent Tube	<input type="checkbox"/>	11/8/2017 11:45	5 days		<input type="checkbox"/>	
1711352-009A	Unused Summa	SoilGas	Unused Summa	1	1L Summa	<input type="checkbox"/>	<Not Provided>	5 days		<input type="checkbox"/>	

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

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

 <b>McCAMPBELL ANALYTICAL, INC.</b> 1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701 Telephone: (877) 252-9262 / Fax: (925) 252-9269 www.mccampbell.com      main@mccampbell.com						<b>CHAIN OF CUSTODY RECORD</b>									
						Turn Around Time: 1 Day Rush		2 Day Rush		3 Day Rush		STD <input checked="" type="checkbox"/>		Quote #	
J-Flag / MDL		ESL <input checked="" type="checkbox"/>		Cleanup Approved				Bottle Order #							
Delivery Format: PDF <input checked="" type="checkbox"/>		GeoTracker EDD <input checked="" type="checkbox"/>		EDD		Write On (DW)		EQuIS							
Report To: <u>Peter Littman</u> Bill To: <u>same</u>						<b>Analysis Requested</b>						Helium Shroud SN#			
Company: <u>Environmental Investigation Svcs (EIS)</u>						VOCs TO-15 (µg/m³) - See Notes 8010 by TO-15 (µg/m³) TPH(g) (µg/m³) LEED: (inc. 4PCH, Formaldehyde, CO, Total VOCs) Fixed Gas (CO, Methane, Ethane, Ethylene, Acetylene, Propane, CO) % Fixed Gas: (O <sub>2</sub> , N <sub>2</sub> ) % APH: Aliphatic and/or Aromatic (circle one) µg/m³ Helium Leak Check % Leak Check (IPA, Norflorane, 1,1-difluoroethane) µg/m³ <u>TO-17/Naphthalene</u>						<b>Leak Check Default is IPA</b>			
Email: <u>plittman@eis1.net</u>												Notes: Please specify units if different than default: VOCs is reported in µg/m³, fixed is reported in %.  Matrix Soilgas      Indoor Air Canister Pressure / Vacuum Initial      Final			
Alt Email: <u>pmclaughlin@eis1.net</u> Tele: <u>(408) 402-9800</u>															
Project Name:      Project#: <u>1652-2A</u>															
Project Location: <u>1228-1236 E. 17th St., Oakland, CA</u>															
Sampler Signature: <u>Philip McLaughlin</u>															
SAMPLE ID Location / Field Point		Sampling Start Date      Time		End Time		Canister SN#		Sample Kit / Manifold #							
<u>SV-5A</u>		<u>11/7/17 1306</u>		<u>1312</u>		<u>1919</u>		<u>846</u>							
<u>SV-5B</u>		<u>1346</u>		<u>1353</u>		<u>2631</u>		<u>846</u>							
<u>SV-4A</u>		<u>1503</u>		<u>1529</u>		<u>786</u>		<u>1372</u>							
<u>SV-4B</u>		<u>1608</u>		<u>1614</u>		<u>2638</u>		<u>1372</u>							
<u>SV-3A</u>		<u>11/8/17 1020</u>		<u>1033</u>		<u>2637</u>		<u>1306</u>							
<u>SV-3A DUP</u>		<u>1020</u>		<u>1033</u>		<u>1901</u>		<u>1306</u>							
<u>SV-3B</u>		<u>1132</u>		<u>1145</u>		<u>2542</u>		<u>1306</u>							
<u>SV-3B Dup</u>		<u>1132</u>		<u>1145</u>		<u>2608</u>		<u>1306</u>							

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

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time	Comments / Instructions
<u>Philip McLaughlin</u>	<u>11/8/17</u>	<u>1309</u>	<u>Baxit</u>	<u>11/08/17</u>	<u>1309</u>	
<u>Baxit</u>	<u>11/08/17</u>	<u>1630</u>	<u>[Signature]</u>	<u>11/8/17</u>	<u>1630</u>	



Sample Receipt Checklist

Client Name: Environmental Investigation Services, Inc.  
Project Name: 1652-2A  
WorkOrder No: 1711352 Matrix: SoilGas  
Carrier: Basit Sheikh (MAI Courier)

Date and Time Received 11/8/2017 16:30  
Date Logged: 11/9/2017  
Received by: Jena Alfaro  
Logged by: Jena Alfaro

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

UCMR Samples:

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

Comments: