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Via E-Mail:

July 26/2015

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**Subject: Soil Investigation Report
94th and International Blvd., Oakland, CA
9400-9500 International Blvd. | Oakland, California**


Dear Mr. Northridge:

At your request, Applied Remedial Services, Inc. (ARS) has prepared the following Soil Investigation Report (SIR) to present the findings of soil sampling activities at the properties located on 9400-9500 International Blvd. in Oakland, CA (the "Site"). The assessment was conducted as a result of the proposed development of the site and the generation of a soil stockpile from mass and structural excavations on the property.

ARS advanced nine (9) borings at the site and collected twenty seven (27) soil samples from various depths between two (2) feet and ten (10) feet beneath the ground surface (bgs). The samples were analyzed for petroleum hydrocarbon related compounds, heavy metals, polychlorinated biphenyls, volatile organic compounds, semi-volatile organic compounds, chlorinated pesticides and asbestos containing materials in order to characterize the soil for offsite disposal.

We appreciate the opportunity to provide this report of findings to you for this project. **Should you have any questions or comments, please do not hesitate to contact me at (925) 943-7742 (Office) or (707) 567-2202 (Cell) or E-mail me @ mmkara707@aol.com.**

Sincerely,


Michael F. Kara
Principal Toxicologist
Registered Environmental Property Assessor # 386340
Registered Lead Sampling Technician # 21985



cc Mr. Larry Cochran, CRMI

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SOIL INVESTIGATION REPORT

**94th AND INTERNATIONAL BOULEVARD
9400-9500 INTERNATIONAL BOULEVARD | OAKLAND, CA**

Prepared for:

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July 26, 2015

SOIL INVESTIGATION REPORT

94th AND INTERNATIONAL BOULEVARD 9400-9500 INTERNATIONAL BOULEVARD | OAKLAND, CA

1.0 INTRODUCTION

At the request of Applied Remedial Services, Inc. (ARS) client (Related California), ARS has prepared the following Soil Investigation Report (SIR) to convey the results of soil sampling activities at the 94th and International property located on 9400-9500 International Blvd. in Oakland, CA (the “Site”). The assessment was conducted as a result of the proposed development of the site and the generation of a soil stockpile from mass and structural excavations on the property.

ARS advanced nine soil (9) borings at the site and collected twenty seven (27) soil samples from various depths ranging between two (2) feet and ten (10) feet beneath the ground surface (bgs). The samples were analyzed for petroleum hydrocarbon related compounds (PHCs) such as TPHg (gasoline), TPHd (diesel) and TPHmo (motor oil), heavy metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), chlorinated pesticides and asbestos containing materials (ACM) in order to characterize the soil for offsite disposal.

The assessment was conducted as a result of future soil stockpile generation from the excavation of foundation members and a garage at the site as part of the structural and mass excavations at the property.

Considering that the Site will undergo a large subsurface excavation, significant amount of soil will have to be exported; potential environmental contaminants may be present in the soil based on the prior use of the site. ARS advanced nine (9) spatially distributed borings at the property. The locations of the borings were chosen based on the following reasons:

- 1) Issues were discovered during conducting a Phase I Environmental Site Assessment in June 2015 at the site;
- 2) Collecting six (6) soil samples from two (2) borings which were advanced by the geotechnical firm Rockridge Geotechnical (RG);
- 3) Conversations with Consulting Associates of California (CAC) which was conducting an Asbestos and Lead paint survey of the structures at the Site in late June 2015; and
- 4) ARS’ observations of irregular topography and physiochemical conditions at the Site which were discovered during our site walk.

As a result of the previously mentioned reasons ARS advanced nine (9) soil borings to ten (10) feet below ground surface (bgs).

The data from the soil boring investigation will be utilized to assess:

- 1) Current contaminant levels in subsurface soil;
- 2) Profile soil in place for offsite disposal/recycling options; and
- 3) Evaluate the need if any, for any personal protective clothing by construction workers involved in subsurface foundation construction activities.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The Property is located in a mixed commercial/residential of southeast Oakland, with primarily commercial land use along International Boulevard and single family residential land use east and west away from International Boulevard. According to the USGS 7.5-Minute Quadrangle, San Leandro, California Map, the Property lies on a gently west-southwest sloping plan approximately 2.0 miles east from the San Leandro Bay and 1.5 miles southwest from the Oakland Hills. Based on topography and location, we would expect groundwater flow in the site area to be to the west.

The Property includes three commercial buildings which are generally dilapidated and either not in use or marginally used.

Address	APN #	Business/Latest Occupancy
9500-9502 International Blvd	46-5423-18-2	Main Clinic (drug rehabilitation clinic) Exam
9442 International Blvd	46-5423-19	Rooms and clinic physician offices Food
9440 International Blvd	46-5423-19	Giveaway Building
9434 International Blvd	46-5423-20	De Calores Restaurant (Unoccupied) Eleganthia
9430 International Blvd	46-5423-20	(furniture store) Easement to Hawthorne Street
9428 International Blvd	46-5423-21	Apartment Bldg. (has approx. 6 units)
9426 International Blvd	46-5423-21	Duplex (unoccupied/condemned)
9424 International Blvd	46-5423-22	Church parking lot Church (formerly bank)
9414, 9418, 9420 International Blvd & and 1424 94 th	46-5423-2-2	
9400 International Blvd	46-5423-1-1	
No Specific Address between 9419 & 9425 Holley Street	46-5423-7	

The Site is bordered by the following properties:

North	Northwest from the Property are various commercial businesses along International Boulevard. Northeast from the Property are residential properties.
East	East from the Property are residential properties.
South	South from the Property on both sides of International Boulevard is a Hispanic grocery store/restaurant. Further south along International Boulevard are various commercial businesses.
West	West from the property across International Boulevard are various vacant and commercial/retail properties, followed by residential properties.

2.2 Site Specific Information

The addresses for the Property include even-numbered addresses between 9400 and 9500 International Boulevard (formerly East 14th Street), Oakland, California, 94603 (see Figure 1 and Figure 2). The Property encompasses a nominally rectangular land parcel measuring approximately 316 feet by 150 feet located on the east side of International Boulevard between 94th Avenue and 96th Avenue in Oakland, Alameda County, California. The Property is located at an elevation of approximately 30 feet above mean sea level. The Property is located at latitude of 37° 44' .49.20" North, and longitude of 122° 10' 18.84" West, and the assessor's parcel numbers for the Property are:

<u>Address</u>	<u>APN</u>
9400 International	046-5423-1-1
9414, 9418, 9420 International and 1424 94 th	046-5423-2-2
9424 International	046-5423-22
9426, 9428 International	046-5423-21
9430, 9434 International	046-5423-20
9440, 9442 International	046-5423-19
9500, 9502 International	046-5423-18-2
No address but between 9419 and 9425 Holly Street	046-5423-7

2.3 Site and Vicinity General Characteristics

The Property is located in a mixed commercial/residential of southeast Oakland, with primarily commercial land use along International Boulevard and single family residential

land use east and west away from International Boulevard. The Project Site is comprised of nine individual addresses and five buildings located within a city block bounded by 94th Avenue to the north, 96th Avenue to the south and International Boulevard directly to the west. Holly Street bounds the block to the east side.

During the site reconnaissance, we conducted a drive-by inspection of areas surrounding the Property. The purpose of the site area reconnaissance was to identify sites in the vicinity that may pose a risk to the Property environment.

The Property is located in a mixed commercial/residential of southeast Oakland, with primarily commercial land use along International Boulevard and single family residential land use east and west away from International Boulevard. According to the USGS 7.5-Minute Quadrangle, San Leandro, California Map, the Property lies on a gently west-southwest sloping plan approximately 2.0 miles east from the San Leandro Bay and 1.5 miles southwest from the Oakland Hills. Based on topography and location, we would expect groundwater flow in the site area to be to the west.

2.4 Description of Property Structures and Improvements

The Property currently includes three relatively old commercial building structures in various states of disrepair. Storage and/or parking areas are present on the east side of the Property. East Bay Municipal Utility District (EBMUD) supplies the drinking water to the site. Gas and Electricity are provided to the Property by Pacific Gas & Electric Company (PG&E). Trash service for the Property is provided by Waste Management.

2.5 Physical Setting

The Site elevation is approximately 31 feet above mean sea level. According to the East Bay Plain Groundwater Basin Beneficial Use Evaluation Report from the Cal-RWQCB, June 1999, the site is located within the Oakland Sub-area of the East Bay Plain of the San Francisco Basin. The Oakland Sub-area contains a sequence of alluvial fans. The alluvial fill thickness ranges from 300 to 700 feet deep.

Soils in this region are typically underlain by silts and clays with 1 to 10 foot thick

intervals of sand to a total depth of 30-feet below ground surface (bgs). Typically 3 to 7 feet of sand are encountered in this area during soil boring investigations. Regional lithology consists typically of an upper one or two feet layer of fill. Layers of silts and usually detected beneath the fill and range from two to ten feet bgs. Sands and silty clayey sands are typically encountered at depths ranging from approximately eight to eighteen feet bgs. Silts and clays are usually observed in between 15-20 feet bgs. Sands, silty and clayey soils have been generally documented from 20 to 30 feet bgs.

2.6 Previous Site uses

From Sanborn maps of the Site area, it appears that there was a history of a bank, multiple apartment complexes, residential dwellings and some store fronts. The maps do not indicate the presence of industrial or heavy commercial activities at the Site.

Commercially available databases included two Property listings: (1) Acts Full Gospel Church at 9400 International Boulevard is included on the HAZNET list; and (2) Elmhurst Cleaners & Laundromat at 9434 East 14th Street (currently International Boulevard) is included on the EDR Historical Cleaners list. The HAZNET listing for Acts Full Gospel Church refers to the lawful offsite disposal of 0.54 tons of oil/water separator sludge. This listing, by itself, does not indicate a significant environmental concern for the Property. The EDR Historical Cleaners listing for Elmhurst Cleaners & Launderette includes a date of 1967. Potential dry cleaning solvent (Stoddard solvent or Tetrachloroethene) releases from this cleaner could have impacted soil beneath the Property.

A small fenced area measuring 15 feet by 12 feet along the eastern side behind the Church in the parking lot shown on photo 2 contained evidence of petroleum, grease, paint stains and corrosion on approximately six square feet of concrete floor. There were marks on the floor that resembled a 75-100 gallon rectangular steel structure like an aboveground tank that appeared to containerize oil and grease and there were signs of

discharge on the concrete slab within this area of the parking lot. There was a rancid odor emanating from this area that reeked like a mixture of old decayed refuse and petroleum compounds.

Finally, one possible recognized environmental condition (REC) from historical offsite properties and businesses was detected. Historical Sanborn Maps indicate the presence of an electric train system (Oakland Traction Company and Key System Transit Company) facility just east of the Property, covering the east half of the city-block. This facility was present from at least 1896 to 1939 and included a machine shop, a repair shop, electric generation equipment, electric car barns, and cooling ponds. It is possible that a wide range of solvents, oils, and lubricants were used at this facility and may have impacted environmental conditions on the Property.

2.7 Sites in the vicinity of the Property with Environmental Issues

The following sites are further discussed because of their proximity to the site (0 to 1/8 mile) and higher or equal elevation to the subject site with respect to the potential for contaminant migration by surface- water and/or groundwater pathways. Regional groundwater flow in the area of the subject property is toward the west. Surface water flow presumably follows regional topography, which slopes to the west.

2.8 Akxner Construction, 9512 Plymouth Street

AKXNER Construction is a small quantity generator (SQG). The facility is on the RCRA SQC list which is a designation for companies that generate, store, treat, transport and/or dispose of hazardous waste as defined by RCRA. The site has no violations found and does not handle fuel oil but is listed as handling organic solids. The site activities are not believed to pose a potential for migration of pollution to the subject site.

2.9 Gas Station, 9000 East 14th Street

This site is listed on the Leaking Underground Storage Tank (LUST) CORTESE and CS listing. The leaking underground fuel tank (LUFT) leaked in 1993. Subsurface investigations discovered the leak in 1994 and reported closed in approximately 1996.

The site has a case closed status from 1996, # 01 2131. The site activities are not believed to pose a potential for migration of pollution to the subject site.

2.10 BJA Inc. Gas Station, 9800 International Blvd

BJA is a gas station site that was installed in 1973. The site has three underground gas storage tanks and one used oil tank. The site is on the Historical UST listing. The current status of the site is that pollution characterization is ongoing. The site activities are not believed to pose a potential for migration of pollution to the subject site.

2.11 ARCO #02185, 9800 East 14m Street

This gas station is on the CORTESE, LUST and UST listings for an underground gas storage tank and MTBE. The current status of the site is that pollution characterization is ongoing. The site activities are not believed to pose a potential for migration of pollution to the subject site.

2.12 Pacific Bell, 8925 Holly Street

Pacific Bell is a small quantity generator (SQG). The facility is on the RCRA SQG list which is a designation for companies that generate, store, treat, transport, and/or dispose of hazardous waste as defined by RCRA. The site has no violations reported. The site activities are not believed to pose a potential for migration of pollution to the subject site.

3.0 REPORT ELEMENTS

This report has been drafted to describe the process involved with advancing nine (9) soil borings (SB-1 through SB-9) that were installed on the property and were sampled by ARS between two (2) and ten (10) feet bgs. The laboratory analyzed discrete samples based on suspect analytes that ARS chose as follows are presented in Tables 1-3.

The analytes that were tested were the likely contaminants Petroleum Hydrocarbon Compounds (PHCs), gasoline (TPHg), diesel (TPHd), motor oil (TPH mo), and their aromatic and oxygenated components, Benzene, Toluene, Ethylbenzene, Xylene(s) and MTBE, Polychlorinated Biphenyls (PCBs), Heavy Metals, Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Lead, CAM 17 Heavy Metals and

Asbestos Containing Materials (ACMs).

The borings were located within the future footprint of the proposed new building at the Site (Figure 3) and at locations that we detected aberrations in topography and physical signs of spillage or masses of construction debris that was discarded at the property.

All tasks were conducted in accordance with the approved proposal and with all applicable regulatory guidelines and statutes.

3.1 Pre-field Activities

ARS visited the Site and collected the soil samples on July 2, 2015, the Alameda County Public Works Agency-Water Resources issued permit number 1435332858652 to ARS, a copy of the permit notification is attached in Appendix 1. An underground survey of the locations of the borings was conducted prior to drilling. Prior to initiating sampling activities, a Site Safety Plan was prepared, and a tailgate safety meeting was conducted.

3.2 Drilling and Sampling of Soil Borings

Initially ARS was supposed to collect eight (8) soil borings, however during the collection of the last boring which was behind the former dry cleaner site located at 9434 International Blvd. ARS's staff noted mounds of construction debris, bricks, mortar, nails, spilled paint and a variety of non-native materials in the backyard of the adjacent building located at 9430 International Blvd. (Photos). A decision was made to collect an additional boring (SB-9) and analyze it for a full scan of analytes because it was obvious that the materials have been "dumped" over an extended period of time at this backyard and the fill was from an unknown origin.

The samples were collected in acrylic tubes. The drive probe was equipped with nominal 2" diameter stainless steel tube that line the interior of the probe. The probe and insert tubes were together pneumatically driven using the hammer at 2-foot intervals. After each drive interval the drive probe and rods were retrieved to the surface. The steel tube containing subsurface soil was then removed. The drive probe was then cleaned,

equipped with a new stainless steel and reinserted into the boring as required. The apparatus was then driven following the above procedure until the desired depth is obtained. The tubes and soil were inspected after each drive interval with lithologic and relevant drilling observations recorded. Soil samples were screened for organic vapors using an organic vapor analyzer (OVA). OVA readings, soil staining and other relevant observations were recorded.

The acrylic tubes were sliced at various depths of two (2), six (6) and ten (10) feet for analytical purposes. All coring and sampling equipment were thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. The tubes were then labeled, sealed in a plastic bag, and placed in an ice chest cooled to 4°C with crushed ice for temporary field storage and transportation. The standard chain-of-custody protocol was maintained for all soil samples from the time of collection to arrival at the laboratory.

3.3 Laboratory Analysis of Soil Samples

Soil Samples were analyzed for chemical components that were presented in Section 3 Table 1 of this report.

- 1) TPH-Multi-range Gasoline, Motor Oil & Diesel SW 8015B;
- 2) CAM 17 via US EPA 6020 Heavy Metals;
- 3) Polychlorinated Biphenyls via EPA 8082; and
- 4) VOCs via EPA 8260;
- 5) SVOCs via EPA 8270;
- 6) Chlorinated Pesticides via EPA 8081; and
- 7) Bulk Asbestos Containing Material via PLM

All analyses was conducted at McCampbell Analytical, Inc. of Pittsburg, CA (McCampbell) a State-certified chemical testing laboratory, DHS ELAP License # 1644, NELAP License # 12283CA with a five day turnaround on results.

3.4 Chain of Custody Documentation

COC documentation was completed by the field sampler immediately following material sampling. The COC documentation was signed as relinquished and received each time the sample changed possession. The COC documentation, at a minimum, contained the following elements:

- Project name and number;
- Project contact and phone number;
- Name of field samplers;
- Sample identification numbers;
- Sample date and time of collection;
- Sample matrix;
- Number of containers submitted for each sample;
- Sample container type;
- Analyses requested;
- Turnaround time requested for analyses;
- Preservation of sample containers (if applicable);
- Name and address of analytical laboratory; and
- Comments if applicable.

3.5 Laboratory QA/QC Procedures

The following laboratory QA/QC elements were performed by McCampbell for each analytical method utilized on this project:

- Method Blank;
- Laboratory Control Spike;
- Laboratory Control Spike Duplicate;
- Matrix Spike; and
- Matrix Spike Duplicate.

Analytical data reports from the laboratory were reviewed for compliance with

laboratory QA/QC criteria for this project. The reported laboratory QA/QC results were within acceptable control limits. Items reviewed include holding time in the laboratory prior to extraction; and percent recovery laboratory for QC samples. Laboratory reports for these QA/QC controls are included in Appendix 2 of this report.

The laboratory reported date of sample extraction indicates that all samples were extracted and analyzed within their respective EPA recommended holding times. Dates of sample collection, extraction and analysis are included in the laboratory analytical reports are also provided in Appendix 2. Upon receipt of the analytical data from MacCampbell, the following items were evaluated ARS:

- Sample holding times were met;
- QC sample results were within established laboratory control limits;
- Data package included all requested deliverables;
- Samples were analyzed as requested;
- Appropriate detection limits were obtained;
- Preservation/Temperature;
- Calibration criteria; and
- Blank sample results.

4.0 RESULTS OF THE INVESTIGATION

This section of the report presents ARS field findings and the results of chemical analysis that was performed on the soil samples. Laboratory analytical reports are presented in Appendix 2. Results of soil analysis are presented in the tables and discussed in the following section.

4.1 Laboratory Analytical Results

Results of the chemical analyses were evaluated using the following regulatory criteria:

Whether the soil at the Site meets the legal definition of Hazardous Waste per Section Health & Safety Code (H&SC 25117), California Code of Regulation (CCR 66260.10) and whether it meets the definition of non-hazardous (contaminated) waste per section 20220. SWRCB - Nonhazardous Solid Waste. (C15: Section 2523).

(a) **Definition**—Nonhazardous solid waste means all putrescible and nonputrescible solid, semi solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of waters of the state (i.e., designated waste).

Results of the chemical analyses performed on the soil boring samples indicated the following, the results are tabulated at the end of the report:

- **Total Petroleum Hydrocarbons (TPHs), BTEX and MTBE:**
 - TPHs as gasoline were detected at up to 3.2 mg/kg in SB2-2'; the detected concentration was below the ESL of 100 mg/Kg;
 - BTEX and MTBE were not detected (ND) in any soil sample above their respective detection limits;
 - TPHs as diesel were detected in soil samples at concentrations ranging from ND to 51 mg/Kg. The detected concentrations were below the ESL of 100 mg/Kg; and
 - TPHs as motor oil was detected soil samples between ND and 560 mg/kg. The detected concentrations were above the ESL of 100 mg/Kg.

- **Title 22 Metals:**
 - Antimony was detected in the soil samples at concentrations ranging from 0.51 mg/kg to 3.3 mg/kg. The detected concentration of antimony was **above** the respective ESL of 2 mg/Kg;
 - Arsenic was detected in the soil samples at concentrations ranging from 4.5 mg/kg to 14 mg/kg. The detected concentrations of arsenic were **above** the respective ESL of 0.39 mg/Kg;
 - Barium was detected in the soil samples at concentrations ranging from 270 mg/kg to 1,800 mg/kg. The detected concentrations were **above** the ESL of 750 mg/Kg;
 - Beryllium was not detected in soil samples at concentrations ranging from 0.51 mg/kg to 0.71 mg/kg. The detected concentrations of Beryllium were below the ESL of 4 mg/kg;
 - Cadmium was detected in soil samples at concentrations ranging from 0.54 mg/kg to 1.9 mg/kg. The detected concentrations were below the ESL of 12 mg/Kg;
 - Chromium was detected in soil samples at concentrations ranging from 44 mg/Kg to 61 mg/Kg. The detected concentrations were below the ESL of 1,000 mg/Kg. However, the detected concentrations were at ten (10) times the Soluble Threshold Limit Concentration (STLC) set at 5 mg/L, therefore an STLC extraction was ordered on all soil samples with Total Threshold Limit Concentrations (TTLC) in excess of 50 mg/kg (all soil samples). The results indicated the presence of soluble chromium between 0.09 mg/l to 0.1 mg/l, the detected concentrations are well below the hazardous waste STLC regulatory level of 5 mg/l;
 - Cobalt was detected in soil samples at concentrations ranging from 7.2 mg/Kg to 32 mg/Kg. The detected concentrations were **above** the ESL of 23 mg/Kg;
 - Copper was detected in soil samples at concentrations ranging from 35 mg/Kg to 83 mg/Kg. The detected concentrations were below the ESL of 230 mg/Kg;
 - Lead was detected in soil samples at concentrations ranging from 8.3 mg/kg to 950 mg/kg. The detected concentrations were **above** the ESL of 80 mg/Kg;
 - Mercury was detected in soil samples at the site at concentrations ranging from .055 mg/kg to 15. The detected concentrations were **above** the ESL of 6.7 mg/Kg;
 - Molybdenum was detected in soil samples at concentrations ranging from 0.52 mg/kg to 0.89 mg/kg. The detected concentrations were below the ESL of 40 mg/Kg;
 - Nickel was detected in soil samples at concentrations ranging from 42 mg/kg to 75 mg/Kg. The detected concentrations were below the ESL of 150 mg/Kg;
 - Selenium was detected in soil samples at concentrations ranging from 0.57 mg/kg to 0.58 mg/kg; The detected concentrations were below the ESL of 10 mg/kg;
 - Silver was not detected in soil samples at the site;

- Thallium was not detected in soil samples at the site;
- Vanadium was detected in soil samples at concentrations ranging from 52 mg/Kg to 62 mg/Kg. The detected concentrations were below the ESL for vanadium of 200 mg/Kg; and
- Zinc was detected in soil samples at concentrations ranging from 62 mg/Kg to 930 mg/kg. The detected concentrations were **above** the ESL of 600 mg/Kg.
- **Chlorinated Pesticides** were detected in soil samples at the site. Chlordane was detected at 0.84 mg/kg; the detected concentration was **above** the ESL of 0.44 mg/kg.
- DDD was detected in soil samples between .0024 mg/kg and .018 mg/kg; the detected concentrations were below the ESL of 2.4 mg/kg.
- DDE was detected in soil samples between 0.0022 and 0.0048 mg/kg; the detected concentrations were below the ESL of 1.7 mg/kg.
- DDT was detected in soil samples at 0.0043; the detected concentration is below the ESL of 1.7 mg/kg.
- Dieldrin was detected in soil sample at 0.0043 mg/kg; the detected concentration was **above** the ESL of 0.0023 mg/kg.
- Polychlorinated Biphenyls (PCBs) were not detected above their respective detective detection limits.
- Volatile Organic Compounds (VOCs) were not detected above their respective detective detection limits.
- Semi-Volatile Organic Compounds (SVOCs) were not detected above their respective detective detection limits.
- Asbestos was not detected above its detection limit in soil samples.

5.0 DISCUSSION OF RESULTS

The following presents a discussion of the findings relative to soil disposal and worker safety for the soil samples collected from the borings at the Site.

Results of the soil analyses indicate that the following constituents were detected above their Residential ESL in surficial (2 feet bgs) at the Site:

- 1) Antimony;
- 2) Arsenic;
- 3) Barium;
- 4) Cobalt;
- 5) Lead;
- 6) Mercury;
- 7) Zinc;
- 8) Chlordane; and
- 9) Dieldrin

All chemical constituents were detected below their respective ESL values.

Antimony was discovered at a very low level and only in one sample out of six. So statistically, therefore it was not considered Chemical of Concern (COC).

Arsenic was detected in all samples above its respective ESL value of 0.39 mg/kg. Based on the following rationale, it is believed that the detected concentrations of arsenic in soil are likely representative of background concentration of arsenic at the site:

The spatial distribution of Arsenic observed in the soil samples from the site are all similar concentrations suggesting that the reported concentrations are likely due to naturally occurring Arsenic at the site; and According to RWQCB's *Screening for Environmental concerns at Sites with Contaminated Soil and Groundwater*, naturally-occurring concentrations of Arsenic in soil typically exceed ESLs and therefore alternative screening levels based on regionally-specific established background levels may represent a more appropriate screening level criteria. A search of potential background concentration ranges of Arsenic in soil within the San Francisco Bay Area indicated arsenic in soil for the San Francisco Bay Area are listed at a concentration of approximately 7.2 mg/kg (USGS Professional Paper 1270 Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States). The range of Arsenic observed in soil samples at the site is within the range of Arsenic background concentration in soil within the San Francisco Bay Area based on the referenced documents reviewed. Because the range of Arsenic concentrations for the samples is similar to the background concentration range cited above for the San

Francisco Bay Area, it is not anticipated that additional site characterization or remediation will be required for Arsenic.

Relative to soil disposal, it is likely, based on the soil laboratory analytical results, that the soil is not hazardous and can be disposed of at an approved Class II landfill permitted to accept this soil or can even be exported to an accepting import site based solely on the Arsenic levels.

The Department of Health and Human Services (DHHS) has concluded that inorganic arsenic is known to be a human carcinogen. The International Agency for Research on Cancer (IARC) cites sufficient evidence of a relationship between exposure to arsenic and human cancer. The IARC classification of arsenic is Group 1. The EPA has determined that inorganic arsenic is a human carcinogen by the inhalation and oral routes, and has assigned it the cancer classification, Group A. EPA has calculated an oral cancer slope factor of $1.5 \text{ (mg/kg/day)}^{-1}$ for inorganic arsenic based on human dose-response data. The Permissible Exposure Limit (PEL) for inorganic Arsenic by OSHA for occupational exposure is set at 0.01 mg/m^3 . That is a very low level; our average Arsenic levels at the site are 13.3 mg/kg , because maximum contaminant levels are above RWQCBs ESLs which is 0.39 mg/kg for construction worker safety, a Risk Management Plan (RMP) will most likely be required to protect Site workers during all subsurface-related construction activities. The RMP will basically specify that:

- 1) A thorough site-specific Health and Safety Plan (HSP) should be prepared and implemented during the excavation and loading activities;
- 2) A Dust Control Plan (DCP) should be prepared, the extent of which would involve keeping the dust to an absolute minimum; and
- 3) An Air Monitoring Plan for Lead and Arsenic should be implemented for few days for reasons that we will describe later in the report.

The HSP will likely require air monitoring and implementation of best management practices (BMPs) to insure both worker and pedestrian/public safety throughout the project.

Barium was discovered at a very low level and only in one out of six soil samples. So statistically, therefore it was not considered Chemical of Concern (COC).

Cobalt was discovered in two soil samples with an average soil concentration of 30 mg/kg, the ESL is 23 mg/kg, therefore it was not considered Chemical of Concern (COC) based on its lack of toxicity. Feeding luxurious amounts of cobalt to ruminants enhances ruminal digestion of feeds, especially poorer quality forages, apparently because it stimulates the production of certain microbial populations that have higher cobalt requirements. Good hay will contain adequate cobalt; Kentucky bluegrass, known to nourish the most magnificent horses, is relatively high in cobalt. Dairy cattle in confinement receive feed to which is added cobalt sulfate at a rate of about 2 grams per ton.

Cobalt is actually a plant “bio-stimulant,” similar to molybdenum, because it is required by nitrogen-fixing bacteria, especially on the root nodules of legumes. Like all trace elements in the soil, cobalt is a precursor to enzymes. Enzymes are produced by plants and microbes in order to increase the uptake of elements as well as assist in the synthesis, within the crop, of raw materials that are necessary to produce completely nutrient-dense foods suitable for consumption by livestock and humans. These nutrient-dense compounds found in the pigments are necessary for the plant to resist fungal and insect attack. Consumed by animals and humans, these compounds act as anti-oxidants, immune fuels, endocrine balancers, anti-microbial, tissue repair enhancers and free radical scavengers. Cobalt thus belongs to the family of rare elements that contribute so much to the soil organisms, to plant performance and to healthy animal physiology.

The primary effects of cobalt on respiratory tissues are seen following inhalation exposure, and include diminished pulmonary function, increased frequency of cough, respiratory inflammation, and fibrosis; reported effect levels in occupationally-exposed humans have ranged from 0.015–0.13 mg Co/m³. Animal studies have further identified respiratory tract hyperplasia, pulmonary fibrosis, and emphysema as sensitive effects of cobalt on respiratory tissues. A number of these effects are believed to be the result of the generation of oxidants and free radicals by the cobalt ion. Cobalt exposure also results in sensitization of the immune system, which may result in asthmatic attacks following

inhalation of cobalt in sensitized individuals.

The Permissible Exposure limit (PEL) which is the level that the employer shall assure that no employee is exposed to at a concentration averaged over any 8 hour period for Cobalt is 50 ug/m^3 .

Lead was discovered in four out of six samples at hazardous waste levels and at levels that were far in excess of Residential-ESL levels. The Lead however was sequestered in the upper 2 foot layer of beige sandy gravel clay layer with no lead present in the lower dark clay layer beneath it. So it is contained vertically, the issue though is that we do not know the lateral extent of the lead impacted soil because most this lead was “dumped “ in the form of a surface leak, as such, the potential for Lead impacted media whether it was from petroleum oil or leaded paint chips that were solubilized to arrive into the second layer of soil which is the impervious dark clay layer and then travel laterally (sideways) is very possible, therefore we caution that that the lead impacted soil in the vicinity of soil borings SB-1 and SB-2 may have spread surficially but in a shallow zone and could have contaminated a larger parcel of land.

We cannot predict the size of this area surrounding all hazardous waste soil borings from one single source point in space, we would need several points on all sides of this source area in the shallow zone at 2-3 feet bgs in order to convey a more precise volume of soil that has been impacted. This activity can be done by a hand auger and does not require a permit.

Mercury

Was detected in one out of seven (7) samples, it was detected in the sample SB-2 near the white building within the Church’s parking lot. In the past mercury was used in many water-based latex paints as a fungicide to prevent the growth of bacteria. Its use in interior and exterior latex paint was discontinued in the United States in 1991. Therefore it is not a site soil contaminant but a contaminant within the paint in the white building.

Remediation of the paint from this building must be done very carefully in order not to spread mercury laden paint chips/dust into the soil surrounding the building and north of the building into the soil of the parking lot.

Zinc

The average Zinc level is around 800 mg/kg which is not significantly over the ESL over 600 mg/kg. It was detected in two out of six samples. We do not believe that Zinc is a COC because removal of the Lead will remove the Zinc as a co-contaminant.

Chlordane and Dieldrin

Have been used for termite control in the old days, they are persistent chlorinated pesticides; soil at the property should be screened for Dieldrin and Chlordane below the upper two feet after Class II soil disposal by collecting confirmatory clearance samples to insure that the remaining levels in the soil below the upper two (2) feet are lower than Residential ESLs; because there appears to be some evidence that these two chlorinated pesticides are present in limited areas at the site in concentrations in excess of the ESLs. These pesticides are most likely present in and around perimeters and foundations of old apartment buildings.

6.0 COMPARISON OF RESULTS TO AGENCY THRESHOLDS

Soil at the site will be disturbed due to construction activities in connection with the construction work. The soil has been shown to be impacted with primarily two (2) heavy metals, Arsenic and Lead. These heavy metals have been detected at concentrations that exceed the Residential Soil Regional Water Quality Control Board Environmental Screening Levels (ESLs) which are the most sensitive thresholds and are also used for Worker Exposure limits. Lead has been detected at hazardous waste concentration levels.

Therefore, in consideration of the presence of these hazardous substances in the disturbed soil, ARS has evaluated the potential exposure to dust by off-site receptors (e.g., adjacent residents and pedestrians), workers, and how potential exposure to dust will be managed

in regard to on-site receptors (construction workers) in relation to applicable regulatory requirements during the construction excavation and loading processes.

6.1 Chemical Description and Effects of Exposure to Lead

Lead (inorganic) is a bluish-white or grey, odorless, insoluble, metal solid. Exposure to lead can cause lassitude, insomnia, anorexia, encephalopathy, constipation and paralysis. The target organs of lead are gastrointestinal tract, kidneys, blood and gingival tissue.

The Permissible Exposure Limit (PEL) for lead and its compounds expressed as a TWA is 50 ug/m^3 . The Immediately Dangerous to Life or Health concentration (IDLH) for lead is 700 mg/m^3 . In accordance with OSHA's 1910.1025 (Lead), the following actions must be implemented at the Site in accordance with the following government standards:

1910.1025(d) (3) (i)

The employer shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:

1910.1025(d) (4) (i)

Where a determination conducted under paragraphs (d)(3) of this section shows the possibility of any employee exposure at or above the action level (30 ug/m^3), the employer shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead.

1910.1025(d) (8) (i)

The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.

1910.1025(d) (8) (ii)

Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken or to be taken to reduce exposure to or below the permissible exposure limit.

1910.1025(d) (9)

Accuracy of measurement. The employer shall use a method of monitoring and analysis which has accuracy (to a confidence level of 95%) of not less than plus or minus 20 percent for airborne concentrations of lead equal to or greater than 30 ug/m^3 .

6.2 On-Site Receptors Construction Workers

Construction excavation work activities must be performed at the Site pursuant to a Site Health & Safety plan developed in accordance with 29 CFR 1910.120 (*i.e.*, the “Hazardous Waste Operations and Emergency Response”, also known as the HAZWOPER standard). In compliance with this standard, all personnel dealing with disturbed soil at the Site must have the training, experience and medical clearance to work on the Site during hazardous waste removal activities.

During hazardous waste soil removal activities, level C protection will be required for all workers coming in contact with hazardous waste soil. This will include Tyvek, masks with HEPA cartridges, steel toed boots, goggles and nitrile gloves.

Post-hazardous waste removal activities, the potential need for mitigation measures for worker protection will be evaluated based on comparison of air monitoring results to “Action Levels” that will be based on the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for arsenic of 10 ug/m^3 and the Action level for Lead set at 30 ug/m^3 . In the event air monitoring results exceed these PELs, Hazwoper trained individuals will be required to perform the remaining work.

Arsenic can act as the surrogate for all other particulate exposures (except Lead) because it has the most stringent respirable dust action level of all the potential dust contaminants at this site. In the event the results of ongoing air monitoring indicate contaminant concentrations at least 75% of the established Action Level, developed using the PEL for arsenic, exposure risks will be controlled through the use of personal protective equipment by workers at the Site to prevent their exposure to these contaminants. Such personal protective equipment will be specified in a site-specific health and safety plan.

The use of this equipment is designed to minimize the risk of exposure of contaminants by the on-site workers.

6.3 Chemical Description and Effects of Exposure to Arsenic

OSHA's PEL for Arsenic metal in dust is 10 $\mu\text{g}/\text{m}^3$ (as As). Both arsenate and arsenite are well absorbed by both the oral and inhalation routes. Absorption by the dermal route has not been well characterized, but is low compared to other routes. Prior to 2003, arsenic was used in the production of wood preservatives, primarily copper chromated arsenate (CCA); arsenical wood preservatives have been phased out for certain wood products. Sawing or sanding wood treated with arsenical preservatives can generate arsenic contaminated sawdust. Similarly, burning arsenic-treated wood can result in elevated arsenic levels in smoke. Arsenic and its compounds, especially the trioxide, are used in the production of pesticides, treated wood products, herbicides, and insecticides. These applications are declining, however.

A few species of bacteria are able to use arsenic compounds as respiratory metabolites. Experimentally, tiny quantities of arsenic are an essential dietary element in the rat, hamster, goat, chicken, and presumably many other species, including humans. However, the element often causes toxicity to multicellular life due to its presence in quantities far larger than needed.

Analyzing multiple epidemiological studies on inorganic arsenic exposure suggests a small but measurable risk increase for bladder cancer at 10 ppb. Epidemiological studies have suggested a correlation between chronic consumption of drinking water contaminated with arsenic and the incidence of all leading causes of mortality. The literature provides reason to believe arsenic exposure is causative in the pathogenesis of diabetes.

6.4 Off-Site Receptors Residents

In addition to the air monitoring performed during earth movement activities within the areas in which on-site workers may inhale airborne dust, air monitoring for Arsenic and

Lead will also be performed downwind and up-wind of the earth movement activities – at the boundaries of the Site. The monitoring results will be compared to exposure limits and site specific health-based air action levels will be developed in consideration of the characteristics of the soils that will be disturbed at the Site, as discussed in further detail below.

With respect to Arsenic within the contaminated soil, ARS projects that the risk of exposure to off-site receptors will be well below health-based exposure limits because sampling results indicate that arsenic concentrations in soil are only present at an upper level of 14 mg/kg. At these low concentrations, the release of arsenic into the air from the contaminated soil during excavation activities would be exceedingly limited. In addition, should any emissions actually reach ground surface, considerable mixing and dispersion in ambient air would reduce airborne contaminant concentrations to concentrations well below public health-based limits. In light of the foregoing considerations, the concentrations at or near off-site receptors would be far below all published California health-based exposure limits.

However, with respect to Lead within the contaminated zone, ARS projects that the risk of exposure to off-site receptors and passersby might be above health-based exposure limits because sampling results indicate that Lead concentrations in soil are present at an upper level of 950 mg/kg. At these high concentrations, the release of Lead into the air from the contaminated soil during excavation activities would create risks of exposure to nearby residents and off-site receptors. In light of the foregoing considerations, the concentrations at or near hazardous waste areas identified on Figure 5 would be above all published California health-based exposure limits. Remedial activities must be conducted in accordance to a Dust Control Plan in conjunction with the Air Monitoring Plan to insure compliance with regulatory action framework. In the event, air Lead levels exceed the action level of 30 $\mu\text{g}/\text{m}^3$, work should stop at the site until fugitive dust emissions have been abated.

6.5 Site Safety Officer

A Site Safety Officer must be assigned to the site during hazardous and contaminated soil removal activities to insure worker's safety, proper implementation of the Dust Control Plan and to implement Air Monitoring Program. As part of his duties, he shall be responsible for:

- 1) keeping the onsite Contractor & Client representative informed of project health & safety developments; and are informed of potential hazards anticipated at the Site and procedures and precautions to be implemented on the job;
- 2) ensuring that contractors and subcontractors are informed of the expected hazards and appropriate protective measures at the Site; and
- 3) ensuring that resources are available to provide a safe and healthy work environment for contractor personnel.

SSO shall be responsible for:

- 1) assessing the potential health and safety hazards at the Site;
- 2) recommending appropriate safeguards and procedures;
- 3) modifying the HSP, when necessary; and
- 4) approving changes in safeguards used or operating procedures employed at the Site.

The SSO shall have the authority to:

- 1) require that additional safety precautions or procedures be implemented;
- 2) order an evacuation of the Site, or portion of the Site, or shut down any operation, if he believes a health or safety hazard exists;
- 3) deny unauthorized personnel access to the Site;
- 4) require that any worker obtain immediate medical attention; and
- 5) approve or disallow any proposed modifications to safety precautions or working procedures.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The soil at the Site has been shown to be impacted with seven (7) heavy metals above Residential RWQCB ESL Limits, these heavy metals were Antimony, Arsenic, Barium, Cobalt, Lead, Mercury, and Zinc; in addition two (2) chlorinated pesticides were also detected, they were Chlordane and Dieldrin. Two (2) primary heavy metals, Arsenic and Lead were consistently detected at concentrations that exceed the Residential Soil RWQCB ESLs which are the most sensitive thresholds and are also used for Worker Exposure limits. Lead was the only heavy metal which was detected at hazardous waste concentration levels and must be disposed of as California Hazardous Waste at a permitted Class I facility. The remainder of soil at the site within the upper two (2) feet can be disposed of at a Class II permitted landfill. Any soil that is sent offsite for recycling or re-use purposes must be tested at the rate of 1 composite sample per four discrete samples for each 250 cubic yards for CAM 17 heavy Metals, Petroleum Hydrocarbons-Multi-Range and Chlorinated Pesticides prior to the shipment of this soil to the accepting facility regardless of whether the accepting facility agrees to accept this soil without any further testing due to significant liabilities involved with this activity. In addition to heavy metals there were isolated hits of Chlordane and Dieldrin, both chlorinated pesticides, at limited areas of the site near the perimeter and footings of buildings.

Therefore soil at the Site meets the legal definition of Hazardous Waste per Section Health & Safety Code (H&SC 25117), California Code of Regulation (CCR 66260.10) and it also meets the definition of non-hazardous (contaminated) waste per section 20220. SWRCB - Nonhazardous Solid Waste. (C15: Section 2523).

All impacted soil appears to be in the upper two (2) feet bgs, which contained a more sandy gravel beige clay layer than in the lower two (2) feet dark brown to black clay layer. OSHA has strict guidelines for dealing with hazardous waste sites that have been impacted with Lead, which include worker monitoring, air monitoring, and dust control. Arsenic has the lowest OSHA PEL of any heavy metal, therefore although many heavy metals had been detected above their ESLs, Arsenic can act as the surrogate for all other particulate exposures (except Lead) because it has the most stringent respirable dust

action level of all the potential dust contaminants at this site, except that Lead since it was detected at hazardous waste levels must also be included in the air monitoring program, which must be activated during site soil removal and grading activities within the upper two ft. bgs.

The contaminants appear to be contained vertically, however the lateral extent of contamination is not known because most of the Lead impact was discarded in the form of a surface leak, as such, there is a great probability for Lead impacted media whether it was from petroleum oil, leaded paint or leaded paint chips that were solubilized to reach the deeper layer of soil below two ft. which is the impervious dark clay layer and then travel laterally. Therefore we caution that that the spatial extent of Lead impacted soil in the vicinity of hazardous waste soil borings depicted on Figure 5 has not been delineated, Lead impacted soil has most likely spread surficially in the shallow clay zone and has contaminated an unknown surface area of land.

ARS cannot predict the size of these impacted areas surrounding the subject borings from one single source point, we would need several points on either side of this source area in order to convey a more precise volume of soil that has been impacted. This proposed investigation would be shallow within the upper 2-3 feet, rapid, limited to Lead and no permits are necessary because we would not be drilling below five (5) ft. bgs. Cost for such an investigation would be on the order of \$12,500 for approximately 28 soil borings.

Confirmatory clearance samples must be collected from every hazardous waste area shown on Figure 5 to confirm that remaining Lead levels are below the acceptable 80 mg/kg Residential-ESL level in wall and floor samples from each excavation pit. Conversely, wall and floor samples must also be collected for Arsenic to insure that the levels are below generally acceptable background levels of 7 mg/kg in walls and floor samples even though that the Residential ESL is 0.39 mg/kg. Confirmatory clearance samples should be collected from the floor post the removal of the soil at the site for Dieldrin and chlordane at the rate of one sample per 2,500 square feet to confirm the

remediation of these pesticides from soil below the two foot layer. Any soil sample containing Chlordane at 0.44 mg/kg total Chlordane or Dieldrin at 0.0023 mg/kg should be removed and disposed of at a Class II permitted landfill.

Construction excavation work activities must be performed at the Site pursuant to a Site Health & Safety plan developed in accordance with 29 CFR 1910.120 (*i.e.*, the “Hazardous Waste Operations and Emergency Response”, also known as the HAZWOPER standard). In compliance with this standard, all personnel dealing with disturbed soil at the Site must have the training, experience and medical clearance to work on the Site during hazardous waste removal activities.

Post-hazardous waste removal activities, the potential need for mitigation measures for worker protection will be evaluated based on comparison of air monitoring results to “Action Levels” that will be based on OSHA’s PEL for arsenic of 10 ug/m^3 and the Action level for Lead set at 30 ug/m^3 . In the event air monitoring results exceed these levels, Hazwoper trained individuals will be required to perform the remaining work.

A Dust Control Plan in conjunction with the Air Monitoring and Health and Safety Plan will be required to insure compliance with regulatory action framework due to the presence of hazardous waste at the Site. A Site Safety Officer must be assigned during hazardous and contaminated soil removal activities to insure compliance and proper implementation of these programs per regulatory agency mandates.

Based on the currently-available data, by employing the mitigation measures specified above and adhering with the other identified worker protection requirements for particulates, there should be no exposure by on-site receptors to dust containing hazardous substances at levels exceeding the appropriate occupational limits. In addition, as discussed above, there should be no exposure by off-site receptors to dust containing hazardous substances at levels exceeding appropriate public health-based limits.

Appendix 1
Soil Boring Logs

BORING NUMBER : **SB-1**

BORING LOCATION:
94TH AND INTERNATIONAL

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: PENECORE

DRILLING METHOD: DIRECT-PUSH

BOREHOLE DIAMETER: 2.0-INCHES

COMPLETION METHOD: GROUT

BORING TOTAL DEPTH: 10.0 FEET

GROUNDWATER DEPTH:

START DATE: 07/02/2015

COMPLETION DATE: 07/02/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS ▽ - INITIAL ▲ - FINAL	USCS	LOG OF MATERIAL	
						0.0 - 1.0 ft.	CONCRETE AND BASE ROCK
5	SB-1-2.0	2.0 FT.					
						1.0 - 10.0 ft.	Silty Clay (CL) Dark olive-grey becoming brown at 8 fbg, moist, medium stiff to stiff, no odors or staining.
	SB-1-6.0	6.0 FT.					
10	SB-1-10.0	10.0 FT.					
						TOTAL DEPTH: 10.0 FEET (below ground surface)	
15							
20							

BORING NUMBER : **SB-2**

BORING LOCATION:
94TH AND INTERNATIONAL

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: PENECORE
 DRILLING METHOD: DIRECT-PUSH
 BOREHOLE DIAMETER: 2.0-INCHES
 COMPLETION METHOD: GROUT
 BORING TOTAL DEPTH: 10.0 FEET
 GROUNDWATER DEPTH:

START DATE: 10/15/2014

COMPLETION DATE: 10/15/2014

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS ▽ - INITIAL ▲ - FINAL	USCS	LOG OF MATERIAL	
						DEPTH	DESCRIPTION
						0.0 - 1.0 ft.	ASPHALT AND BASE ROCK
	SB-2-2.0	2.0 FT.			CL	1.0 - 2.0 ft.	Silty, Sandy Clay (CL) Brown slight moisture, fine to medium grain sand, no odors or staining
5	SB-2-6.0	6.0 FT.			CL	2.0 - 10.0 ft.	Silty Clay (CL) Dark brown becoming olive-brown at 8 fbg, moist, medium stiff to stiff, no odors or staining.
10	SB-2-10.0	10.0 FT.				TOTAL DEPTH: 10.0 FEET (below ground surface)	
15							
20							

LOG OF SOIL BORING

SHEET 1 OF 1

BORING NUMBER : **SB-3**

BORING LOCATION:
94TH AND INTERNATIONAL

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

Applied Remedial Services

DRILLING CONTRACTOR: PENECORE

DRILLING METHOD: DIRECT-PUSH

BOREHOLE DIAMETER: 2.0-INCHES






COMPLETION METHOD: GROUT

BORING TOTAL DEPTH: **18.0 FEET**

GROUNDWATER DEPTH:

START DATE: 07/02/2015

COMPLETION DATE: 07/02/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL
				 - INITIAL  - FINAL		
5	SB-3-2.0	2.0 FT.			CL	1.0 - 2.0 ft. Silty, Sandy Clay (CL) Brown slight moisture, fine to medium grain sand, no odors or staining
	SB-3-6.0	6.0 FT.			CL	2.0 - 10.0 ft. Silty Clay (CL) Dark brown becoming brown at 6 fbg, moist, medium stiff to stiff, no odors or staining.
10	SB-3-10.0	10.0 FT.				TOTAL DEPTH: 10.0 FEET (below ground surface)
15						
20						

BORING NUMBER : **SB-4**

BORING LOCATION:
94TH AND INTERNATIONAL

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: EXPLORATION GEO.

DRILLING METHOD: HOLLOW-STEM

BOREHOLE DIAMETER: 8.0-INCHES

COMPLETION METHOD: GROUT

BORING TOTAL DEPTH: 10.0 FEET

GROUNDWATER DEPTH:

START DATE: 006/25/2015

COMPLETION DATE: 06/25/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS ▽ - INITIAL ▲ - FINAL	USCS	LOG OF MATERIAL	
						DESCRIPTION	NOTES
						0.0 - 1.0 ft.	ASPHALT AND BASE ROCK
5	SB-4-2.0	2.0 FT.					
						1.0 - 10.0 ft.	Silty Clay (CL) Dark brown becoming brown at 8 fbg, moist, medium stiff to stiff, no odors or staining.
	SB-4-6.0	6.0 FT.					
10	SB-4-10.0	10.0 FT.					
						TOTAL DEPTH: 10.0 FEET (below ground surface)	
15							
20							

BORING NUMBER : **SB-5**

BORING LOCATION:
94TH AND INTERNATIONAL

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: PENECORE

DRILLING METHOD: DIRECT-PUSH

BOREHOLE DIAMETER: 2.0-INCHES

COMPLETION METHOD: GROUT

BORING TOTAL DEPTH: 10.0 FEET

GROUNDWATER DEPTH:

START DATE: 07/02/2015

COMPLETION DATE: 07/02/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS ▽ - INITIAL ▲ - FINAL	USCS	LOG OF MATERIAL	
						0.0 - 1.0 ft.	CONCRETE AND BASE ROCK
5	SB-5-2.0	2.0 FT.					
						1.0 - 10.0 ft.	Silty Clay (CL) Dark brown becoming brown at 7 fbg, moist, medium stiff to stiff, no odors or staining.
	SB-5-6.0	6.0 FT.					
10							
	SB-5-10.0	10.0 FT.					
						TOTAL DEPTH: 10.0 FEET (below ground surface)	
15							
20							

BORING NUMBER : **SB-6**

BORING LOCATION:
94TH AND INTERNATIONAL

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: EXPLORATION GEO.

DRILLING METHOD: HOLLOW-STEM

BOREHOLE DIAMETER: 8.0-INCHES







COMPLETION METHOD: GROUT

BORING TOTAL DEPTH: 10.0 FEET

GROUNDWATER DEPTH:

START DATE: 07/02/2015

COMPLETION DATE: 07/02/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL
				 - INITIAL  - FINAL		
						0.0 - 1.0 ft. ASPHALT AND BASE ROCK
5	SB-6-2.0	2.0 FT.			 <div style="border: 1px solid black; padding: 2px; display: inline-block;">CL</div>	1.0 - 10.0 ft. Silty Clay (CL) Dark brown becoming brown at 8 fbg, moist, medium stiff to stiff, no odors or staining.
	SB-6-6.0	6.0 FT.				
10	SB-6-10.0	10.0 FT.				
						TOTAL DEPTH: 10.0 FEET (below ground surface)
15						
20						

BORING NUMBER : **SB-7**

BORING LOCATION:
94TH AND INTERNATIONAL

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: PENECORE

DRILLING METHOD: DIRECT-PUSH

BOREHOLE DIAMETER: 2.0-INCHES







COMPLETION METHOD: GROUT

BORING TOTAL DEPTH: 10.0 FEET

GROUNDWATER DEPTH:

START DATE: 07/02/2015

COMPLETION DATE: 07/02/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL
				 - INITIAL  - FINAL		
5	SB-7-2.0	2.0 FT.			 CL	1.0 - 10.0 ft. Silty Clay (CL) Dark brown becoming brown at 8 fbg, moist, medium stiff to stiff, no odors or staining.
	SB-7-6.0	6.0 FT.				
	SB-7-10.0	10.0 FT.				
10	TOTAL DEPTH: 10.0 FEET (below ground surface)					
15						
20						

BORING NUMBER : **SB-8**

BORING LOCATION:
2047 N. MAIN STREET

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING

Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: PENECORE

DRILLING METHOD: DIRECT-PUSH

BOREHOLE DIAMETER: 2.0-INCHES

COMPLETION METHOD: GROUT

BORING TOTAL DEPTH: 10.0 FEET

GROUNDWATER DEPTH:

START DATE: 07/02/2015

COMPLETION DATE: 07/02/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS ▽ - INITIAL ▲ - FINAL	USCS	LOG OF MATERIAL	
						0.0 - 1.0 ft.	ASPHALT AND BASE ROCK
5	SB-8-2.0	2.0 FT.					
						1.0 - 10.0 ft.	Silty Clay (CL) Dark brown becoming brown at 8 fbg, moist, medium stiff to stiff, no odors or staining.
	SB-8-6.0	6.0 FT.					
10	SB-8-10.0	10.0 FT.					
						TOTAL DEPTH: 10.0 FEET (below ground surface)	
15							
20							

BORING NUMBER : **SB-9**

BORING LOCATION:
2047 N. MAIN STREET

BORING TYPE: SOIL BORING

PROJECT NAME: 94TH AND INTERNATIONAL BLVD
 OAKLAND, CALIFORNIA

PROJECT NUMBER:

LOG OF SOIL BORING






Applied Remedial Services

SHEET 1 OF 1

DRILLING CONTRACTOR: PENECORE
 DRILLING METHOD: DIRECT-PUSH
 BOREHOLE DIAMETER: 2.0-INCHES
 COMPLETION METHOD: GROUT
 BORING TOTAL DEPTH: 10.0 FEET
 GROUNDWATER DEPTH:

START DATE: 07/02/2015

COMPLETION DATE: 07/02/2015

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS  - INITIAL  - FINAL	USCS	LOG OF MATERIAL	
5	SB-9-2.0	2.0 FT.			CL	1.0 - 2.0 ft.	Silty, Sandy Clay (CL) Brown slight moisture, fine to medium grain sand, no odors or staining
	SB-9-6.0	6.0 FT.			CL	1.0 - 10.0 ft.	Silty Clay (CL) Dark brown becoming brown at 8 fbg, moist, medium stiff to stiff, no odors or staining.
10	SB-9-10.0	10.0 FT.				TOTAL DEPTH: 10.0 FEET (below ground surface)	
15							
20							

Appendix 2
Figures

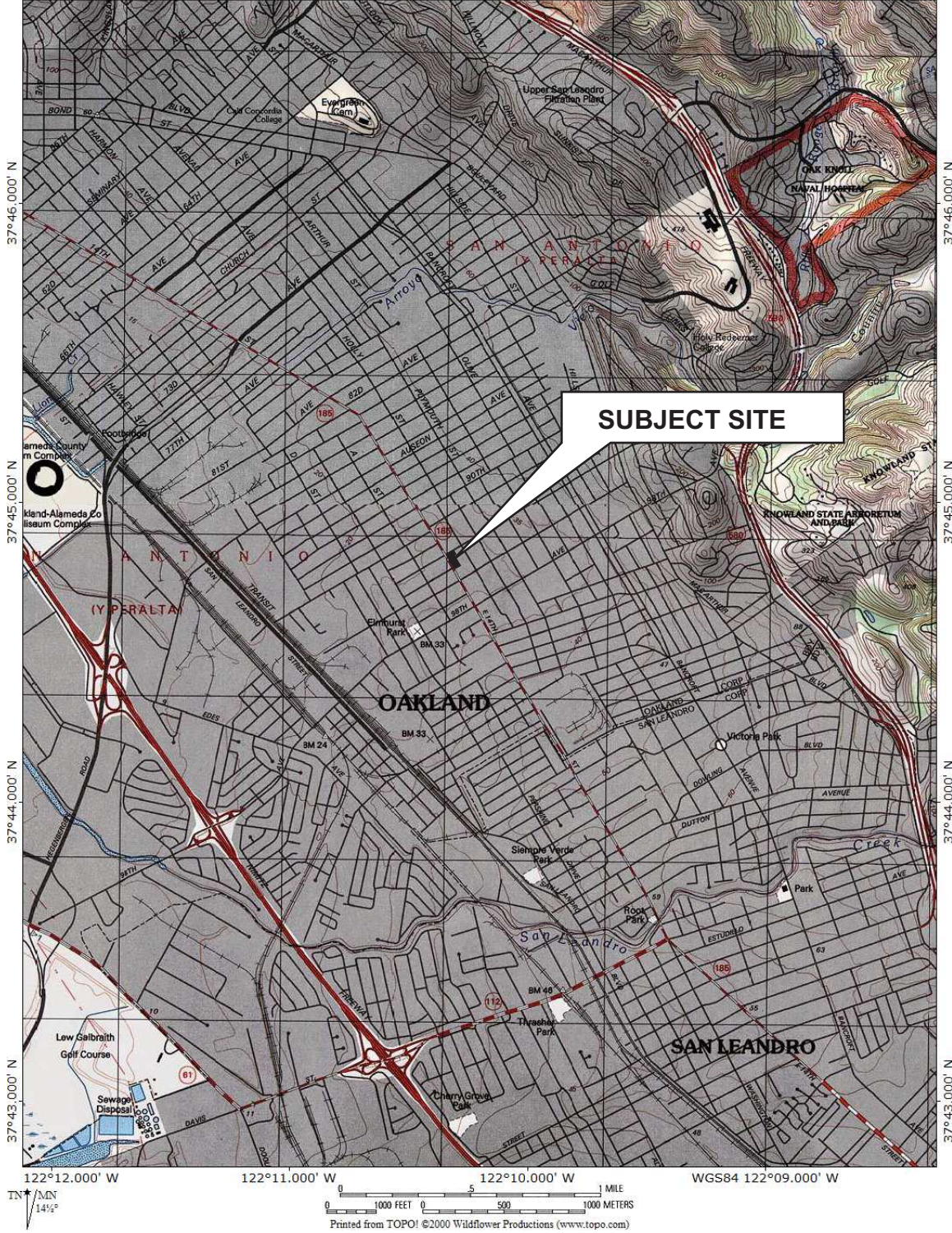
TOPO! map printed on 06/22/15 from "California.tpo" and "Untitled.tpg"

122°12.000' W

122°11.000' W

122°10.000' W

WGS84 122°09.000' W



37°46.000' N
37°45.000' N
37°44.000' N
37°43.000' N

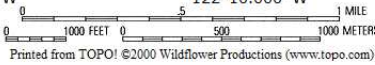
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122°12.000' W

122°11.000' W

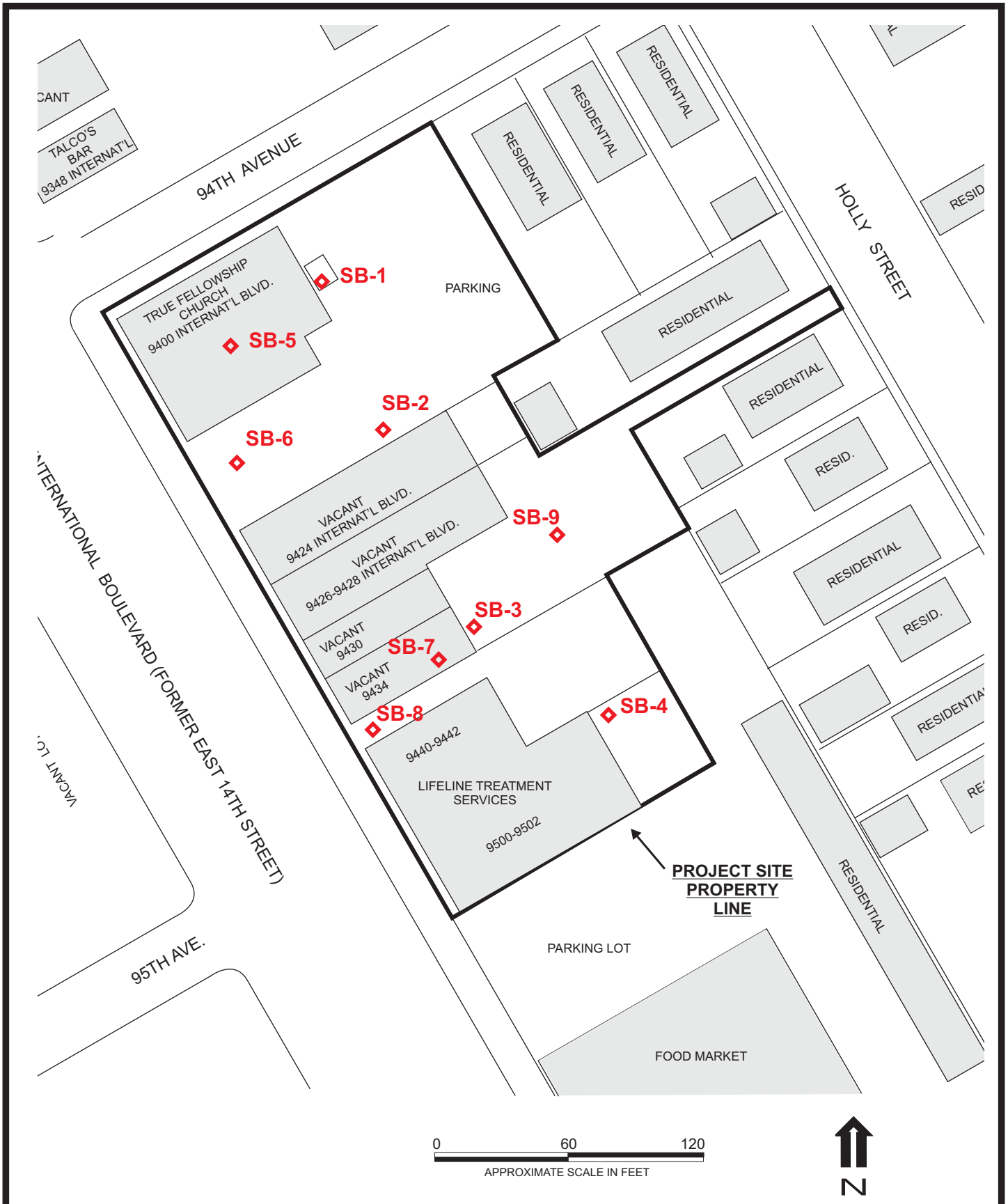
122°10.000' W

WGS84 122°09.000' W



Printed from TOPO! ©2000 Wildflower Productions (www.topo.com)

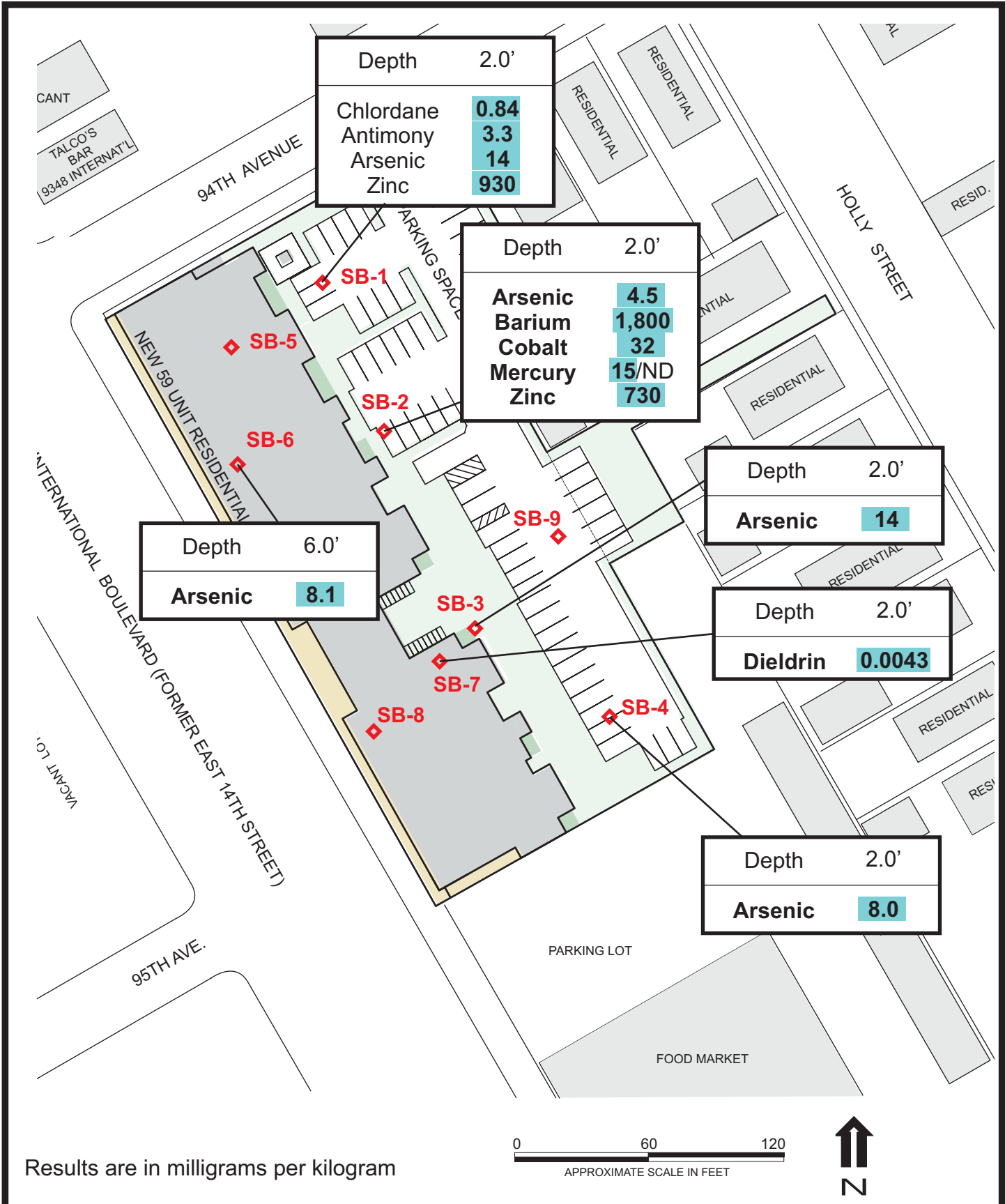
DESIGNED BY: JEG	CHECKED BY: MFK	SITE VICINITY MAP	DATE: 07/13/2015	FIGURE: 1
DRAWN BY: JEG	SCALE:		 <i>Applied Remedial Services, Inc.</i> P.O. Box 5086 Walnut Creek, CA 94596	
PROJECT NO: ARS-15-38-001		9400-9500 INTERNATIONAL BLVD. OAKLAND, CALIFORNIA		



DESIGNED BY: JEG	CHECKED BY: MFK	SITE PLAN SHOWING BORING LOCATIONS 9400-9500 INTERNATIONAL BLVD. OAKLAND, CALIFORNIA	DATE: 07/13/2015	FIGURE: 2
DRAWN BY: JEG	SCALE: 1" = 60'			
PROJECT NO: ARS-15-38-001				



DESIGNED BY: JEG	CHECKED BY: MFK	SITE PLAN SHOWING PROPOSED BUILDING FOOTPRINT 9400-9500 INTERNATIONAL BLVD. OAKLAND, CALIFORNIA	DATE: 07/13/2015	FIGURE: 3
DRAWN BY: JEG	SCALE: 1" = 60'			
PROJECT NO: ARS-15-38-001				



Depth	2.0'
Chlordane	0.84
Antimony	3.3
Arsenic	14
Zinc	930

Depth	2.0'
Arsenic	4.5
Barium	1,800
Cobalt	32
Mercury	15/ND
Zinc	730

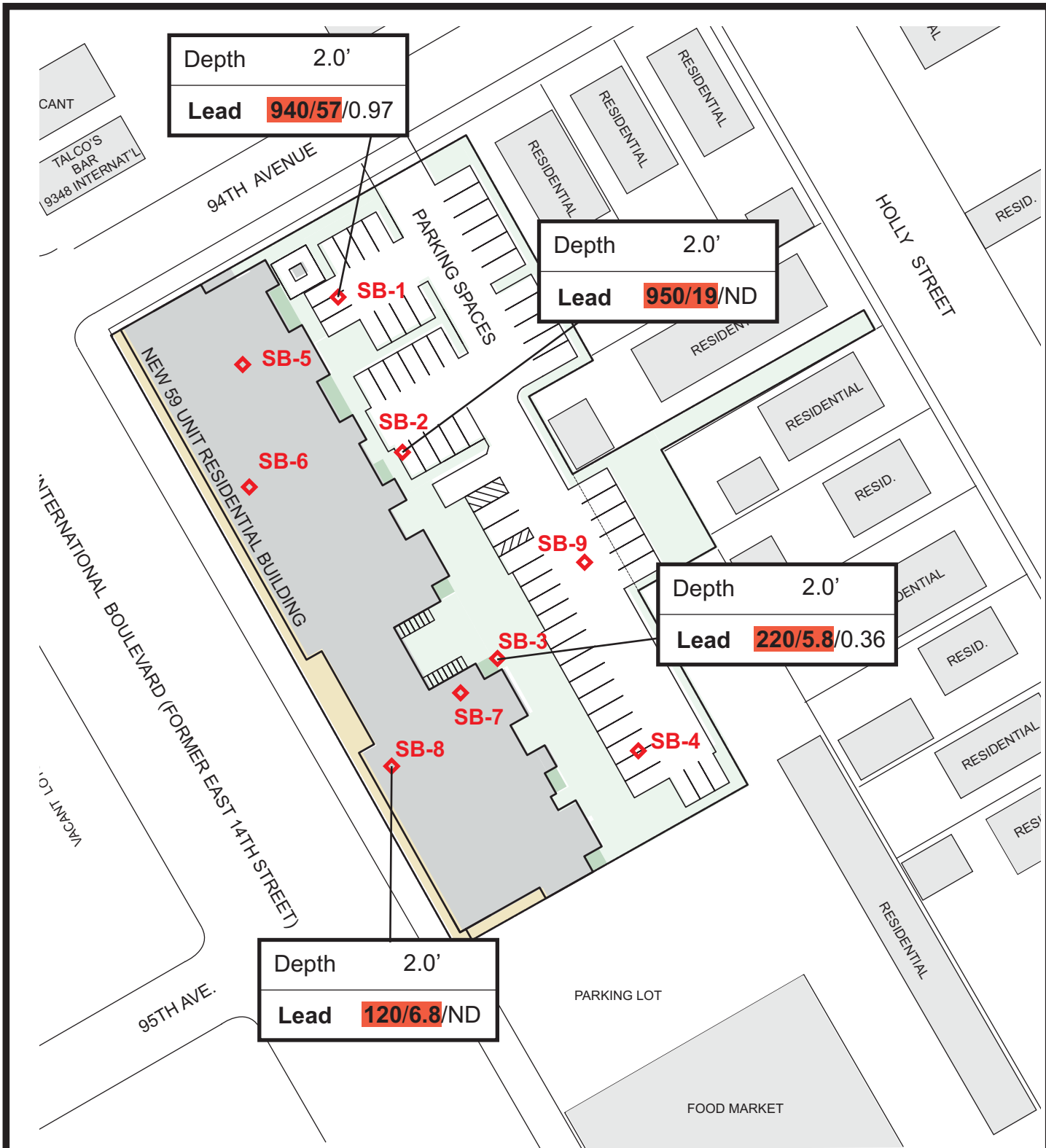
Depth	2.0'
Arsenic	14

Depth	2.0'
Dieldrin	0.0043

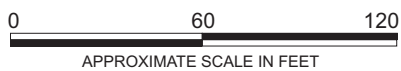
Depth	2.0'
Arsenic	8.0

Depth	6.0'
Arsenic	8.1

DESIGNED BY: JEG	CHECKED BY: MFK	LOCATIONS OF SOIL BORINGS THAT EXCEED CALIFORNIA ESL'S 9400-9500 INTERNATIONAL BLVD. OAKLAND, CALIFORNIA	DATE: 07/26/2015	FIGURE: 4
DRAWN BY: JEG	SCALE: 1" = 60'			
PROJECT NO: ARS-15-38-001				



Totals/STLC/TCLP
 Totals are in milligrams per kilogram
 STLC and TCLP are in milligrams per liter



DESIGNED BY: JEG	CHECKED BY: MFK	LOCATIONS OF SOIL BORINGS THAT EXCEED CALIFORNIA HAZARDOUS WASTE LIMITS 9400-9500 INTERNATIONAL BLVD. OAKLAND, CALIFORNIA	DATE: 07/26/2015	FIGURE: 5
DRAWN BY: JEG	SCALE: 1" = 60'		 Applied Remedial Services, Inc. P.O. Box 5086 Walnut Creek, CA 94596	
PROJECT NO: ARS-15-38-001				

Appendix 3
Tables

TABLE 1

**Total Petroleum Hydrocarbons, TPH (g), BTEX, MTBE, TPH (D), TPH (MO), Lead, VOCs, SVOCs & Asbestos (mg/kg)
94th and International Blvd, Oakland, CA**

Sample ID	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl Benzene	Xylene(s)	MTBE	Lead	STLC Lead	TCLP Lead	CAM 17	PCBs	VOCs	SVOCs	Asbestos
ESLs	100	100	100	0.044	2.9	3.3	3.3	0.023	80	NA	NA	NA	0.22	NA	NA	NA
SB1-2'	ND	19	140	ND	ND	ND	ND	ND	940	57	0.97	present	ND	ND	ND	ND
SB1-6'	ND	ND	ND						9.6							
SB1-10'	ND	ND	ND						8.7							
SB2-2'	3.2	51	560						950	19	ND	present	ND		ND	ND
SB2-6'	ND	ND	ND						9.7							ND
SB2-10'																
SB3-2'	ND	3.5	41	ND	ND	ND	ND	ND	220	5.8	0.36	present		ND	ND	ND
SB3-6'	ND	ND	ND	ND	ND	ND	ND	ND	12					ND		
SB3-10'																
SB4-3'	ND	ND	ND						17			Cr.09				
SB4-6'	ND	ND	ND						8.3							
SB4-10'	ND	ND	ND						6.4							
SB5-2'	ND	ND	ND						200	2.2	ND					ND
SB5-6'	ND	ND	ND						12							
SB5-10'																
SB6-3'	ND	ND	ND						9.5							
SB6-6'	ND	ND	ND						11			Cr 0.1				
SB6-10'	ND	ND	ND						7.1							
SB7-2'	ND	1.4	17						90	3.2			ND	ND	ND	ND
SB7-6'	ND	ND	ND						11							
SB7-10'																
SB8-2'	ND	2	70						120	6.8	ND	present				
SB8-6'	ND	ND	ND						15							
SB8-10'																
SB9-2'	ND	ND	15	ND	ND	ND	ND	ND	60				ND	ND		ND
SB9-6'	ND	ND	ND						9.3							ND
SB9-10'	X	ND	ND						8.4							

Red: California Hazardous Waste Class I Soil

Yellow: Contaminated Soil Class II

ESLs: Environmental Screening Levels-Residential Scenario

Cr levels shown are Soluble (STLC) Chromium

TABLE 2
Organochlorine Pesticides (mg/kg)
94th and International Blvd, Oakland, CA

Sample ID	ESLs	SB1-2'	SB7-2'	SB9-2'	SB3-2'	SB3-6'	SB7-6'
Aldrin		ND	ND	ND	ND	ND	ND
α-BHC		ND	ND	ND	ND	ND	ND
β-BHC		ND	ND	ND	ND	ND	ND
δ-BHC		ND	ND	ND	ND	ND	ND
Chlordane	0.44	0.84	ND	ND	ND	ND	ND
α-Chlordane	NA	0.089	0.0023	ND	ND	ND	ND
γ-Chlordane	NA	0.096	0.0027	ND	ND	ND	ND
4,4'-DDD	2.4	0.018	0.0024	0.0029	ND	ND	ND
4,4'-DDE	1.7	ND	0.0048	0.0022	ND	ND	ND
4,4'-DDT	1.7	ND	0.021	ND	ND	ND	ND
Dieldrin	0.0023	ND	0.0043	ND	ND	ND	ND
Endosulfan I		ND	ND	ND	ND	ND	ND
Endosulfan II		ND	ND	ND	ND	ND	ND
Endosulfan sulfate		ND	ND	ND	ND	ND	ND
Endrin		ND	ND	ND	ND	ND	ND
Endrin Aldehyde		ND	ND	ND	ND	ND	ND
Endrin Ketone		ND	ND	ND	ND	ND	ND
Heptachlor		ND	ND	ND	ND	ND	ND
Heptachlor epoxide		ND	ND	ND	ND	ND	ND
Hexachlorobenzene		ND	ND	ND	ND	ND	ND
chlorocyclopentadiene		ND	ND	ND	ND	ND	ND
Methoxychlor		ND	ND	ND	ND	ND	ND
Toxaphene		ND	ND	ND	ND	ND	ND

ND: Not Detected Above Respective Detection Limit

ESLs: Environmental Screening Levels-Residential Scenario

Aqua: Level in Excess of ESL, needs to be removed and area cleared

Yellow: Contaminated Soil Class II, needs to be removed to a Class II Landfill

Table 3
Heavy Metal Levels (mg/kg)
94th and International Blvd, Oakland, CA

Heavy Metals	SB1-2'	SB2-2'	SB3-2'	SB4-3'	SB6-6'	SB8-2'	USGS ¹	ESL ²
Antimony	3.3	0.51	1.8	ND<0.5	ND<0.5	0.68	0.47	2
Arsenic	14	4.5	14	8	8.1	7.3	7	0.39
Barium	530	1,800	270	230	290	400	580	750
Beryllium	ND<0.5	0.71	0.51	0.7	0.71	0.58	0.68	4
Cadmium	1.9	0.57	1.4	ND<0.25	ND<0.25	0.54	1.5	12
Chromium	53	61	44	56	64	56	41	1,000
Cobalt	10	32	9.9	7.2	12	29	7.1	23
Copper	83	42	68	36	41	35	21	230
Lead	940/57/0.97	950/19/ND	230/5.8/.36	8.3	11	120/6.8/ND	8.7	80
Mercury	0.47	15/ND	0.29	0.055	0.055	0.13	0.46	6.7
Molybdenum	0.52	ND<0.5	0.69	ND<0.5	0.52	0.89	0.85	40
Nickel	45	49	42	43	55	75	15	150
Selenium	ND<0.5	ND<0.5	0.57	ND<0.5	ND<0.5	0.58	0.23	10
Silver	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2	20
Thallium	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	43	0.78
Vanadium	53	58	52	58	62	56	70	200
Zinc	930	730	470	62	75	150	23	600

- 1: **USGS**: United States Geological Society Professional Paper 1270-Element Concentrations in soils and other surficial materials of the conterminous united states (**Background levels**).
- 2: **Regional Water Quality Control Board (RWQCB) Environmental Screening Levels-Sensitive Use (Worker Exposure)** where water is a potential drinking Source Table A-Dec 2013.
- 3: **Aqua Shade**: Indicates level is in excess of RWQCB **Worker Exposure/Residential** ESL.
- 4: **940/57/0.97**: Total Lead level (TTLC)/Soluble Lead Level (STLC)/Federal Soluble Lead Level (TCLP)
- 5: **Red Shade**: Indicates level in excess of hazardous waste thresholds.

Appendix 4
Laboratory Certificates of Analysis



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086 C

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/14/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
h4	sulfuric acid permanganate (EPA 3665) cleanup

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
----	--



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8082
Unit: mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	GC5A	107558

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.050	1	07/13/2015 23:04
Aroclor1221	ND	0.050	1	07/13/2015 23:04
Aroclor1232	ND	0.050	1	07/13/2015 23:04
Aroclor1242	ND	0.050	1	07/13/2015 23:04
Aroclor1248	ND	0.050	1	07/13/2015 23:04
Aroclor1254	ND	0.050	1	07/13/2015 23:04
Aroclor1260	ND	0.050	1	07/13/2015 23:04
PCBs, total	ND	0.050	1	07/13/2015 23:04

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	75	70-130	07/13/2015 23:04

Analyst(s): SS

Analytical Comments: h4



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC10	107551

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	07/13/2015 19:51
tert-Amyl methyl ether (TAME)	ND	0.0050	1	07/13/2015 19:51
Benzene	ND	0.0050	1	07/13/2015 19:51
Bromobenzene	ND	0.0050	1	07/13/2015 19:51
Bromochloromethane	ND	0.0050	1	07/13/2015 19:51
Bromodichloromethane	ND	0.0050	1	07/13/2015 19:51
Bromoform	ND	0.0050	1	07/13/2015 19:51
Bromomethane	ND	0.0050	1	07/13/2015 19:51
2-Butanone (MEK)	ND	0.020	1	07/13/2015 19:51
t-Butyl alcohol (TBA)	ND	0.050	1	07/13/2015 19:51
n-Butyl benzene	ND	0.0050	1	07/13/2015 19:51
sec-Butyl benzene	ND	0.0050	1	07/13/2015 19:51
tert-Butyl benzene	ND	0.0050	1	07/13/2015 19:51
Carbon Disulfide	ND	0.0050	1	07/13/2015 19:51
Carbon Tetrachloride	ND	0.0050	1	07/13/2015 19:51
Chlorobenzene	ND	0.0050	1	07/13/2015 19:51
Chloroethane	ND	0.0050	1	07/13/2015 19:51
Chloroform	ND	0.0050	1	07/13/2015 19:51
Chloromethane	ND	0.0050	1	07/13/2015 19:51
2-Chlorotoluene	ND	0.0050	1	07/13/2015 19:51
4-Chlorotoluene	ND	0.0050	1	07/13/2015 19:51
Dibromochloromethane	ND	0.0050	1	07/13/2015 19:51
1,2-Dibromo-3-chloropropane	ND	0.0040	1	07/13/2015 19:51
1,2-Dibromoethane (EDB)	ND	0.0040	1	07/13/2015 19:51
Dibromomethane	ND	0.0050	1	07/13/2015 19:51
1,2-Dichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,3-Dichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,4-Dichlorobenzene	ND	0.0050	1	07/13/2015 19:51
Dichlorodifluoromethane	ND	0.0050	1	07/13/2015 19:51
1,1-Dichloroethane	ND	0.0050	1	07/13/2015 19:51
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	07/13/2015 19:51
1,1-Dichloroethene	ND	0.0050	1	07/13/2015 19:51
cis-1,2-Dichloroethene	ND	0.0050	1	07/13/2015 19:51
trans-1,2-Dichloroethene	ND	0.0050	1	07/13/2015 19:51
1,2-Dichloropropane	ND	0.0050	1	07/13/2015 19:51
1,3-Dichloropropane	ND	0.0050	1	07/13/2015 19:51
2,2-Dichloropropane	ND	0.0050	1	07/13/2015 19:51
1,1-Dichloropropene	ND	0.0050	1	07/13/2015 19:51

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC10	107551

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	07/13/2015 19:51
trans-1,3-Dichloropropene	ND	0.0050	1	07/13/2015 19:51
Diisopropyl ether (DIPE)	ND	0.0050	1	07/13/2015 19:51
Ethylbenzene	ND	0.0050	1	07/13/2015 19:51
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	07/13/2015 19:51
Freon 113	ND	0.0050	1	07/13/2015 19:51
Hexachlorobutadiene	ND	0.0050	1	07/13/2015 19:51
Hexachloroethane	ND	0.0050	1	07/13/2015 19:51
2-Hexanone	ND	0.0050	1	07/13/2015 19:51
Isopropylbenzene	ND	0.0050	1	07/13/2015 19:51
4-Isopropyl toluene	ND	0.0050	1	07/13/2015 19:51
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/13/2015 19:51
Methylene chloride	ND	0.0050	1	07/13/2015 19:51
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	07/13/2015 19:51
Naphthalene	ND	0.0050	1	07/13/2015 19:51
n-Propyl benzene	ND	0.0050	1	07/13/2015 19:51
Styrene	ND	0.0050	1	07/13/2015 19:51
1,1,1,2-Tetrachloroethane	ND	0.0050	1	07/13/2015 19:51
1,1,2,2-Tetrachloroethane	ND	0.0050	1	07/13/2015 19:51
Tetrachloroethene	ND	0.0050	1	07/13/2015 19:51
Toluene	ND	0.0050	1	07/13/2015 19:51
1,2,3-Trichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,2,4-Trichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,1,1-Trichloroethane	ND	0.0050	1	07/13/2015 19:51
1,1,2-Trichloroethane	ND	0.0050	1	07/13/2015 19:51
Trichloroethene	ND	0.0050	1	07/13/2015 19:51
Trichlorofluoromethane	ND	0.0050	1	07/13/2015 19:51
1,2,3-Trichloropropane	ND	0.0050	1	07/13/2015 19:51
1,2,4-Trimethylbenzene	ND	0.0050	1	07/13/2015 19:51
1,3,5-Trimethylbenzene	ND	0.0050	1	07/13/2015 19:51
Vinyl Chloride	ND	0.0050	1	07/13/2015 19:51
Xylenes, Total	ND	0.0050	1	07/13/2015 19:51

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW5030B

Date Received: 7/2/15 17:52

Analytical Method: SW8260B

Date Prepared: 7/13/15

Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC10	107551

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	110	70-130		07/13/2015 19:51
Toluene-d8	99	70-130		07/13/2015 19:51
4-BFB	125	70-130		07/13/2015 19:51
Benzene-d6	94	60-140		07/13/2015 19:51
Ethylbenzene-d10	105	60-140		07/13/2015 19:51
1,2-DCB-d4	89	60-140		07/13/2015 19:51

Analyst(s): KF



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	GC35	107567

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.050	5	07/13/2015 16:44
Acenaphthylene	ND	0.050	5	07/13/2015 16:44
Anthracene	ND	0.050	5	07/13/2015 16:44
Benzo (a) anthracene	ND	0.050	5	07/13/2015 16:44
Benzo (b) fluoranthene	ND	0.050	5	07/13/2015 16:44
Benzo (k) fluoranthene	ND	0.050	5	07/13/2015 16:44
Benzo (g,h,i) perylene	ND	0.050	5	07/13/2015 16:44
Benzo (a) pyrene	ND	0.050	5	07/13/2015 16:44
Chrysene	ND	0.050	5	07/13/2015 16:44
Dibenzo (a,h) anthracene	ND	0.050	5	07/13/2015 16:44
Fluoranthene	ND	0.050	5	07/13/2015 16:44
Fluorene	ND	0.050	5	07/13/2015 16:44
Indeno (1,2,3-cd) pyrene	ND	0.050	5	07/13/2015 16:44
1-Methylnaphthalene	ND	0.050	5	07/13/2015 16:44
2-Methylnaphthalene	ND	0.050	5	07/13/2015 16:44
Naphthalene	ND	0.050	5	07/13/2015 16:44
Phenanthrene	ND	0.050	5	07/13/2015 16:44
Pyrene	ND	0.050	5	07/13/2015 16:44

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	64	30-130	07/13/2015 16:44
2-Fluorobiphenyl	67	30-130	07/13/2015 16:44

Analyst(s): HK

Analytical Comments: a3



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	ICP-MS1	107559

Analytes	Result	RL	DF	Date Analyzed
Antimony	0.51	0.50	1	07/13/2015 20:27
Arsenic	4.5	0.50	1	07/13/2015 20:27
Barium	1800	5.0	1	07/13/2015 20:27
Beryllium	0.71	0.50	1	07/13/2015 20:27
Cadmium	0.57	0.25	1	07/13/2015 20:27
Chromium	61	0.50	1	07/13/2015 20:27
Cobalt	9.5	0.50	1	07/13/2015 20:27
Copper	32	0.50	1	07/13/2015 20:27
Lead	1000	5.0	10	07/14/2015 14:13
Mercury	15	0.50	10	07/14/2015 14:13
Molybdenum	ND	0.50	1	07/13/2015 20:27
Nickel	49	0.50	1	07/13/2015 20:27
Selenium	ND	0.50	1	07/13/2015 20:27
Silver	ND	0.50	1	07/13/2015 20:27
Thallium	ND	0.50	1	07/13/2015 20:27
Vanadium	58	0.50	1	07/13/2015 20:27
Zinc	730	5.0	1	07/13/2015 20:27
Surrogates	REC (%)	Limits		
Terbium	104	70-130		07/13/2015 20:27

Analyst(s): AC, DVH



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	ICP-MS1	107559

Analytes	Result	RL	DF	Date Analyzed
Antimony	1.8	0.50	1	07/13/2015 20:34
Arsenic	14	0.50	1	07/13/2015 20:34
Barium	270	5.0	1	07/14/2015 14:01
Beryllium	0.51	0.50	1	07/13/2015 20:34
Cadmium	1.4	0.25	1	07/13/2015 20:34
Chromium	44	0.50	1	07/13/2015 20:34
Cobalt	9.9	0.50	1	07/13/2015 20:34
Copper	68	0.50	1	07/13/2015 20:34
Lead	230	0.50	1	07/14/2015 14:01
Mercury	0.29	0.050	1	07/14/2015 14:01
Molybdenum	0.69	0.50	1	07/13/2015 20:34
Nickel	42	0.50	1	07/13/2015 20:34
Selenium	0.57	0.50	1	07/13/2015 20:34
Silver	ND	0.50	1	07/13/2015 20:34
Thallium	ND	0.50	1	07/13/2015 20:34
Vanadium	52	0.50	1	07/13/2015 20:34
Zinc	470	5.0	1	07/13/2015 20:34
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	101	70-130		07/13/2015 20:34

Analyst(s): AC, DVH



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-2'	1507086-016A	Soil	07/02/2015 10:45	ICP-MS1	107559

Analytes	Result	RL	DF	Date Analyzed
Antimony	0.68	0.50	1	07/13/2015 20:40
Arsenic	7.3	0.50	1	07/13/2015 20:40
Barium	400	5.0	1	07/13/2015 20:40
Beryllium	0.58	0.50	1	07/13/2015 20:40
Cadmium	0.54	0.25	1	07/13/2015 20:40
Chromium	56	0.50	1	07/13/2015 20:40
Cobalt	29	0.50	1	07/13/2015 20:40
Copper	35	0.50	1	07/13/2015 20:40
Lead	120	0.50	1	07/13/2015 20:40
Mercury	0.13	0.050	1	07/14/2015 14:07
Molybdenum	0.89	0.50	1	07/13/2015 20:40
Nickel	75	0.50	1	07/13/2015 20:40
Selenium	0.58	0.50	1	07/13/2015 20:40
Silver	ND	0.50	1	07/13/2015 20:40
Thallium	ND	0.50	1	07/13/2015 20:40
Vanadium	56	0.50	1	07/13/2015 20:40
Zinc	150	5.0	1	07/13/2015 20:40
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	107	70-130		07/13/2015 20:40

Analyst(s): AC, DVH



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC5A
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107558
Extraction Method: SW3550B
Analytical Method: SW8082
Unit: mg/kg
Sample ID: MB/LCS-107558
 1507086-004AMS/MSD

QC Summary Report for SW8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	0.130	0.050	0.15	-	87	70-130
PCBs, total	ND	-	0.050	-	-	-	-

Surrogate Recovery

Decachlorobiphenyl	0.0390	0.0403		0.050	78	81	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aroclor1260	0.148	0.154	0.15	ND	99	103	70-130	4.28	30

Surrogate Recovery

Decachlorobiphenyl	0.0386	0.0393	0.050		77	79	70-130	1.98	30
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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC16
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107551
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107551

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0405	0.0050	0.050	-	81	53-116
Benzene	ND	0.0491	0.0050	0.050	-	98	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.157	0.050	0.20	-	78	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0462	0.0050	0.050	-	92	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0437	0.0040	0.050	-	87	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0484	0.0040	0.050	-	97	58-135
1,1-Dichloroethene	ND	0.0486	0.0050	0.050	-	97	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC16
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107551
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107551

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.0464	0.0050	0.050	-	93	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0439	0.0050	0.050	-	88	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0427	0.0050	0.050	-	85	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0511	0.0050	0.050	-	102	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0464	0.0050	0.050	-	93	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

Surrogate Recovery

Dibromofluoromethane	0.124	0.128		0.12	99	102	70-130
Toluene-d8	0.133	0.132		0.12	107	106	70-130
4-BFB	0.0126	0.0127		0.012	100	101	70-130
Benzene-d6	0.0967	0.0964		0.10	97	96	60-140
Ethylbenzene-d10	0.100	0.104		0.10	100	104	60-140
1,2-DCB-d4	0.0764	0.0804		0.10	76	80	60-140



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC35
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107567
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg
Sample ID: MB/LCS-107567
 1507086-004AMS/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 (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.169	0.010	0.20	-	84	30-130
Chrysene	ND	0.135	0.010	0.20	-	68	30-130
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.169	0.010	0.20	-	84	30-130
2-Methylnaphthalene	ND	0.169	0.010	0.20	-	85	30-130
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.150	0.010	0.20	-	75	30-130
Pyrene	ND	0.134	0.010	0.20	-	67	30-130

Surrogate Recovery

1-Fluoronaphthalene	0.210	0.310		0.50	42	62	30-130
2-Fluorobiphenyl	0.213	0.278		0.50	43	56	30-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	NR	NR		ND<0.05	NR	NR	-	NR	
Chrysene	NR	NR		ND<0.05	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		ND<0.05	NR	NR	-	NR	
Pyrene	NR	NR		ND<0.05	NR	NR	-	NR	

Surrogate Recovery

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



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/13/15
Instrument: ICP-MS1
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107559
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107559
 1507086-021AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	51.4	0.50	50	-	103	75-125
Arsenic	ND	53.0	0.50	50	-	106	75-125
Barium	ND	466	5.0	500	-	93	75-125
Beryllium	ND	50.6	0.50	50	-	101	75-125
Cadmium	ND	51.5	0.25	50	-	103	75-125
Chromium	ND	52.4	0.50	50	-	105	75-125
Cobalt	ND	51.7	0.50	50	-	103	75-125
Copper	ND	50.7	0.50	50	-	101	75-125
Lead	ND	52.5	0.50	50	-	105	75-125
Mercury	ND	1.14	0.050	1.25	-	89	75-125
Molybdenum	ND	49.3	0.50	50	-	99	75-125
Nickel	ND	51.4	0.50	50	-	103	75-125
Selenium	ND	54.0	0.50	50	-	108	75-125
Silver	ND	51.4	0.50	50	-	103	75-125
Thallium	ND	50.8	0.50	50	-	102	75-125
Vanadium	ND	51.9	0.50	50	-	104	75-125
Zinc	ND	530	5.0	500	-	106	75-125
Surrogate Recovery							
Terbium	467	486		500	93	97	70-130

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/13/15
Instrument: ICP-MS1
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107559
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107559
 1507086-021AMS/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	48.5	51.4	50	ND	96	102	75-125	5.73	20
Arsenic	59.0	66.0	50	9.562	99	113	75-125	11.1	20
Barium	739	829	500	260.8	96	114	75-125	11.5	20
Beryllium	46.4	51.0	50	0.6513	92	101	75-125	9.36	20
Cadmium	55.5	59.9	50	0.4457	110	119	75-125	7.59	20
Chromium	NR	NR	50	63.90	NR	NR	75-125	NR	20
Cobalt	57.7	67.3	50	16.48	82	102	75-125	15.4	20
Copper	70.4	78.7	50	24.41	92	109	75-125	11.1	20
Lead	60.5	65.1	50	8.840	103	113	75-125	7.32	20
Mercury	1.24	1.37	1.25	0.09140	92	102	75-125	9.98	20
Molybdenum	53.4	57.4	50	0.6746	105	114	75-125	7.27	20
Nickel	NR	NR	50	93.99	NR	NR	75-125	NR	20
Selenium	54.0	54.6	50	ND	107	109	75-125	1.12	20
Silver	54.8	58.5	50	ND	109	117	75-125	6.44	20
Thallium	51.5	55.5	50	ND	103	110	75-125	7.40	20
Vanadium	NR	NR	50	58.16	NR	NR	75-125	NR	20
Zinc	572	615	500	59.14	102	111	75-125	7.33	20
Surrogate Recovery									
Terbium	529	558	500		106	112	70-130	5.24	20



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086 **C** ClientCode: ARSB

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
 Michael F. Kara
 Applied Remedial Services, Inc.
 P.O. Box 5086
 Walnut Creek, CA 94596-1086
 707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
 cc/3rd Party:
 PO:
 ProjectNo: 94th & International

Bill to:
 Accounts Payable
 Applied Remedial Services, Inc.
 P.O. Box 5086
 Walnut Creek, CA 94596-1086

Requested TAT: 5 days
Date Received: 07/02/2015
Date Add-On: 07/13/2015
Date Printed: 07/13/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1507086-001	SB1-2'	Soil	7/2/2015 9:45	<input type="checkbox"/>			A									
1507086-004	SB2-2'	Soil	7/2/2015 10:20	<input type="checkbox"/>	A		A	A								
1507086-007	SB3-2'	Soil	7/2/2015 11:10	<input type="checkbox"/>				A								
1507086-013	SB7-2'	Soil	7/2/2015 13:00	<input type="checkbox"/>		A										
1507086-016	SB8-2'	Soil	7/2/2015 10:45	<input type="checkbox"/>				A								

Test Legend:

1	8082_PCB_S	2	8260B_S	3	8270_PNA_S	4	CAM17MS_S	5	
6		7		8		9		10	
11		12							

Prepared by: Erika Santos

Add-On Prepared By: Jena Alfaro

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15. Additional Analysis per email added 7/13/15 1 and 2D TATs

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).



WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!
 TCLP DL 1507086-004 7/10/15 STLC 1507086-001 TCLP DL

Contact's Email: mmkara707@aol.com

Date Add-On: 7/13/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-001A	SB1-2'	Soil	SW8270C (PAHs/PNAs)	1	Acetate Liner	7/2/2015 9:45	2 days		<input type="checkbox"/>	
1507086-004A	SB2-2'	Soil	SW6020 (CAM 17)	1	Acetate Liner	7/2/2015 10:20	1 day		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)				2 days		<input type="checkbox"/>	
			SW8082 (PCBs Only)				2 days		<input type="checkbox"/>	
1507086-007A	SB3-2'	Soil	SW6020 (CAM 17)	1	Acetate Liner	7/2/2015 11:10	1 day		<input type="checkbox"/>	
1507086-013A	SB7-2'	Soil	SW8260B (VOCs)	1	Acetate Liner	7/2/2015 13:00	1 day		<input type="checkbox"/>	
1507086-016A	SB8-2'	Soil	SW6020 (CAM 17)	1	Acetate Liner	7/2/2015 10:45	1 day		<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.

1507086



McCAMPBELL ANALYTICAL, INC.
 1534 WILLOW PASS ROAD
 PITTSBURG, CA 94565-1701
 Website: www.mccampbell.com Email: main@mccampbell.com
 Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
 GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Michael Kara Bill To: ARS, Inc.
 Company: ARS, Inc.
p.o. Box 5086
Walnut Creek, CA 94596 E-Mail: mymkara707@aol.com
 Tele: (925) 943-7342 Fax: (925) 943-2314
 Project #: _____ Project Name: 94th International
 Project Location: 94th International (9400-9500 International Blvd, Oakland)
 Sampler Signature: M. Rosman

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED					
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other		
SBI-2'		7/2	0945	1	Aer	x						x				
SBI-6'			0950													
SBI-10'			0955													
SBI-2'			1020													
SBI-6'			1025													
SBI-10'			1030													
SBI-2'			1110													
SBI-6'			1115													
SBI-10'			1120													
SBI-2'			1340													
SBI-6'			1345													
SBI-10'			1350													

Analysis Request													Other	Comments			
BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE																	
TPH as Diesel (6015) Multi Range																	
Total Petroleum OH & Grease (1664 / 5520 E/B&F)																	
Total Petroleum Hydrocarbons (418.1)																	
EPA 8260 (HVOCS)																	
MTBE / BTEX ONLY (EPA 602 / 8021)																	
EPA 505 / 608 / 8081 (CI Pesticides)																	
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners																	
EPA 507 / 8141 (NP Pesticides)																	
EPA 515.3 / 8151 (Acidic CI Herbicides)																	
EPA 524.2 / 624 / 8260 (VOCs)																	
EPA 525.2 / 625 / 8270 (SVOCs)																	
EPA 8270 SIM# 8310 (PAHs / PNAs)																	
CAM 17 Metals (200.8 / 6020)																	
LUFT-5 Metals (200.7 / 200.8 / 6010 / 6020)																	
Lead (200.7 / 200.8 / 6010 / 6020)																	
Asbestos To Micro Analysis																	
STLC PD 7/13/15																	
STLC PD 7/13/15																	

Relinquished By: [Signature] Date: 7/2/15 Time: 1745 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/t° 2.4
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 COMMENTS: please forward Asbestos samples to Microanalytical Laboratory in Emeryville for ACQ work
(Hold sample for 10x STLC) analysis
 VOAS O&G METALS OTHER
 PRESERVATION pH<2

* 7/13/15 1# 2 DTATS * SBS-10' Placed on Hold noted on 7/13/15 Page 19 of 20



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: *Michael Kara* Bill To: *ARS, Inc.*
 Company: *ARS, Inc.*
P.O. Box 5086
Walnut Creek CA 94596 E-Mail: *mmkara707@aol.com*
 Tele: *(925) 943-7742* Fax: *(925) 943-7744*
 Project #: _____ Project Name: *94th International*
 Project Location: *9400-9500 International Blvd. Oakland, CA.*
 Sampler Signature: *M. Rosman*

SAMPLE ID		LOCATION/ Field Point Name	SAMPLING		# Containers	MATRIX					METHOD PRESERVED		Analysis Request													Other	Comments									
Date	Time	Water	Soil	Air		Sludge	Other	ICE	HCL	HNO ₃	Other	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015) Multi Ring	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 8260 (HIVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505 / 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515.3 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAS)	CAM 17 Metals (200.8 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Asbestos to Microanalytical	Filter Samples for Metals analysis: Yes / No							
<i>SB7-2'</i>	<i>7/2</i>	<i>1300</i>	<i>any</i>								X	X																								
<i>SB7-6'</i>		<i>1305</i>									X	X																								
<i>SB7-10'</i>		<i>1310</i>									X	X																								
<i>SB8-2'</i>		<i>1045</i>									X	X																								
<i>SB8-6'</i>		<i>1050</i>									X	X																								
<i>SB8-10'</i>		<i>1055</i>									X	X																								
<i>SB9-2'</i>		<i>1140</i>									X	X																								
<i>SB9-6'</i>		<i>1145</i>									X	X																								
<i>SB9-10'</i>		<i>1150</i>									X	X																								

Relinquished By: *[Signature]* Date: *7/2/15* Time: *1745* Received By: *[Signature]*
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/4° _____
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 COMMENTS: *Please Forward ACM samples to Microanalytical for analysis (Hold sample for 10 X5 TLC analysis)*
 VOAS O&G METALS OTHER
 PRESERVATION pH<2



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1506A62 B

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: #15-34-001; 94th + International

Project Received: 06/24/2015

Analytical Report reviewed & approved for release on 07/06/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
WorkOrder: 1506A62

Glossary Abbreviation

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

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c11	The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data has been reported.



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 7/4/15

WorkOrder: 1506A62
Extraction Method: CA Title 22
Analytical Method: SW6010B
Unit: mg/L

STLC Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-4-3.0	1506A62-001A	Soil	06/24/2015 13:35	ICP-JY	107167

Analytes	Result	RL	DF	Date Analyzed
Chromium	0.090	0.050	1	07/06/2015 11:10

Analyst(s): BBO

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-6-6.0	1506A62-005A	Soil	06/24/2015 15:15	ICP-JY	107167

Analytes	Result	RL	DF	Date Analyzed
Chromium	0.10	0.050	1	07/06/2015 11:13

Analyst(s): BBO



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/4/15
Date Analyzed: 7/6/15
Instrument: ICP-JY
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 107167
Extraction Method: CA Title 22
Analytical Method: SW6010B
Unit: mg/L
Sample ID: MB/LCS-107167
 1507067-006AMS/MSD

QC Summary Report for Metals (STLC)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Chromium	ND	1.03	0.050	1	-	102	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Chromium	1.07	1.10	1	0.076	99	102	70-130	2.22	30



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506A62 B **ClientCode: ARSB**

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: #15-34-001; 94th + International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: **5 days**
Date Received: **06/24/2015**
Date Add-On: **07/01/2015**
Date Printed: **07/06/2015**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1506A62-001	SB-4-3.0	Soil	6/24/2015 13:35	<input type="checkbox"/>	A												
1506A62-005	SB-6-6.0	Soil	6/24/2015 15:15	<input type="checkbox"/>	A												

Test Legend:

1	STLC_METALS_S	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Agustina Venegas

Add-On Prepared By: Jena Alfaro

Comments: CAM17 added to 001 and 005 added 6/30/15 2D TAT. STLC Cr added to 001 and 005 7/1/15 2D TAT

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: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1506A62

Project: #15-34-001; 94th + International

Client Contact: Michael F. Kara

Date Received: 6/24/2015

Comments: CAM17 added to 001 and 005 added 6/30/15 2D TAT. STLC Cr added to 001 and 005 7/1/15 2D TAT

Contact's Email: mmkara707@aol.com

Date Add-On: 7/1/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A62-001A	SB-4-3.0	Soil	SW6010B (Metals) (STLC) <Chromium>	1	Stainless Tube	6/24/2015 13:35	2 days*		<input type="checkbox"/>	
1506A62-005A	SB-6-6.0	Soil	SW6010B (Metals) (STLC) <Chromium>	1	Stainless Tube	6/24/2015 15:15	2 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.



McCampbell Analytical, Inc.

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

1506A62

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH 24 HR 48 HR 72 HR 5 DAY
 GeoTracker EDF PDF EDD Write On (DW) EQUIS 10 DAY
 Effluent Sample Requiring "J" flag UST Clean Up Fund Project ; Claim # _____

Report To: Michael Kars Bill To: _____
 Company: Applied Remedial Services
 E-Mail: _____
 Tele: () Fax: ()
 Project #: 15-34-001 Project Name: 944 + International
 Project Location: 9400-9500 International / Purchase Order# _____
 Sampler Signature: MJK

Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING		# Containers	MATRIX										METHOD PRESERVED										Filter sample for DISSOLVED metals analysis													
		Date	Time		Ground Water	Waste Water	Drinking Water	Sea / Water	Soil	Air	Sludge	Other	HCL	HNO ₃	Other	BTEX & TPH as Gas (8021/8015 or 8260) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	MTBE / BTEX ONLY (EPA 8260/8021)	EPA 505/608 (8081) Pesticides	EPA 608 / 8082 PCB's ; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAS)	CAM 17 Metals (200.8 / 6020)	LUFT 5 Metals (200.8 / 6020)	Metals (200.8 / 6020)	TPH - Multirange (8015)	Lead (6010)	CAM17 6-30-15 2 Day	SLC or 7/1/15 2D				
SB-4-3.0		6/24	1335	1					X									X															X	X	X	X		
SB-4-6.0		↓	1345	1					↓																							X	X	X				
SB-4-10.0		↓	1355	1					↓																							X	X					
SB-6-3.0		6/24	1505	1					X										X												X	X	X	X				
SB-6-6.0		↓	1515	1					↓																						X	X	X					
SB-6-10.0		↓	1525	1					↓																						X	X						

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

Relinquished By: <u>MJK</u>	Date: <u>6/24/15</u>	Time: <u>1745</u>	Received By: <u>[Signature]</u>	ICE/# <u>411</u>	COMMENTS:
Relinquished By:	Date:	Time:	Received By:	GOOD CONDITION _____	
Relinquished By:	Date:	Time:	Received By:	HEAD SPACE ABSENT _____ DECHLORINATED IN LAB _____ APPROPRIATE CONTAINERS _____ PRESERVED IN LAB _____	
Relinquished By:	Date:	Time:	Received By:	VOAS _____	HAZARDOUS:
				O&G _____	
				METALS _____	
				OTHER _____	
				PRESERVATION _____	
				pH-2 _____	



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086 D

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/15/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
a7	reporting limit raised due to limited sample amount
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
h4	sulfuric acid permanganate (EPA 3665) cleanup



Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Quality Control Qualifiers

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



Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW1311/SW3010

Date Received: 7/2/15 17:52

Analytical Method: SW6020

Date Prepared: 7/15/15

Unit: mg/L

TCLP Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	ICP-MS1	107642

Analytes	Result	RL	DF	Date Analyzed
Mercury	ND	0.010	1	07/15/2015 13:14

Analyst(s): AC



Quality Control Report

Client: Applied Remedial Services, Inc.	WorkOrder: 1507086
Date Prepared: 7/14/15	BatchID: 107642
Date Analyzed: 7/15/15	Extraction Method: SW1311/SW3010
Instrument: ICP-MS1	Analytical Method: SW6020
Matrix: Soil	Unit: mg/L
Project: 94th & International	Sample ID: MB/LCS-107642 1507086-004AMS/MSD

QC Summary Report for Metals (TCLP)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Mercury	ND	0.240	0.010	0.25	-	96	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Mercury	0.227	0.241	0.25	ND	91	96	75-125	5.99	20



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086 D ClientCode: ARSB

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: 94th & International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: 5 days
Date Received: 07/02/2015
Date Add-On: 07/14/2015
Date Printed: 07/15/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1507086-004	SB2-2'	Soil	7/2/2015 10:20	<input type="checkbox"/>	A												

Test Legend:

1	METALSMS_TCLP_S	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Erika Santos

Add-On Prepared By: Maria Venegas

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15. Additional Analysis per email added 7/13/15 1 and 2D TATs

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).



WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!
 TCLP Pb: 1507086-001A, -004A, -007A, -010A, -013A, -016A

Contact's Email: mmkara707@aol.com

Date Add-On: 7/14/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-004A	SB2-2'	Soil	SW6020 (Metals) (TCLP) <Mercury>	1	Acetate Liner	7/2/2015 10:20	Same Day*		<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.

1507086



McCAMPBELL ANALYTICAL, INC.
 1534 WILLOW PASS ROAD
 PITTSBURG, CA 94565-1701
 Website: www.mccampbell.com Email: main@mccampbell.com
 Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
GeoTracker EDF **PDF** **Excel** **Write On (DW)**
 Check if sample is effluent and "J" flag is required

Report To: *Michael Kara* Bill To: *ARS, Inc.*
 Company: *ARS, Inc.*
p.o. Box 5086
walnut creek, CA 94596 E-Mail: *myon.Kara.707@aol.com*
 Tele: (925) 943-7342 Fax: (925) 943-7314
 Project #: _____ Project Name: *94th International*
 Project Location: *94th International (9400-9500 International Blvd, Oakland)*
 Sampler Signature: *M. Rosman*

Analysis Request										Other	Comments
BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE											Filter Samples for Metals analysis: Yes / No
TPH as Diesel (8015) <i>Multirange</i>											
Total Petroleum Oil & Grease (1664 / 5520 E/B&F)											
Total Petroleum Hydrocarbons (418.1)											
EPA 8160 (HHVOCs) <i>TCLP Hg 7/14/15 SPK</i>											
MTBE / BTEX ONLY (EPA 602 / 8021)											
EPA 505 / 608 / 8081 (CI Pesticides)											
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners											
EPA 507 / 8141 (NP Pesticides)											
EPA 515.3 / 8151 (Acidic CI Herbicides)											
EPA 524.2 / 624 / 8260 (VOCs)											
EPA 525.2 / 625 / 8270 (SVOCs)											
EPA 8270 SIM/ 8310 (PAHs / PNAs)											
CAM 17 Metals (200.8 / 6020)											
LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)											
Lead (200.7 / 200.8 / 6010 / 6020)											
<i>Asbestos To Microanalytical</i>											
<i>STLC PD 7/16/15 PD</i>											
<i>TCLP PD</i>											
<i>RUSH TAT</i>											

SAMPLE ID	LOCATION / Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED			
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other
<i>SBI-2'</i>		<i>7/2</i>	<i>0945</i>	<i>1</i>	<i>Aer</i>	<i>X</i>					<i>X</i>			
<i>SBI-6'</i>			<i>0950</i>											
<i>SBI-10'</i>			<i>0955</i>											
<i>SBI-2'</i>			<i>1020</i>											
<i>SBI-6'</i>			<i>1025</i>											
<i>SBI-10'</i>			<i>1030</i>											
<i>SBI-2'</i>			<i>1110</i>											
<i>SBI-6'</i>			<i>1115</i>											
<i>SBI-10'</i>			<i>1120</i>											
<i>SBI-2'</i>			<i>1340</i>											
<i>SBI-6'</i>			<i>1345</i>											
<i>SBI-10'</i>			<i>1350</i>											

Relinquished By: <i>[Signature]</i>	Date: <i>7/2/15</i>	Time: <i>1745</i>	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° *2.4*
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 VOAS O&G METALS OTHER
 PRESERVATION pH<2

COMMENTS:
please Forward Asbestos samples to Microanalytical Laboratory in Emeryville for ACS waste
(Hold sample for 10X STLC analysis)

*

**7/13/15 1F 2DTATS* **SBS-10' Placed on Hold noted on c.o.r.*



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086 C

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/14/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
h4	sulfuric acid permanganate (EPA 3665) cleanup

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
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Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8082
Unit: mg/kg

Polychlorinated Biphenyls (PCBs) Aroclors

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	GC5A	107558

Analytes	Result	RL	DF	Date Analyzed
Aroclor1016	ND	0.050	1	07/13/2015 23:04
Aroclor1221	ND	0.050	1	07/13/2015 23:04
Aroclor1232	ND	0.050	1	07/13/2015 23:04
Aroclor1242	ND	0.050	1	07/13/2015 23:04
Aroclor1248	ND	0.050	1	07/13/2015 23:04
Aroclor1254	ND	0.050	1	07/13/2015 23:04
Aroclor1260	ND	0.050	1	07/13/2015 23:04
PCBs, total	ND	0.050	1	07/13/2015 23:04

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	75	70-130	07/13/2015 23:04

Analyst(s): SS

Analytical Comments: h4



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC10	107551

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	07/13/2015 19:51
tert-Amyl methyl ether (TAME)	ND	0.0050	1	07/13/2015 19:51
Benzene	ND	0.0050	1	07/13/2015 19:51
Bromobenzene	ND	0.0050	1	07/13/2015 19:51
Bromochloromethane	ND	0.0050	1	07/13/2015 19:51
Bromodichloromethane	ND	0.0050	1	07/13/2015 19:51
Bromoform	ND	0.0050	1	07/13/2015 19:51
Bromomethane	ND	0.0050	1	07/13/2015 19:51
2-Butanone (MEK)	ND	0.020	1	07/13/2015 19:51
t-Butyl alcohol (TBA)	ND	0.050	1	07/13/2015 19:51
n-Butyl benzene	ND	0.0050	1	07/13/2015 19:51
sec-Butyl benzene	ND	0.0050	1	07/13/2015 19:51
tert-Butyl benzene	ND	0.0050	1	07/13/2015 19:51
Carbon Disulfide	ND	0.0050	1	07/13/2015 19:51
Carbon Tetrachloride	ND	0.0050	1	07/13/2015 19:51
Chlorobenzene	ND	0.0050	1	07/13/2015 19:51
Chloroethane	ND	0.0050	1	07/13/2015 19:51
Chloroform	ND	0.0050	1	07/13/2015 19:51
Chloromethane	ND	0.0050	1	07/13/2015 19:51
2-Chlorotoluene	ND	0.0050	1	07/13/2015 19:51
4-Chlorotoluene	ND	0.0050	1	07/13/2015 19:51
Dibromochloromethane	ND	0.0050	1	07/13/2015 19:51
1,2-Dibromo-3-chloropropane	ND	0.0040	1	07/13/2015 19:51
1,2-Dibromoethane (EDB)	ND	0.0040	1	07/13/2015 19:51
Dibromomethane	ND	0.0050	1	07/13/2015 19:51
1,2-Dichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,3-Dichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,4-Dichlorobenzene	ND	0.0050	1	07/13/2015 19:51
Dichlorodifluoromethane	ND	0.0050	1	07/13/2015 19:51
1,1-Dichloroethane	ND	0.0050	1	07/13/2015 19:51
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	07/13/2015 19:51
1,1-Dichloroethene	ND	0.0050	1	07/13/2015 19:51
cis-1,2-Dichloroethene	ND	0.0050	1	07/13/2015 19:51
trans-1,2-Dichloroethene	ND	0.0050	1	07/13/2015 19:51
1,2-Dichloropropane	ND	0.0050	1	07/13/2015 19:51
1,3-Dichloropropane	ND	0.0050	1	07/13/2015 19:51
2,2-Dichloropropane	ND	0.0050	1	07/13/2015 19:51
1,1-Dichloropropene	ND	0.0050	1	07/13/2015 19:51

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC10	107551

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	07/13/2015 19:51
trans-1,3-Dichloropropene	ND	0.0050	1	07/13/2015 19:51
Diisopropyl ether (DIPE)	ND	0.0050	1	07/13/2015 19:51
Ethylbenzene	ND	0.0050	1	07/13/2015 19:51
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	07/13/2015 19:51
Freon 113	ND	0.0050	1	07/13/2015 19:51
Hexachlorobutadiene	ND	0.0050	1	07/13/2015 19:51
Hexachloroethane	ND	0.0050	1	07/13/2015 19:51
2-Hexanone	ND	0.0050	1	07/13/2015 19:51
Isopropylbenzene	ND	0.0050	1	07/13/2015 19:51
4-Isopropyl toluene	ND	0.0050	1	07/13/2015 19:51
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/13/2015 19:51
Methylene chloride	ND	0.0050	1	07/13/2015 19:51
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	07/13/2015 19:51
Naphthalene	ND	0.0050	1	07/13/2015 19:51
n-Propyl benzene	ND	0.0050	1	07/13/2015 19:51
Styrene	ND	0.0050	1	07/13/2015 19:51
1,1,1,2-Tetrachloroethane	ND	0.0050	1	07/13/2015 19:51
1,1,2,2-Tetrachloroethane	ND	0.0050	1	07/13/2015 19:51
Tetrachloroethene	ND	0.0050	1	07/13/2015 19:51
Toluene	ND	0.0050	1	07/13/2015 19:51
1,2,3-Trichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,2,4-Trichlorobenzene	ND	0.0050	1	07/13/2015 19:51
1,1,1-Trichloroethane	ND	0.0050	1	07/13/2015 19:51
1,1,2-Trichloroethane	ND	0.0050	1	07/13/2015 19:51
Trichloroethene	ND	0.0050	1	07/13/2015 19:51
Trichlorofluoromethane	ND	0.0050	1	07/13/2015 19:51
1,2,3-Trichloropropane	ND	0.0050	1	07/13/2015 19:51
1,2,4-Trimethylbenzene	ND	0.0050	1	07/13/2015 19:51
1,3,5-Trimethylbenzene	ND	0.0050	1	07/13/2015 19:51
Vinyl Chloride	ND	0.0050	1	07/13/2015 19:51
Xylenes, Total	ND	0.0050	1	07/13/2015 19:51

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC10	107551

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	110	70-130		07/13/2015 19:51
Toluene-d8	99	70-130		07/13/2015 19:51
4-BFB	125	70-130		07/13/2015 19:51
Benzene-d6	94	60-140		07/13/2015 19:51
Ethylbenzene-d10	105	60-140		07/13/2015 19:51
1,2-DCB-d4	89	60-140		07/13/2015 19:51

Analyst(s): KF



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/13/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	GC35	107567

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.050	5	07/13/2015 16:44
Acenaphthylene	ND	0.050	5	07/13/2015 16:44
Anthracene	ND	0.050	5	07/13/2015 16:44
Benzo (a) anthracene	ND	0.050	5	07/13/2015 16:44
Benzo (b) fluoranthene	ND	0.050	5	07/13/2015 16:44
Benzo (k) fluoranthene	ND	0.050	5	07/13/2015 16:44
Benzo (g,h,i) perylene	ND	0.050	5	07/13/2015 16:44
Benzo (a) pyrene	ND	0.050	5	07/13/2015 16:44
Chrysene	ND	0.050	5	07/13/2015 16:44
Dibenzo (a,h) anthracene	ND	0.050	5	07/13/2015 16:44
Fluoranthene	ND	0.050	5	07/13/2015 16:44
Fluorene	ND	0.050	5	07/13/2015 16:44
Indeno (1,2,3-cd) pyrene	ND	0.050	5	07/13/2015 16:44
1-Methylnaphthalene	ND	0.050	5	07/13/2015 16:44
2-Methylnaphthalene	ND	0.050	5	07/13/2015 16:44
Naphthalene	ND	0.050	5	07/13/2015 16:44
Phenanthrene	ND	0.050	5	07/13/2015 16:44
Pyrene	ND	0.050	5	07/13/2015 16:44

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	64	30-130	07/13/2015 16:44
2-Fluorobiphenyl	67	30-130	07/13/2015 16:44

Analyst(s): HK

Analytical Comments: a3



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	ICP-MS1	107559

Analytes	Result	RL	DF	Date Analyzed
Antimony	0.51	0.50	1	07/13/2015 20:27
Arsenic	4.5	0.50	1	07/13/2015 20:27
Barium	1800	5.0	1	07/13/2015 20:27
Beryllium	0.71	0.50	1	07/13/2015 20:27
Cadmium	0.57	0.25	1	07/13/2015 20:27
Chromium	61	0.50	1	07/13/2015 20:27
Cobalt	9.5	0.50	1	07/13/2015 20:27
Copper	32	0.50	1	07/13/2015 20:27
Lead	1000	5.0	10	07/14/2015 14:13
Mercury	15	0.50	10	07/14/2015 14:13
Molybdenum	ND	0.50	1	07/13/2015 20:27
Nickel	49	0.50	1	07/13/2015 20:27
Selenium	ND	0.50	1	07/13/2015 20:27
Silver	ND	0.50	1	07/13/2015 20:27
Thallium	ND	0.50	1	07/13/2015 20:27
Vanadium	58	0.50	1	07/13/2015 20:27
Zinc	730	5.0	1	07/13/2015 20:27
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	104	70-130		07/13/2015 20:27

Analyst(s): AC, DVH



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	ICP-MS1	107559

Analytes	Result	RL	DF	Date Analyzed
Antimony	1.8	0.50	1	07/13/2015 20:34
Arsenic	14	0.50	1	07/13/2015 20:34
Barium	270	5.0	1	07/14/2015 14:01
Beryllium	0.51	0.50	1	07/13/2015 20:34
Cadmium	1.4	0.25	1	07/13/2015 20:34
Chromium	44	0.50	1	07/13/2015 20:34
Cobalt	9.9	0.50	1	07/13/2015 20:34
Copper	68	0.50	1	07/13/2015 20:34
Lead	230	0.50	1	07/14/2015 14:01
Mercury	0.29	0.050	1	07/14/2015 14:01
Molybdenum	0.69	0.50	1	07/13/2015 20:34
Nickel	42	0.50	1	07/13/2015 20:34
Selenium	0.57	0.50	1	07/13/2015 20:34
Silver	ND	0.50	1	07/13/2015 20:34
Thallium	ND	0.50	1	07/13/2015 20:34
Vanadium	52	0.50	1	07/13/2015 20:34
Zinc	470	5.0	1	07/13/2015 20:34
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	101	70-130		07/13/2015 20:34

Analyst(s): AC, DVH



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-2'	1507086-016A	Soil	07/02/2015 10:45	ICP-MS1	107559

Analytes	Result	RL	DF	Date Analyzed
Antimony	0.68	0.50	1	07/13/2015 20:40
Arsenic	7.3	0.50	1	07/13/2015 20:40
Barium	400	5.0	1	07/13/2015 20:40
Beryllium	0.58	0.50	1	07/13/2015 20:40
Cadmium	0.54	0.25	1	07/13/2015 20:40
Chromium	56	0.50	1	07/13/2015 20:40
Cobalt	29	0.50	1	07/13/2015 20:40
Copper	35	0.50	1	07/13/2015 20:40
Lead	120	0.50	1	07/13/2015 20:40
Mercury	0.13	0.050	1	07/14/2015 14:07
Molybdenum	0.89	0.50	1	07/13/2015 20:40
Nickel	75	0.50	1	07/13/2015 20:40
Selenium	0.58	0.50	1	07/13/2015 20:40
Silver	ND	0.50	1	07/13/2015 20:40
Thallium	ND	0.50	1	07/13/2015 20:40
Vanadium	56	0.50	1	07/13/2015 20:40
Zinc	150	5.0	1	07/13/2015 20:40
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	107	70-130		07/13/2015 20:40

Analyst(s): AC, DVH



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC5A
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107558
Extraction Method: SW3550B
Analytical Method: SW8082
Unit: mg/kg
Sample ID: MB/LCS-107558
 1507086-004AMS/MSD

QC Summary Report for SW8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	0.130	0.050	0.15	-	87	70-130
PCBs, total	ND	-	0.050	-	-	-	-

Surrogate Recovery

Decachlorobiphenyl	0.0390	0.0403		0.050	78	81	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aroclor1260	0.148	0.154	0.15	ND	99	103	70-130	4.28	30
Surrogate Recovery									
Decachlorobiphenyl	0.0386	0.0393	0.050		77	79	70-130	1.98	30



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC16
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107551
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107551

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0405	0.0050	0.050	-	81	53-116
Benzene	ND	0.0491	0.0050	0.050	-	98	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.157	0.050	0.20	-	78	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0462	0.0050	0.050	-	92	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0437	0.0040	0.050	-	87	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0484	0.0040	0.050	-	97	58-135
1,1-Dichloroethene	ND	0.0486	0.0050	0.050	-	97	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC16
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107551
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107551

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.0464	0.0050	0.050	-	93	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0439	0.0050	0.050	-	88	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0427	0.0050	0.050	-	85	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0511	0.0050	0.050	-	102	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0464	0.0050	0.050	-	93	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

Surrogate Recovery

Dibromofluoromethane	0.124	0.128		0.12	99	102	70-130
Toluene-d8	0.133	0.132		0.12	107	106	70-130
4-BFB	0.0126	0.0127		0.012	100	101	70-130
Benzene-d6	0.0967	0.0964		0.10	97	96	60-140
Ethylbenzene-d10	0.100	0.104		0.10	100	104	60-140
1,2-DCB-d4	0.0764	0.0804		0.10	76	80	60-140



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/13/15
Date Analyzed: 7/13/15
Instrument: GC35
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107567
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg
Sample ID: MB/LCS-107567
 1507086-004AMS/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 (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.169	0.010	0.20	-	84	30-130
Chrysene	ND	0.135	0.010	0.20	-	68	30-130
Dibenzo (a,h) anthracene	ND	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.169	0.010	0.20	-	84	30-130
2-Methylnaphthalene	ND	0.169	0.010	0.20	-	85	30-130
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.150	0.010	0.20	-	75	30-130
Pyrene	ND	0.134	0.010	0.20	-	67	30-130

Surrogate Recovery

1-Fluoronaphthalene	0.210	0.310		0.50	42	62	30-130
2-Fluorobiphenyl	0.213	0.278		0.50	43	56	30-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	NR	NR		ND<0.05	NR	NR	-	NR	
Chrysene	NR	NR		ND<0.05	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		ND<0.05	NR	NR	-	NR	
Pyrene	NR	NR		ND<0.05	NR	NR	-	NR	

Surrogate Recovery

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



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/13/15
Instrument: ICP-MS1
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107559
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107559
 1507086-021AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	51.4	0.50	50	-	103	75-125
Arsenic	ND	53.0	0.50	50	-	106	75-125
Barium	ND	466	5.0	500	-	93	75-125
Beryllium	ND	50.6	0.50	50	-	101	75-125
Cadmium	ND	51.5	0.25	50	-	103	75-125
Chromium	ND	52.4	0.50	50	-	105	75-125
Cobalt	ND	51.7	0.50	50	-	103	75-125
Copper	ND	50.7	0.50	50	-	101	75-125
Lead	ND	52.5	0.50	50	-	105	75-125
Mercury	ND	1.14	0.050	1.25	-	89	75-125
Molybdenum	ND	49.3	0.50	50	-	99	75-125
Nickel	ND	51.4	0.50	50	-	103	75-125
Selenium	ND	54.0	0.50	50	-	108	75-125
Silver	ND	51.4	0.50	50	-	103	75-125
Thallium	ND	50.8	0.50	50	-	102	75-125
Vanadium	ND	51.9	0.50	50	-	104	75-125
Zinc	ND	530	5.0	500	-	106	75-125
Surrogate Recovery							
Terbium	467	486		500	93	97	70-130

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/13/15
Instrument: ICP-MS1
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107559
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107559
 1507086-021AMS/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	48.5	51.4	50	ND	96	102	75-125	5.73	20
Arsenic	59.0	66.0	50	9.562	99	113	75-125	11.1	20
Barium	739	829	500	260.8	96	114	75-125	11.5	20
Beryllium	46.4	51.0	50	0.6513	92	101	75-125	9.36	20
Cadmium	55.5	59.9	50	0.4457	110	119	75-125	7.59	20
Chromium	NR	NR	50	63.90	NR	NR	75-125	NR	20
Cobalt	57.7	67.3	50	16.48	82	102	75-125	15.4	20
Copper	70.4	78.7	50	24.41	92	109	75-125	11.1	20
Lead	60.5	65.1	50	8.840	103	113	75-125	7.32	20
Mercury	1.24	1.37	1.25	0.09140	92	102	75-125	9.98	20
Molybdenum	53.4	57.4	50	0.6746	105	114	75-125	7.27	20
Nickel	NR	NR	50	93.99	NR	NR	75-125	NR	20
Selenium	54.0	54.6	50	ND	107	109	75-125	1.12	20
Silver	54.8	58.5	50	ND	109	117	75-125	6.44	20
Thallium	51.5	55.5	50	ND	103	110	75-125	7.40	20
Vanadium	NR	NR	50	58.16	NR	NR	75-125	NR	20
Zinc	572	615	500	59.14	102	111	75-125	7.33	20
Surrogate Recovery									
Terbium	529	558	500		106	112	70-130	5.24	20



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086 **C** ClientCode: ARSB

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: 94th & International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: 5 days
Date Received: 07/02/2015
Date Add-On: 07/13/2015
Date Printed: 07/13/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1507086-001	SB1-2'	Soil	7/2/2015 9:45	<input type="checkbox"/>			A									
1507086-004	SB2-2'	Soil	7/2/2015 10:20	<input type="checkbox"/>	A		A	A								
1507086-007	SB3-2'	Soil	7/2/2015 11:10	<input type="checkbox"/>				A								
1507086-013	SB7-2'	Soil	7/2/2015 13:00	<input type="checkbox"/>		A										
1507086-016	SB8-2'	Soil	7/2/2015 10:45	<input type="checkbox"/>				A								

Test Legend:

1	8082_PCB_S	2	8260B_S	3	8270_PNA_S	4	CAM17MS_S	5	
6		7		8		9		10	
11		12							

Prepared by: Erika Santos

Add-On Prepared By: Jena Alfaro

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15. Additional Analysis per email added 7/13/15 1 and 2D TATs

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).



WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!
 TCLP DL 1507086-004, 7/10/15 16 7/16/15 STLC 1507086-001

Contact's Email: mmkara707@aol.com

Date Add-On: 7/13/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-001A	SB1-2'	Soil	SW8270C (PAHs/PNAs)	1	Acetate Liner	7/2/2015 9:45	2 days		<input type="checkbox"/>	
1507086-004A	SB2-2'	Soil	SW6020 (CAM 17)	1	Acetate Liner	7/2/2015 10:20	1 day		<input type="checkbox"/>	
			SW8270C (PAHs/PNAs)				2 days		<input type="checkbox"/>	
			SW8082 (PCBs Only)				2 days		<input type="checkbox"/>	
1507086-007A	SB3-2'	Soil	SW6020 (CAM 17)	1	Acetate Liner	7/2/2015 11:10	1 day		<input type="checkbox"/>	
1507086-013A	SB7-2'	Soil	SW8260B (VOCs)	1	Acetate Liner	7/2/2015 13:00	1 day		<input type="checkbox"/>	
1507086-016A	SB8-2'	Soil	SW6020 (CAM 17)	1	Acetate Liner	7/2/2015 10:45	1 day		<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.

1507086



McCAMPBELL ANALYTICAL, INC.
 1534 WILLOW PASS ROAD
 PITTSBURG, CA 94565-1701
 Website: www.mccampbell.com Email: main@mccampbell.com
 Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
 GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Michael Kara Bill To: ARS, Inc.
 Company: ARS, Inc.
p.o. Box 5086
Walnut Creek, CA 94596 E-Mail: mymkara707@aol.com
 Tele: (925) 943-7342 Fax: (925) 943-2314
 Project #: _____ Project Name: 94th International
 Project Location: 94th International (9400-9500 International Blvd, Oakland)
 Sampler Signature: M. Rosman

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED					
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other		
SBI-2'		7/2	0945	1	Aer	x						x				
SBI-6'			0950													
SBI-10'			0955													
SBI-2'			1020													
SBI-6'			1025													
SBI-10'			1030													
SBI-2'			1110													
SBI-6'			1115													
SBI-10'			1120													
SBI-2'			1340													
SBI-6'			1345													
SBI-10'			1350													

Analysis Request													Other	Comments			
BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE																	
TPH as Diesel (6015) Multi-Range																	
Total Petroleum OH & Grease (1664 / 5520 E/B&F)																	
Total Petroleum Hydrocarbons (418.1)																	
EPA 8260 (HVOCS)																	
MTBE / BTEX ONLY (EPA 602 / 8021)																	
EPA 505 / 608 / 8081 (CI Pesticides)																	
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners																	
EPA 507 / 8141 (NP Pesticides)																	
EPA 515.3 / 8151 (Acidic CI Herbicides)																	
EPA 524.2 / 624 / 8260 (VOCs)																	
EPA 525.2 / 625 / 8270 (SVOCs)																	
EPA 8270 SIM# 8310 (PAHs / PNAs)																	
CAM 17 Metals (200.8 / 6020)																	
LUFT-5 Metals (200.7 / 200.8 / 6010 / 6020)																	
Lead (200.7 / 200.8 / 6010 / 6020)																	
ASbestos To Micro Analysis																	
STLC PD 7/13/15																	
STLC PD 7/13/15																	

Relinquished By: [Signature] Date: 7/2/15 Time: 1745 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/t° 2.4
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 COMMENTS:
 please Forward Asbestos samples to Microanalytical
 Laboratory in Emeryville for ACQ work
 (Hold sample for 10x STLC)
 analysis
 VOAS O&G METALS OTHER
 PRESERVATION pH<2

*7/13/15 1# 2 DTATS

* SBS-10' Placed on Hold noted on 7/13/15



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURNOVER TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Michael Kara Bill To: ARS, Inc.
Company: ARS, Inc.
P.O. Box 5086
Walnut Creek CA 94596
E-Mail: mmkara707@aol.com
Tele: (925) 943-7742 Fax: (925) 943-7714
Project #: Project Name: g4ms International
Project Location: 9400-9500 International Blvd. Oakland, CA.
Sampler Signature: M. Rosman

Analysis Request Other Comments

Analysis Request: BTEX & TPH as Gas (602/8021 + 8015)/MTBE, TPH as Diesel (6015), Multi Range, Total Petroleum Oil & Grease (1664/5520 E/B&F), Total Petroleum Hydrocarbons (418.1), EPA 8260 (HVOCs), MTBE/BTEX ONLY (EPA 602/8021), EPA 505/608/8081 (CI Pesticides), EPA 608/8082 PCB's ONLY; Aroclors/Congeners, EPA 507/8141 (NP Pesticides), EPA 515.3/8151 (Acidic CI Herbicides), EPA 524.2/624/8260 (VOCs), EPA 525.2/625/8270 (SVOCs), EPA 8270 SIM/8310 (PAHs/PNAs), CAM 17 Metals (200.8/6020), LUFT 5 Metals (200.7/200.8/6010/6020), Lead (200.7/200.8/6010/6020)
Comments: Asbestos to Microana typical, Filter Samples for Metals analysis: Yes/No, STL CD 7/6/15, TELP Pb

Table with columns: SAMPLE ID, LOCATION/Field Point Name, SAMPLING (Date, Time), # Containers, Type Containers, MATRIX (Water, Soil, Air, Sludge, Other, ICE, HCL, HNO3, Other), METHOD PRESERVED

Table with columns: BTEX & TPH as Gas (602/8021 + 8015)/MTBE, TPH as Diesel (6015), Multi Range, Total Petroleum Oil & Grease (1664/5520 E/B&F), Total Petroleum Hydrocarbons (418.1), EPA 8260 (HVOCs), MTBE/BTEX ONLY (EPA 602/8021), EPA 505/608/8081 (CI Pesticides), EPA 608/8082 PCB's ONLY; Aroclors/Congeners, EPA 507/8141 (NP Pesticides), EPA 515.3/8151 (Acidic CI Herbicides), EPA 524.2/624/8260 (VOCs), EPA 525.2/625/8270 (SVOCs), EPA 8270 SIM/8310 (PAHs/PNAs), CAM 17 Metals (200.8/6020), LUFT 5 Metals (200.7/200.8/6010/6020), Lead (200.7/200.8/6010/6020)

Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:

ICE/IT GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB APPROPRIATE CONTAINERS PRESERVED IN LAB
Please Forward ACM samples to Microanalytical for analysis (Hold sample for 10 x STL analysis)
VOAS O&G METALS OTHER pH<2



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/10/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
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 was out of acceptance criteria; LCS validated the prep batch.
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Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8081A/8082
Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	GC22	107184

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.010	10	07/08/2015 08:49
a-BHC	ND	0.010	10	07/08/2015 08:49
b-BHC	ND	0.010	10	07/08/2015 08:49
d-BHC	ND	0.010	10	07/08/2015 08:49
g-BHC	ND	0.010	10	07/08/2015 08:49
Chlordane (Technical)	0.84	0.25	10	07/08/2015 08:49
a-Chlordane	0.089	0.010	10	07/08/2015 08:49
g-Chlordane	0.096	0.010	10	07/08/2015 08:49
p,p-DDD	0.018	0.010	10	07/08/2015 08:49
p,p-DDE	ND	0.010	10	07/08/2015 08:49
p,p-DDT	ND	0.010	10	07/08/2015 08:49
Dieldrin	ND	0.010	10	07/08/2015 08:49
Endosulfan I	ND	0.010	10	07/08/2015 08:49
Endosulfan II	ND	0.010	10	07/08/2015 08:49
Endosulfan sulfate	ND	0.010	10	07/08/2015 08:49
Endrin	ND	0.010	10	07/08/2015 08:49
Endrin aldehyde	ND	0.010	10	07/08/2015 08:49
Endrin ketone	ND	0.010	10	07/08/2015 08:49
Heptachlor	ND	0.010	10	07/08/2015 08:49
Heptachlor epoxide	ND	0.010	10	07/08/2015 08:49
Hexachlorobenzene	ND	0.10	10	07/08/2015 08:49
Hexachlorocyclopentadiene	ND	0.20	10	07/08/2015 08:49
Methoxychlor	ND	0.010	10	07/08/2015 08:49
Toxaphene	ND	0.50	10	07/08/2015 08:49
Aroclor1016	ND	0.50	10	07/08/2015 08:49
Aroclor1221	ND	0.50	10	07/08/2015 08:49
Aroclor1232	ND	0.50	10	07/08/2015 08:49
Aroclor1242	ND	0.50	10	07/08/2015 08:49
Aroclor1248	ND	0.50	10	07/08/2015 08:49
Aroclor1254	ND	0.50	10	07/08/2015 08:49
Aroclor1260	ND	0.50	10	07/08/2015 08:49
PCBs, total	ND	0.50	10	07/08/2015 08:49

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	99	70-130	07/08/2015 08:49

Analyst(s): CK

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8081A/8082
Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC22	107113

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	07/03/2015 01:39
a-BHC	ND	0.0010	1	07/03/2015 01:39
b-BHC	ND	0.0010	1	07/03/2015 01:39
d-BHC	ND	0.0010	1	07/03/2015 01:39
g-BHC	ND	0.0010	1	07/03/2015 01:39
Chlordane (Technical)	ND	0.025	1	07/03/2015 01:39
a-Chlordane	0.0023	0.0010	1	07/03/2015 01:39
g-Chlordane	0.0027	0.0010	1	07/03/2015 01:39
p,p-DDD	0.0024	0.0010	1	07/03/2015 01:39
p,p-DDE	0.0048	0.0010	1	07/03/2015 01:39
p,p-DDT	0.021	0.0010	1	07/03/2015 01:39
Dieldrin	0.0043	0.0010	1	07/03/2015 01:39
Endosulfan I	ND	0.0010	1	07/03/2015 01:39
Endosulfan II	ND	0.0010	1	07/03/2015 01:39
Endosulfan sulfate	ND	0.0010	1	07/03/2015 01:39
Endrin	ND	0.0010	1	07/03/2015 01:39
Endrin aldehyde	ND	0.0010	1	07/03/2015 01:39
Endrin ketone	ND	0.0010	1	07/03/2015 01:39
Heptachlor	ND	0.0010	1	07/03/2015 01:39
Heptachlor epoxide	ND	0.0010	1	07/03/2015 01:39
Hexachlorobenzene	ND	0.010	1	07/03/2015 01:39
Hexachlorocyclopentadiene	ND	0.020	1	07/03/2015 01:39
Methoxychlor	ND	0.0010	1	07/03/2015 01:39
Toxaphene	ND	0.050	1	07/03/2015 01:39
Aroclor1016	ND	0.050	1	07/03/2015 01:39
Aroclor1221	ND	0.050	1	07/03/2015 01:39
Aroclor1232	ND	0.050	1	07/03/2015 01:39
Aroclor1242	ND	0.050	1	07/03/2015 01:39
Aroclor1248	ND	0.050	1	07/03/2015 01:39
Aroclor1254	ND	0.050	1	07/03/2015 01:39
Aroclor1260	ND	0.050	1	07/03/2015 01:39
PCBs, total	ND	0.050	1	07/03/2015 01:39

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	97	70-130	07/03/2015 01:39

Analyst(s): CK

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8081A/8082
Unit: mg/kg

Organochlorine Pesticides (Basic Target List) + PCBs

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-2'	1507086-019A	Soil	07/02/2015 11:40	GC22	107113

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	07/03/2015 02:12
a-BHC	ND	0.0010	1	07/03/2015 02:12
b-BHC	ND	0.0010	1	07/03/2015 02:12
d-BHC	ND	0.0010	1	07/03/2015 02:12
g-BHC	ND	0.0010	1	07/03/2015 02:12
Chlordane (Technical)	ND	0.025	1	07/03/2015 02:12
a-Chlordane	ND	0.0010	1	07/03/2015 02:12
g-Chlordane	ND	0.0010	1	07/03/2015 02:12
p,p-DDD	ND	0.0010	1	07/03/2015 02:12
p,p-DDE	0.0029	0.0010	1	07/03/2015 02:12
p,p-DDT	0.0022	0.0010	1	07/03/2015 02:12
Dieldrin	ND	0.0010	1	07/03/2015 02:12
Endosulfan I	ND	0.0010	1	07/03/2015 02:12
Endosulfan II	ND	0.0010	1	07/03/2015 02:12
Endosulfan sulfate	ND	0.0010	1	07/03/2015 02:12
Endrin	ND	0.0010	1	07/03/2015 02:12
Endrin aldehyde	ND	0.0010	1	07/03/2015 02:12
Endrin ketone	ND	0.0010	1	07/03/2015 02:12
Heptachlor	ND	0.0010	1	07/03/2015 02:12
Heptachlor epoxide	ND	0.0010	1	07/03/2015 02:12
Hexachlorobenzene	ND	0.010	1	07/03/2015 02:12
Hexachlorocyclopentadiene	ND	0.020	1	07/03/2015 02:12
Methoxychlor	ND	0.0010	1	07/03/2015 02:12
Toxaphene	ND	0.050	1	07/03/2015 02:12
Aroclor1016	ND	0.050	1	07/03/2015 02:12
Aroclor1221	ND	0.050	1	07/03/2015 02:12
Aroclor1232	ND	0.050	1	07/03/2015 02:12
Aroclor1242	ND	0.050	1	07/03/2015 02:12
Aroclor1248	ND	0.050	1	07/03/2015 02:12
Aroclor1254	ND	0.050	1	07/03/2015 02:12
Aroclor1260	ND	0.050	1	07/03/2015 02:12
PCBs, total	ND	0.050	1	07/03/2015 02:12

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	96	70-130	07/03/2015 02:12

Analyst(s): CK



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	GC22	107113

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0050	5	07/03/2015 02:46
a-BHC	ND	0.0050	5	07/03/2015 02:46
b-BHC	ND	0.0050	5	07/03/2015 02:46
d-BHC	ND	0.0050	5	07/03/2015 02:46
g-BHC	ND	0.0050	5	07/03/2015 02:46
Chlordane (Technical)	ND	0.12	5	07/03/2015 02:46
a-Chlordane	ND	0.0050	5	07/03/2015 02:46
g-Chlordane	ND	0.0050	5	07/03/2015 02:46
p,p-DDD	ND	0.0050	5	07/03/2015 02:46
p,p-DDE	ND	0.0050	5	07/03/2015 02:46
p,p-DDT	ND	0.0050	5	07/03/2015 02:46
Dieldrin	ND	0.0050	5	07/03/2015 02:46
Endosulfan I	ND	0.0050	5	07/03/2015 02:46
Endosulfan II	ND	0.0050	5	07/03/2015 02:46
Endosulfan sulfate	ND	0.0050	5	07/03/2015 02:46
Endrin	ND	0.0050	5	07/03/2015 02:46
Endrin aldehyde	ND	0.0050	5	07/03/2015 02:46
Endrin ketone	ND	0.0050	5	07/03/2015 02:46
Heptachlor	ND	0.0050	5	07/03/2015 02:46
Heptachlor epoxide	ND	0.0050	5	07/03/2015 02:46
Hexachlorobenzene	ND	0.050	5	07/03/2015 02:46
Hexachlorocyclopentadiene	ND	0.10	5	07/03/2015 02:46
Methoxychlor	ND	0.0050	5	07/03/2015 02:46
Toxaphene	ND	0.25	5	07/03/2015 02:46

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	91	70-130	07/03/2015 02:46

Analyst(s): CK

Analytical Comments: a3



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-6'	1507086-008A	Soil	07/02/2015 11:15	GC22	107113

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	07/03/2015 06:09
a-BHC	ND	0.0010	1	07/03/2015 06:09
b-BHC	ND	0.0010	1	07/03/2015 06:09
d-BHC	ND	0.0010	1	07/03/2015 06:09
g-BHC	ND	0.0010	1	07/03/2015 06:09
Chlordane (Technical)	ND	0.025	1	07/03/2015 06:09
a-Chlordane	ND	0.0010	1	07/03/2015 06:09
g-Chlordane	ND	0.0010	1	07/03/2015 06:09
p,p-DDD	ND	0.0010	1	07/03/2015 06:09
p,p-DDE	ND	0.0010	1	07/03/2015 06:09
p,p-DDT	ND	0.0010	1	07/03/2015 06:09
Dieldrin	ND	0.0010	1	07/03/2015 06:09
Endosulfan I	ND	0.0010	1	07/03/2015 06:09
Endosulfan II	ND	0.0010	1	07/03/2015 06:09
Endosulfan sulfate	ND	0.0010	1	07/03/2015 06:09
Endrin	ND	0.0010	1	07/03/2015 06:09
Endrin aldehyde	ND	0.0010	1	07/03/2015 06:09
Endrin ketone	ND	0.0010	1	07/03/2015 06:09
Heptachlor	ND	0.0010	1	07/03/2015 06:09
Heptachlor epoxide	ND	0.0010	1	07/03/2015 06:09
Hexachlorobenzene	ND	0.010	1	07/03/2015 06:09
Hexachlorocyclopentadiene	ND	0.020	1	07/03/2015 06:09
Methoxychlor	ND	0.0010	1	07/03/2015 06:09
Toxaphene	ND	0.050	1	07/03/2015 06:09

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	98	70-130	07/03/2015 06:09

Analyst(s): CK



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-6'	1507086-014A	Soil	07/02/2015 13:05	GC22	107113

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	07/03/2015 07:16
a-BHC	ND	0.0010	1	07/03/2015 07:16
b-BHC	ND	0.0010	1	07/03/2015 07:16
d-BHC	ND	0.0010	1	07/03/2015 07:16
g-BHC	ND	0.0010	1	07/03/2015 07:16
Chlordane (Technical)	ND	0.025	1	07/03/2015 07:16
a-Chlordane	ND	0.0010	1	07/03/2015 07:16
g-Chlordane	ND	0.0010	1	07/03/2015 07:16
p,p-DDD	ND	0.0010	1	07/03/2015 07:16
p,p-DDE	ND	0.0010	1	07/03/2015 07:16
p,p-DDT	ND	0.0010	1	07/03/2015 07:16
Dieldrin	ND	0.0010	1	07/03/2015 07:16
Endosulfan I	ND	0.0010	1	07/03/2015 07:16
Endosulfan II	ND	0.0010	1	07/03/2015 07:16
Endosulfan sulfate	ND	0.0010	1	07/03/2015 07:16
Endrin	ND	0.0010	1	07/03/2015 07:16
Endrin aldehyde	ND	0.0010	1	07/03/2015 07:16
Endrin ketone	ND	0.0010	1	07/03/2015 07:16
Heptachlor	ND	0.0010	1	07/03/2015 07:16
Heptachlor epoxide	ND	0.0010	1	07/03/2015 07:16
Hexachlorobenzene	ND	0.010	1	07/03/2015 07:16
Hexachlorocyclopentadiene	ND	0.020	1	07/03/2015 07:16
Methoxychlor	ND	0.0010	1	07/03/2015 07:16
Toxaphene	ND	0.050	1	07/03/2015 07:16

Surrogates	REC (%)	Limits	Date Analyzed
Decachlorobiphenyl	101	70-130	07/03/2015 07:16

Analyst(s): CK



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	GC18	107183

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	07/08/2015 14:24
tert-Amyl methyl ether (TAME)	ND	0.0050	1	07/08/2015 14:24
Benzene	ND	0.0050	1	07/08/2015 14:24
Bromobenzene	ND	0.0050	1	07/08/2015 14:24
Bromochloromethane	ND	0.0050	1	07/08/2015 14:24
Bromodichloromethane	ND	0.0050	1	07/08/2015 14:24
Bromoform	ND	0.0050	1	07/08/2015 14:24
Bromomethane	ND	0.0050	1	07/08/2015 14:24
2-Butanone (MEK)	ND	0.020	1	07/08/2015 14:24
t-Butyl alcohol (TBA)	ND	0.050	1	07/08/2015 14:24
n-Butyl benzene	ND	0.0050	1	07/08/2015 14:24
sec-Butyl benzene	ND	0.0050	1	07/08/2015 14:24
tert-Butyl benzene	ND	0.0050	1	07/08/2015 14:24
Carbon Disulfide	ND	0.0050	1	07/08/2015 14:24
Carbon Tetrachloride	ND	0.0050	1	07/08/2015 14:24
Chlorobenzene	ND	0.0050	1	07/08/2015 14:24
Chloroethane	ND	0.0050	1	07/08/2015 14:24
Chloroform	ND	0.0050	1	07/08/2015 14:24
Chloromethane	ND	0.0050	1	07/08/2015 14:24
2-Chlorotoluene	ND	0.0050	1	07/08/2015 14:24
4-Chlorotoluene	ND	0.0050	1	07/08/2015 14:24
Dibromochloromethane	ND	0.0050	1	07/08/2015 14:24
1,2-Dibromo-3-chloropropane	ND	0.0040	1	07/08/2015 14:24
1,2-Dibromoethane (EDB)	ND	0.0040	1	07/08/2015 14:24
Dibromomethane	ND	0.0050	1	07/08/2015 14:24
1,2-Dichlorobenzene	ND	0.0050	1	07/08/2015 14:24
1,3-Dichlorobenzene	ND	0.0050	1	07/08/2015 14:24
1,4-Dichlorobenzene	ND	0.0050	1	07/08/2015 14:24
Dichlorodifluoromethane	ND	0.0050	1	07/08/2015 14:24
1,1-Dichloroethane	ND	0.0050	1	07/08/2015 14:24
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	07/08/2015 14:24
1,1-Dichloroethene	ND	0.0050	1	07/08/2015 14:24
cis-1,2-Dichloroethene	ND	0.0050	1	07/08/2015 14:24
trans-1,2-Dichloroethene	ND	0.0050	1	07/08/2015 14:24
1,2-Dichloropropane	ND	0.0050	1	07/08/2015 14:24
1,3-Dichloropropane	ND	0.0050	1	07/08/2015 14:24
2,2-Dichloropropane	ND	0.0050	1	07/08/2015 14:24
1,1-Dichloropropene	ND	0.0050	1	07/08/2015 14:24

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	GC18	107183

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	07/08/2015 14:24
trans-1,3-Dichloropropene	ND	0.0050	1	07/08/2015 14:24
Diisopropyl ether (DIPE)	ND	0.0050	1	07/08/2015 14:24
Ethylbenzene	ND	0.0050	1	07/08/2015 14:24
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	07/08/2015 14:24
Freon 113	ND	0.0050	1	07/08/2015 14:24
Hexachlorobutadiene	ND	0.0050	1	07/08/2015 14:24
Hexachloroethane	ND	0.0050	1	07/08/2015 14:24
2-Hexanone	ND	0.0050	1	07/08/2015 14:24
Isopropylbenzene	ND	0.0050	1	07/08/2015 14:24
4-Isopropyl toluene	ND	0.0050	1	07/08/2015 14:24
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/08/2015 14:24
Methylene chloride	ND	0.0050	1	07/08/2015 14:24
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	07/08/2015 14:24
Naphthalene	ND	0.0050	1	07/08/2015 14:24
n-Propyl benzene	ND	0.0050	1	07/08/2015 14:24
Styrene	ND	0.0050	1	07/08/2015 14:24
1,1,1,2-Tetrachloroethane	ND	0.0050	1	07/08/2015 14:24
1,1,2,2-Tetrachloroethane	ND	0.0050	1	07/08/2015 14:24
Tetrachloroethene	ND	0.0050	1	07/08/2015 14:24
Toluene	ND	0.0050	1	07/08/2015 14:24
1,2,3-Trichlorobenzene	ND	0.0050	1	07/08/2015 14:24
1,2,4-Trichlorobenzene	ND	0.0050	1	07/08/2015 14:24
1,1,1-Trichloroethane	ND	0.0050	1	07/08/2015 14:24
1,1,2-Trichloroethane	ND	0.0050	1	07/08/2015 14:24
Trichloroethene	ND	0.0050	1	07/08/2015 14:24
Trichlorofluoromethane	ND	0.0050	1	07/08/2015 14:24
1,2,3-Trichloropropane	ND	0.0050	1	07/08/2015 14:24
1,2,4-Trimethylbenzene	ND	0.0050	1	07/08/2015 14:24
1,3,5-Trimethylbenzene	ND	0.0050	1	07/08/2015 14:24
Vinyl Chloride	ND	0.0050	1	07/08/2015 14:24
Xylenes, Total	ND	0.0050	1	07/08/2015 14:24

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW5030B

Date Received: 7/2/15 17:52

Analytical Method: SW8260B

Date Prepared: 7/2/15-7/6/15

Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	GC18	107183

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	109	70-130		07/08/2015 14:24
Toluene-d8	112	70-130		07/08/2015 14:24
4-BFB	116	70-130		07/08/2015 14:24
Benzene-d6	105	60-140		07/08/2015 14:24
Ethylbenzene-d10	115	60-140		07/08/2015 14:24
1,2-DCB-d4	88	60-140		07/08/2015 14:24

Analyst(s): KF



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	GC18	107108

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	07/08/2015 13:05
tert-Amyl methyl ether (TAME)	ND	0.0050	1	07/08/2015 13:05
Benzene	ND	0.0050	1	07/08/2015 13:05
Bromobenzene	ND	0.0050	1	07/08/2015 13:05
Bromochloromethane	ND	0.0050	1	07/08/2015 13:05
Bromodichloromethane	ND	0.0050	1	07/08/2015 13:05
Bromoform	ND	0.0050	1	07/08/2015 13:05
Bromomethane	ND	0.0050	1	07/08/2015 13:05
2-Butanone (MEK)	ND	0.020	1	07/08/2015 13:05
t-Butyl alcohol (TBA)	ND	0.050	1	07/08/2015 13:05
n-Butyl benzene	ND	0.0050	1	07/08/2015 13:05
sec-Butyl benzene	ND	0.0050	1	07/08/2015 13:05
tert-Butyl benzene	ND	0.0050	1	07/08/2015 13:05
Carbon Disulfide	ND	0.0050	1	07/08/2015 13:05
Carbon Tetrachloride	ND	0.0050	1	07/08/2015 13:05
Chlorobenzene	ND	0.0050	1	07/08/2015 13:05
Chloroethane	ND	0.0050	1	07/08/2015 13:05
Chloroform	ND	0.0050	1	07/08/2015 13:05
Chloromethane	ND	0.0050	1	07/08/2015 13:05
2-Chlorotoluene	ND	0.0050	1	07/08/2015 13:05
4-Chlorotoluene	ND	0.0050	1	07/08/2015 13:05
Dibromochloromethane	ND	0.0050	1	07/08/2015 13:05
1,2-Dibromo-3-chloropropane	ND	0.0040	1	07/08/2015 13:05
1,2-Dibromoethane (EDB)	ND	0.0040	1	07/08/2015 13:05
Dibromomethane	ND	0.0050	1	07/08/2015 13:05
1,2-Dichlorobenzene	ND	0.0050	1	07/08/2015 13:05
1,3-Dichlorobenzene	ND	0.0050	1	07/08/2015 13:05
1,4-Dichlorobenzene	ND	0.0050	1	07/08/2015 13:05
Dichlorodifluoromethane	ND	0.0050	1	07/08/2015 13:05
1,1-Dichloroethane	ND	0.0050	1	07/08/2015 13:05
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	07/08/2015 13:05
1,1-Dichloroethene	ND	0.0050	1	07/08/2015 13:05
cis-1,2-Dichloroethene	ND	0.0050	1	07/08/2015 13:05
trans-1,2-Dichloroethene	ND	0.0050	1	07/08/2015 13:05
1,2-Dichloropropane	ND	0.0050	1	07/08/2015 13:05
1,3-Dichloropropane	ND	0.0050	1	07/08/2015 13:05
2,2-Dichloropropane	ND	0.0050	1	07/08/2015 13:05
1,1-Dichloropropene	ND	0.0050	1	07/08/2015 13:05

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Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	GC18	107108

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	07/08/2015 13:05
trans-1,3-Dichloropropene	ND	0.0050	1	07/08/2015 13:05
Diisopropyl ether (DIPE)	ND	0.0050	1	07/08/2015 13:05
Ethylbenzene	ND	0.0050	1	07/08/2015 13:05
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	07/08/2015 13:05
Freon 113	ND	0.0050	1	07/08/2015 13:05
Hexachlorobutadiene	ND	0.0050	1	07/08/2015 13:05
Hexachloroethane	ND	0.0050	1	07/08/2015 13:05
2-Hexanone	ND	0.0050	1	07/08/2015 13:05
Isopropylbenzene	ND	0.0050	1	07/08/2015 13:05
4-Isopropyl toluene	ND	0.0050	1	07/08/2015 13:05
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/08/2015 13:05
Methylene chloride	ND	0.0050	1	07/08/2015 13:05
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	07/08/2015 13:05
Naphthalene	ND	0.0050	1	07/08/2015 13:05
n-Propyl benzene	ND	0.0050	1	07/08/2015 13:05
Styrene	ND	0.0050	1	07/08/2015 13:05
1,1,1,2-Tetrachloroethane	ND	0.0050	1	07/08/2015 13:05
1,1,2,2-Tetrachloroethane	ND	0.0050	1	07/08/2015 13:05
Tetrachloroethene	ND	0.0050	1	07/08/2015 13:05
Toluene	ND	0.0050	1	07/08/2015 13:05
1,2,3-Trichlorobenzene	ND	0.0050	1	07/08/2015 13:05
1,2,4-Trichlorobenzene	ND	0.0050	1	07/08/2015 13:05
1,1,1-Trichloroethane	ND	0.0050	1	07/08/2015 13:05
1,1,2-Trichloroethane	ND	0.0050	1	07/08/2015 13:05
Trichloroethene	ND	0.0050	1	07/08/2015 13:05
Trichlorofluoromethane	ND	0.0050	1	07/08/2015 13:05
1,2,3-Trichloropropane	ND	0.0050	1	07/08/2015 13:05
1,2,4-Trimethylbenzene	ND	0.0050	1	07/08/2015 13:05
1,3,5-Trimethylbenzene	ND	0.0050	1	07/08/2015 13:05
Vinyl Chloride	ND	0.0050	1	07/08/2015 13:05
Xylenes, Total	ND	0.0050	1	07/08/2015 13:05

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Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW5030B

Date Received: 7/2/15 17:52

Analytical Method: SW8260B

Date Prepared: 7/2/15-7/6/15

Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	GC18	107108

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	109	70-130		07/08/2015 13:05
Toluene-d8	114	70-130		07/08/2015 13:05
4-BFB	117	70-130		07/08/2015 13:05
Benzene-d6	104	60-140		07/08/2015 13:05
Ethylbenzene-d10	108	60-140		07/08/2015 13:05
1,2-DCB-d4	83	60-140		07/08/2015 13:05

Analyst(s): KF



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-6'	1507086-008A	Soil	07/02/2015 11:15	GC18	107108

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	07/08/2015 13:45
tert-Amyl methyl ether (TAME)	ND	0.0050	1	07/08/2015 13:45
Benzene	ND	0.0050	1	07/08/2015 13:45
Bromobenzene	ND	0.0050	1	07/08/2015 13:45
Bromochloromethane	ND	0.0050	1	07/08/2015 13:45
Bromodichloromethane	ND	0.0050	1	07/08/2015 13:45
Bromoform	ND	0.0050	1	07/08/2015 13:45
Bromomethane	ND	0.0050	1	07/08/2015 13:45
2-Butanone (MEK)	ND	0.020	1	07/08/2015 13:45
t-Butyl alcohol (TBA)	ND	0.050	1	07/08/2015 13:45
n-Butyl benzene	ND	0.0050	1	07/08/2015 13:45
sec-Butyl benzene	ND	0.0050	1	07/08/2015 13:45
tert-Butyl benzene	ND	0.0050	1	07/08/2015 13:45
Carbon Disulfide	ND	0.0050	1	07/08/2015 13:45
Carbon Tetrachloride	ND	0.0050	1	07/08/2015 13:45
Chlorobenzene	ND	0.0050	1	07/08/2015 13:45
Chloroethane	ND	0.0050	1	07/08/2015 13:45
Chloroform	ND	0.0050	1	07/08/2015 13:45
Chloromethane	ND	0.0050	1	07/08/2015 13:45
2-Chlorotoluene	ND	0.0050	1	07/08/2015 13:45
4-Chlorotoluene	ND	0.0050	1	07/08/2015 13:45
Dibromochloromethane	ND	0.0050	1	07/08/2015 13:45
1,2-Dibromo-3-chloropropane	ND	0.0040	1	07/08/2015 13:45
1,2-Dibromoethane (EDB)	ND	0.0040	1	07/08/2015 13:45
Dibromomethane	ND	0.0050	1	07/08/2015 13:45
1,2-Dichlorobenzene	ND	0.0050	1	07/08/2015 13:45
1,3-Dichlorobenzene	ND	0.0050	1	07/08/2015 13:45
1,4-Dichlorobenzene	ND	0.0050	1	07/08/2015 13:45
Dichlorodifluoromethane	ND	0.0050	1	07/08/2015 13:45
1,1-Dichloroethane	ND	0.0050	1	07/08/2015 13:45
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	07/08/2015 13:45
1,1-Dichloroethene	ND	0.0050	1	07/08/2015 13:45
cis-1,2-Dichloroethene	ND	0.0050	1	07/08/2015 13:45
trans-1,2-Dichloroethene	ND	0.0050	1	07/08/2015 13:45
1,2-Dichloropropane	ND	0.0050	1	07/08/2015 13:45
1,3-Dichloropropane	ND	0.0050	1	07/08/2015 13:45
2,2-Dichloropropane	ND	0.0050	1	07/08/2015 13:45
1,1-Dichloropropene	ND	0.0050	1	07/08/2015 13:45

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Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-6'	1507086-008A	Soil	07/02/2015 11:15	GC18	107108

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	07/08/2015 13:45
trans-1,3-Dichloropropene	ND	0.0050	1	07/08/2015 13:45
Diisopropyl ether (DIPE)	ND	0.0050	1	07/08/2015 13:45
Ethylbenzene	ND	0.0050	1	07/08/2015 13:45
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	07/08/2015 13:45
Freon 113	ND	0.0050	1	07/08/2015 13:45
Hexachlorobutadiene	ND	0.0050	1	07/08/2015 13:45
Hexachloroethane	ND	0.0050	1	07/08/2015 13:45
2-Hexanone	ND	0.0050	1	07/08/2015 13:45
Isopropylbenzene	ND	0.0050	1	07/08/2015 13:45
4-Isopropyl toluene	ND	0.0050	1	07/08/2015 13:45
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/08/2015 13:45
Methylene chloride	ND	0.0050	1	07/08/2015 13:45
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	07/08/2015 13:45
Naphthalene	ND	0.0050	1	07/08/2015 13:45
n-Propyl benzene	ND	0.0050	1	07/08/2015 13:45
Styrene	ND	0.0050	1	07/08/2015 13:45
1,1,1,2-Tetrachloroethane	ND	0.0050	1	07/08/2015 13:45
1,1,2,2-Tetrachloroethane	ND	0.0050	1	07/08/2015 13:45
Tetrachloroethene	ND	0.0050	1	07/08/2015 13:45
Toluene	ND	0.0050	1	07/08/2015 13:45
1,2,3-Trichlorobenzene	ND	0.0050	1	07/08/2015 13:45
1,2,4-Trichlorobenzene	ND	0.0050	1	07/08/2015 13:45
1,1,1-Trichloroethane	ND	0.0050	1	07/08/2015 13:45
1,1,2-Trichloroethane	ND	0.0050	1	07/08/2015 13:45
Trichloroethene	ND	0.0050	1	07/08/2015 13:45
Trichlorofluoromethane	ND	0.0050	1	07/08/2015 13:45
1,2,3-Trichloropropane	ND	0.0050	1	07/08/2015 13:45
1,2,4-Trimethylbenzene	ND	0.0050	1	07/08/2015 13:45
1,3,5-Trimethylbenzene	ND	0.0050	1	07/08/2015 13:45
Vinyl Chloride	ND	0.0050	1	07/08/2015 13:45
Xylenes, Total	ND	0.0050	1	07/08/2015 13:45

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Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW5030B

Date Received: 7/2/15 17:52

Analytical Method: SW8260B

Date Prepared: 7/2/15-7/6/15

Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-6'	1507086-008A	Soil	07/02/2015 11:15	GC18	107108

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	108	70-130		07/08/2015 13:45
Toluene-d8	115	70-130		07/08/2015 13:45
4-BFB	118	70-130		07/08/2015 13:45
Benzene-d6	119	60-140		07/08/2015 13:45
Ethylbenzene-d10	140	60-140		07/08/2015 13:45
1,2-DCB-d4	103	60-140		07/08/2015 13:45

Analyst(s): KF



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-2'	1507086-019A	Soil	07/02/2015 11:40	GC18	107183

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	07/07/2015 11:34
tert-Amyl methyl ether (TAME)	ND	0.0050	1	07/07/2015 11:34
Benzene	ND	0.0050	1	07/07/2015 11:34
Bromobenzene	ND	0.0050	1	07/07/2015 11:34
Bromochloromethane	ND	0.0050	1	07/07/2015 11:34
Bromodichloromethane	ND	0.0050	1	07/07/2015 11:34
Bromoform	ND	0.0050	1	07/07/2015 11:34
Bromomethane	ND	0.0050	1	07/07/2015 11:34
2-Butanone (MEK)	ND	0.020	1	07/07/2015 11:34
t-Butyl alcohol (TBA)	ND	0.050	1	07/07/2015 11:34
n-Butyl benzene	ND	0.0050	1	07/07/2015 11:34
sec-Butyl benzene	ND	0.0050	1	07/07/2015 11:34
tert-Butyl benzene	ND	0.0050	1	07/07/2015 11:34
Carbon Disulfide	ND	0.0050	1	07/07/2015 11:34
Carbon Tetrachloride	ND	0.0050	1	07/07/2015 11:34
Chlorobenzene	ND	0.0050	1	07/07/2015 11:34
Chloroethane	ND	0.0050	1	07/07/2015 11:34
Chloroform	ND	0.0050	1	07/07/2015 11:34
Chloromethane	ND	0.0050	1	07/07/2015 11:34
2-Chlorotoluene	ND	0.0050	1	07/07/2015 11:34
4-Chlorotoluene	ND	0.0050	1	07/07/2015 11:34
Dibromochloromethane	ND	0.0050	1	07/07/2015 11:34
1,2-Dibromo-3-chloropropane	ND	0.0040	1	07/07/2015 11:34
1,2-Dibromoethane (EDB)	ND	0.0040	1	07/07/2015 11:34
Dibromomethane	ND	0.0050	1	07/07/2015 11:34
1,2-Dichlorobenzene	ND	0.0050	1	07/07/2015 11:34
1,3-Dichlorobenzene	ND	0.0050	1	07/07/2015 11:34
1,4-Dichlorobenzene	ND	0.0050	1	07/07/2015 11:34
Dichlorodifluoromethane	ND	0.0050	1	07/07/2015 11:34
1,1-Dichloroethane	ND	0.0050	1	07/07/2015 11:34
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	07/07/2015 11:34
1,1-Dichloroethene	ND	0.0050	1	07/07/2015 11:34
cis-1,2-Dichloroethene	ND	0.0050	1	07/07/2015 11:34
trans-1,2-Dichloroethene	ND	0.0050	1	07/07/2015 11:34
1,2-Dichloropropane	ND	0.0050	1	07/07/2015 11:34
1,3-Dichloropropane	ND	0.0050	1	07/07/2015 11:34
2,2-Dichloropropane	ND	0.0050	1	07/07/2015 11:34
1,1-Dichloropropene	ND	0.0050	1	07/07/2015 11:34

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Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW5030B

Date Received: 7/2/15 17:52

Analytical Method: SW8260B

Date Prepared: 7/2/15-7/6/15

Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-2'	1507086-019A	Soil	07/02/2015 11:40	GC18	107183

Analytes	Result	RL	DF	Date Analyzed
cis-1,3-Dichloropropene	ND	0.0050	1	07/07/2015 11:34
trans-1,3-Dichloropropene	ND	0.0050	1	07/07/2015 11:34
Diisopropyl ether (DIPE)	ND	0.0050	1	07/07/2015 11:34
Ethylbenzene	ND	0.0050	1	07/07/2015 11:34
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	07/07/2015 11:34
Freon 113	ND	0.0050	1	07/07/2015 11:34
Hexachlorobutadiene	ND	0.0050	1	07/07/2015 11:34
Hexachloroethane	ND	0.0050	1	07/07/2015 11:34
2-Hexanone	ND	0.0050	1	07/07/2015 11:34
Isopropylbenzene	ND	0.0050	1	07/07/2015 11:34
4-Isopropyl toluene	ND	0.0050	1	07/07/2015 11:34
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	07/07/2015 11:34
Methylene chloride	ND	0.0050	1	07/07/2015 11:34
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	07/07/2015 11:34
Naphthalene	ND	0.0050	1	07/07/2015 11:34
n-Propyl benzene	ND	0.0050	1	07/07/2015 11:34
Styrene	ND	0.0050	1	07/07/2015 11:34
1,1,1,2-Tetrachloroethane	ND	0.0050	1	07/07/2015 11:34
1,1,2,2-Tetrachloroethane	ND	0.0050	1	07/07/2015 11:34
Tetrachloroethene	ND	0.0050	1	07/07/2015 11:34
Toluene	ND	0.0050	1	07/07/2015 11:34
1,2,3-Trichlorobenzene	ND	0.0050	1	07/07/2015 11:34
1,2,4-Trichlorobenzene	ND	0.0050	1	07/07/2015 11:34
1,1,1-Trichloroethane	ND	0.0050	1	07/07/2015 11:34
1,1,2-Trichloroethane	ND	0.0050	1	07/07/2015 11:34
Trichloroethene	ND	0.0050	1	07/07/2015 11:34
Trichlorofluoromethane	ND	0.0050	1	07/07/2015 11:34
1,2,3-Trichloropropane	ND	0.0050	1	07/07/2015 11:34
1,2,4-Trimethylbenzene	ND	0.0050	1	07/07/2015 11:34
1,3,5-Trimethylbenzene	ND	0.0050	1	07/07/2015 11:34
Vinyl Chloride	ND	0.0050	1	07/07/2015 11:34
Xylenes, Total	ND	0.0050	1	07/07/2015 11:34

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW5030B

Date Received: 7/2/15 17:52

Analytical Method: SW8260B

Date Prepared: 7/2/15-7/6/15

Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-2'	1507086-019A	Soil	07/02/2015 11:40	GC18	107183

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	110	70-130		07/07/2015 11:34
Toluene-d8	112	70-130		07/07/2015 11:34
4-BFB	115	70-130		07/07/2015 11:34
Benzene-d6	115	60-140		07/07/2015 11:34
Ethylbenzene-d10	127	60-140		07/07/2015 11:34
1,2-DCB-d4	91	60-140		07/07/2015 11:34

Analyst(s): KF



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/7/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	GC35	107269

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.050	5	07/07/2015 17:10
Acenaphthylene	ND	0.050	5	07/07/2015 17:10
Anthracene	ND	0.050	5	07/07/2015 17:10
Benzo (a) anthracene	ND	0.050	5	07/07/2015 17:10
Benzo (b) fluoranthene	ND	0.050	5	07/07/2015 17:10
Benzo (k) fluoranthene	ND	0.050	5	07/07/2015 17:10
Benzo (g,h,i) perylene	ND	0.050	5	07/07/2015 17:10
Benzo (a) pyrene	ND	0.050	5	07/07/2015 17:10
Chrysene	ND	0.050	5	07/07/2015 17:10
Dibenzo (a,h) anthracene	ND	0.050	5	07/07/2015 17:10
Fluoranthene	ND	0.050	5	07/07/2015 17:10
Fluorene	ND	0.050	5	07/07/2015 17:10
Indeno (1,2,3-cd) pyrene	ND	0.050	5	07/07/2015 17:10
1-Methylnaphthalene	ND	0.050	5	07/07/2015 17:10
2-Methylnaphthalene	ND	0.050	5	07/07/2015 17:10
Naphthalene	ND	0.050	5	07/07/2015 17:10
Phenanthrene	ND	0.050	5	07/07/2015 17:10
Pyrene	ND	0.050	5	07/07/2015 17:10

Surrogates	REC (%)	Limits	Date Analyzed
1-Fluoronaphthalene	81	30-130	07/07/2015 17:10
2-Fluorobiphenyl	77	30-130	07/07/2015 17:10

Analyst(s): HD

Analytical Comments: a3



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/6/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8270C
Unit: mg/Kg

Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC17	107203

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	0.50	2	07/07/2015 14:49
Acenaphthylene	ND	0.50	2	07/07/2015 14:49
Acetochlor	ND	0.50	2	07/07/2015 14:49
Anthracene	ND	0.50	2	07/07/2015 14:49
Benzidine	ND	2.6	2	07/07/2015 14:49
Benzo (a) anthracene	ND	0.50	2	07/07/2015 14:49
Benzo (b) fluoranthene	ND	0.50	2	07/07/2015 14:49
Benzo (k) fluoranthene	ND	0.50	2	07/07/2015 14:49
Benzo (g,h,i) perylene	ND	0.50	2	07/07/2015 14:49
Benzo (a) pyrene	ND	0.50	2	07/07/2015 14:49
Benzyl Alcohol	ND	2.6	2	07/07/2015 14:49
1,1-Biphenyl	ND	0.50	2	07/07/2015 14:49
Bis (2-chloroethoxy) Methane	ND	0.50	2	07/07/2015 14:49
Bis (2-chloroethyl) Ether	ND	0.50	2	07/07/2015 14:49
Bis (2-chloroisopropyl) Ether	ND	0.50	2	07/07/2015 14:49
Bis (2-ethylhexyl) Adipate	ND	0.50	2	07/07/2015 14:49
Bis (2-ethylhexyl) Phthalate	ND	0.50	2	07/07/2015 14:49
4-Bromophenyl Phenyl Ether	ND	0.50	2	07/07/2015 14:49
Butylbenzyl Phthalate	ND	0.50	2	07/07/2015 14:49
4-Chloroaniline	ND	1.0	2	07/07/2015 14:49
4-Chloro-3-methylphenol	ND	0.50	2	07/07/2015 14:49
2-Chloronaphthalene	ND	0.50	2	07/07/2015 14:49
2-Chlorophenol	ND	0.50	2	07/07/2015 14:49
4-Chlorophenyl Phenyl Ether	ND	0.50	2	07/07/2015 14:49
Chrysene	ND	0.50	2	07/07/2015 14:49
Dibenzo (a,h) anthracene	ND	0.50	2	07/07/2015 14:49
Dibenzofuran	ND	0.50	2	07/07/2015 14:49
Di-n-butyl Phthalate	ND	0.50	2	07/07/2015 14:49
1,2-Dichlorobenzene	ND	0.50	2	07/07/2015 14:49
1,3-Dichlorobenzene	ND	0.50	2	07/07/2015 14:49
1,4-Dichlorobenzene	ND	0.50	2	07/07/2015 14:49
3,3-Dichlorobenzidine	ND	1.0	2	07/07/2015 14:49
2,4-Dichlorophenol	ND	0.50	2	07/07/2015 14:49
Diethyl Phthalate	ND	0.50	2	07/07/2015 14:49
2,4-Dimethylphenol	ND	0.50	2	07/07/2015 14:49
Dimethyl Phthalate	ND	0.50	2	07/07/2015 14:49
4,6-Dinitro-2-methylphenol	ND	2.6	2	07/07/2015 14:49
2,4-Dinitrophenol	ND	13	2	07/07/2015 14:49

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Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/6/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8270C
Unit: mg/Kg

Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC17	107203

Analytes	Result	RL	DF	Date Analyzed
2,4-Dinitrotoluene	ND	0.50	2	07/07/2015 14:49
2,6-Dinitrotoluene	ND	0.50	2	07/07/2015 14:49
Di-n-octyl Phthalate	ND	1.0	2	07/07/2015 14:49
1,2-Diphenylhydrazine	ND	0.50	2	07/07/2015 14:49
Fluoranthene	ND	0.50	2	07/07/2015 14:49
Fluorene	ND	0.50	2	07/07/2015 14:49
Hexachlorobenzene	ND	0.50	2	07/07/2015 14:49
Hexachlorobutadiene	ND	0.50	2	07/07/2015 14:49
Hexachlorocyclopentadiene	ND	2.6	2	07/07/2015 14:49
Hexachloroethane	ND	0.50	2	07/07/2015 14:49
Indeno (1,2,3-cd) pyrene	ND	0.50	2	07/07/2015 14:49
Isophorone	ND	0.50	2	07/07/2015 14:49
2-Methylnaphthalene	ND	0.50	2	07/07/2015 14:49
2-Methylphenol (o-Cresol)	ND	0.50	2	07/07/2015 14:49
3 & 4-Methylphenol (m,p-Cresol)	ND	0.50	2	07/07/2015 14:49
Naphthalene	ND	0.50	2	07/07/2015 14:49
2-Nitroaniline	ND	2.6	2	07/07/2015 14:49
3-Nitroaniline	ND	2.6	2	07/07/2015 14:49
4-Nitroaniline	ND	2.6	2	07/07/2015 14:49
Nitrobenzene	ND	0.50	2	07/07/2015 14:49
2-Nitrophenol	ND	2.6	2	07/07/2015 14:49
4-Nitrophenol	ND	2.6	2	07/07/2015 14:49
N-Nitrosodiphenylamine	ND	0.50	2	07/07/2015 14:49
N-Nitrosodi-n-propylamine	ND	0.50	2	07/07/2015 14:49
Pentachlorophenol	ND	2.6	2	07/07/2015 14:49
Phenanthrene	ND	0.50	2	07/07/2015 14:49
Phenol	ND	0.50	2	07/07/2015 14:49
Pyrene	ND	0.50	2	07/07/2015 14:49
1,2,4-Trichlorobenzene	ND	0.50	2	07/07/2015 14:49
2,4,5-Trichlorophenol	ND	0.50	2	07/07/2015 14:49
2,4,6-Trichlorophenol	ND	0.50	2	07/07/2015 14:49

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Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/6/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8270C
Unit: mg/Kg

Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC17	107203

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
2-Fluorophenol	92	30-130		07/07/2015 14:49
Phenol-d5	96	30-130		07/07/2015 14:49
Nitrobenzene-d5	80	30-130		07/07/2015 14:49
2-Fluorobiphenyl	82	30-130		07/07/2015 14:49
2,4,6-Tribromophenol	59	16-130		07/07/2015 14:49
4-Terphenyl-d14	93	30-130		07/07/2015 14:49

Analyst(s): HK

Analytical Comments: a3



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/6/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	ICP-MS2	107185

Analytes	Result	RL	DF	Date Analyzed
Antimony	3.3	0.50	1	07/06/2015 16:08
Arsenic	14	0.50	1	07/06/2015 16:08
Barium	530	5.0	1	07/06/2015 16:08
Beryllium	ND	0.50	1	07/06/2015 16:08
Cadmium	1.9	0.25	1	07/06/2015 16:08
Chromium	53	0.50	1	07/06/2015 16:08
Cobalt	10	0.50	1	07/06/2015 16:08
Copper	83	0.50	1	07/06/2015 16:08
Lead	940	5.0	10	07/06/2015 16:51
Mercury	0.47	0.050	1	07/06/2015 16:08
Molybdenum	0.52	0.50	1	07/06/2015 16:08
Nickel	45	0.50	1	07/06/2015 16:08
Selenium	ND	0.50	1	07/06/2015 16:08
Silver	0.56	0.50	1	07/06/2015 16:08
Thallium	ND	0.50	1	07/06/2015 16:08
Vanadium	53	0.50	1	07/06/2015 16:08
Zinc	930	5.0	1	07/06/2015 16:08
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	101	70-130		07/06/2015 16:08

Analyst(s): DVH



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	GC19	107187

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/07/2015 13:31
MTBE	---	0.050	1	07/07/2015 13:31
Benzene	---	0.0050	1	07/07/2015 13:31
Toluene	---	0.0050	1	07/07/2015 13:31
Ethylbenzene	---	0.0050	1	07/07/2015 13:31
Xylenes	---	0.0050	1	07/07/2015 13:31

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	97	70-130	07/07/2015 13:31

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-6'	1507086-002A	Soil	07/02/2015 09:50	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 15:28
MTBE	---	0.050	1	07/03/2015 15:28
Benzene	---	0.0050	1	07/03/2015 15:28
Toluene	---	0.0050	1	07/03/2015 15:28
Ethylbenzene	---	0.0050	1	07/03/2015 15:28
Xylenes	---	0.0050	1	07/03/2015 15:28

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	107	70-130	07/03/2015 15:28

Analyst(s): IA



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB1-10'	1507086-003A	Soil	07/02/2015 09:55	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 15:59
MTBE	---	0.050	1	07/03/2015 15:59
Benzene	---	0.0050	1	07/03/2015 15:59
Toluene	---	0.0050	1	07/03/2015 15:59
Ethylbenzene	---	0.0050	1	07/03/2015 15:59
Xylenes	---	0.0050	1	07/03/2015 15:59

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	104	70-130	07/03/2015 15:59

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	3.2	1.0	1	07/03/2015 16:30
MTBE	---	0.050	1	07/03/2015 16:30
Benzene	---	0.0050	1	07/03/2015 16:30
Toluene	---	0.0050	1	07/03/2015 16:30
Ethylbenzene	---	0.0050	1	07/03/2015 16:30
Xylenes	---	0.0050	1	07/03/2015 16:30

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	98	70-130	07/03/2015 16:30

Analyst(s): IA

Analytical Comments: d7



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB2-6'	1507086-005A	Soil	07/02/2015 10:25	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 17:01
MTBE	---	0.050	1	07/03/2015 17:01
Benzene	---	0.0050	1	07/03/2015 17:01
Toluene	---	0.0050	1	07/03/2015 17:01
Ethylbenzene	---	0.0050	1	07/03/2015 17:01
Xylenes	---	0.0050	1	07/03/2015 17:01

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	107	70-130	07/03/2015 17:01

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 17:32
MTBE	---	0.050	1	07/03/2015 17:32
Benzene	---	0.0050	1	07/03/2015 17:32
Toluene	---	0.0050	1	07/03/2015 17:32
Ethylbenzene	---	0.0050	1	07/03/2015 17:32
Xylenes	---	0.0050	1	07/03/2015 17:32

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	101	70-130	07/03/2015 17:32

Analyst(s): IA



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB3-6'	1507086-008A	Soil	07/02/2015 11:15	GC7	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/06/2015 16:20
MTBE	---	0.050	1	07/06/2015 16:20
Benzene	---	0.0050	1	07/06/2015 16:20
Toluene	---	0.0050	1	07/06/2015 16:20
Ethylbenzene	---	0.0050	1	07/06/2015 16:20
Xylenes	---	0.0050	1	07/06/2015 16:20

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	97	70-130	07/06/2015 16:20

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB5-2'	1507086-010A	Soil	07/02/2015 13:40	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 19:36
MTBE	---	0.050	1	07/03/2015 19:36
Benzene	---	0.0050	1	07/03/2015 19:36
Toluene	---	0.0050	1	07/03/2015 19:36
Ethylbenzene	---	0.0050	1	07/03/2015 19:36
Xylenes	---	0.0050	1	07/03/2015 19:36

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	102	70-130	07/03/2015 19:36

Analyst(s): IA



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB5-6'	1507086-011A	Soil	07/02/2015 13:45	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 20:06
MTBE	---	0.050	1	07/03/2015 20:06
Benzene	---	0.0050	1	07/03/2015 20:06
Toluene	---	0.0050	1	07/03/2015 20:06
Ethylbenzene	---	0.0050	1	07/03/2015 20:06
Xylenes	---	0.0050	1	07/03/2015 20:06

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	104	70-130	07/03/2015 20:06

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 20:36
MTBE	---	0.050	1	07/03/2015 20:36
Benzene	---	0.0050	1	07/03/2015 20:36
Toluene	---	0.0050	1	07/03/2015 20:36
Ethylbenzene	---	0.0050	1	07/03/2015 20:36
Xylenes	---	0.0050	1	07/03/2015 20:36

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	109	70-130	07/03/2015 20:36

Analyst(s): IA



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB7-6'	1507086-014A	Soil	07/02/2015 13:05	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 21:07
MTBE	---	0.050	1	07/03/2015 21:07
Benzene	---	0.0050	1	07/03/2015 21:07
Toluene	---	0.0050	1	07/03/2015 21:07
Ethylbenzene	---	0.0050	1	07/03/2015 21:07
Xylenes	---	0.0050	1	07/03/2015 21:07

Surrogates	REC (%)	Limits
2-Fluorotoluene	106	70-130

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-2'	1507086-016A	Soil	07/02/2015 10:45	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 21:37
MTBE	---	0.050	1	07/03/2015 21:37
Benzene	---	0.0050	1	07/03/2015 21:37
Toluene	---	0.0050	1	07/03/2015 21:37
Ethylbenzene	---	0.0050	1	07/03/2015 21:37
Xylenes	---	0.0050	1	07/03/2015 21:37

Surrogates	REC (%)	Limits
2-Fluorotoluene	104	70-130

Analyst(s): IA

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB8-6'	1507086-017A	Soil	07/02/2015 10:50	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 22:37
MTBE	---	0.050	1	07/03/2015 22:37
Benzene	---	0.0050	1	07/03/2015 22:37
Toluene	---	0.0050	1	07/03/2015 22:37
Ethylbenzene	---	0.0050	1	07/03/2015 22:37
Xylenes	---	0.0050	1	07/03/2015 22:37

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	108	70-130	07/03/2015 22:37

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-2'	1507086-019A	Soil	07/02/2015 11:40	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/03/2015 23:07
MTBE	---	0.050	1	07/03/2015 23:07
Benzene	---	0.0050	1	07/03/2015 23:07
Toluene	---	0.0050	1	07/03/2015 23:07
Ethylbenzene	---	0.0050	1	07/03/2015 23:07
Xylenes	---	0.0050	1	07/03/2015 23:07

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	103	70-130	07/03/2015 23:07

Analyst(s): IA



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15-7/6/15

WorkOrder: 1507086
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
SB9-6'	1507086-020A	Soil	07/02/2015 11:45	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/04/2015 00:07
MTBE	---	0.050	1	07/04/2015 00:07
Benzene	---	0.0050	1	07/04/2015 00:07
Toluene	---	0.0050	1	07/04/2015 00:07
Ethylbenzene	---	0.0050	1	07/04/2015 00:07
Xylenes	---	0.0050	1	07/04/2015 00:07

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	104	70-130	07/04/2015 00:07

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-10'	1507086-021A	Soil	07/02/2015 11:50	GC19	107144

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	07/04/2015 00:37
MTBE	---	0.050	1	07/04/2015 00:37
Benzene	---	0.0050	1	07/04/2015 00:37
Toluene	---	0.0050	1	07/04/2015 00:37
Ethylbenzene	---	0.0050	1	07/04/2015 00:37
Xylenes	---	0.0050	1	07/04/2015 00:37

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	106	70-130	07/04/2015 00:37

Analyst(s): IA



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-6'	1507086-002A	Soil	07/02/2015 09:50	ICP-JY	107111

Analytes	Result	RL	DF	Date Analyzed
Lead	9.6	5.0	1	07/06/2015 14:47

Surrogates	REC (%)	Limits
Tb 350.917	98	70-130

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-10'	1507086-003A	Soil	07/02/2015 09:55	ICP-JY	107111

Analytes	Result	RL	DF	Date Analyzed
Lead	8.7	5.0	1	07/06/2015 16:13

Surrogates	REC (%)	Limits
Tb 350.917	97	70-130

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	950	5.0	1	07/06/2015 16:15

Surrogates	REC (%)	Limits
Tb 350.917	99	70-130

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-6'	1507086-005A	Soil	07/02/2015 10:25	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	9.7	5.0	1	07/06/2015 16:18

Surrogates	REC (%)	Limits
Tb 350.917	101	70-130

Analyst(s): BBO

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	220	5.0	1	07/06/2015 16:20

Surrogates	REC (%)	Limits	Date Analyzed
Tb 350.917	97	70-130	07/06/2015 16:20

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-6'	1507086-008A	Soil	07/02/2015 11:15	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	12	5.0	1	07/06/2015 16:23

Surrogates	REC (%)	Limits	Date Analyzed
Tb 350.917	94	70-130	07/06/2015 16:23

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB5-2'	1507086-010A	Soil	07/02/2015 13:40	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	200	5.0	1	07/06/2015 16:25

Surrogates	REC (%)	Limits	Date Analyzed
Tb 350.917	95	70-130	07/06/2015 16:25

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB5-6'	1507086-011A	Soil	07/02/2015 13:45	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	12	5.0	1	07/06/2015 16:28

Surrogates	REC (%)	Limits	Date Analyzed
Tb 350.917	98	70-130	07/06/2015 16:28

Analyst(s): BBO

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	90	5.0	1	07/06/2015 16:30

Surrogates	REC (%)	Limits
Tb 350.917	101	70-130

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-6'	1507086-014A	Soil	07/02/2015 13:05	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	11	5.0	1	07/06/2015 16:37

Surrogates	REC (%)	Limits
Tb 350.917	99	70-130

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-2'	1507086-016A	Soil	07/02/2015 10:45	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	120	5.0	1	07/06/2015 16:40

Surrogates	REC (%)	Limits
Tb 350.917	100	70-130

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-6'	1507086-017A	Soil	07/02/2015 10:50	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	15	5.0	1	07/10/2015 14:41

Surrogates	REC (%)	Limits
Tb 350.917	102	70-130

Analyst(s): DB

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-2'	1507086-019A	Soil	07/02/2015 11:40	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	60	17	1	07/10/2015 14:44
Surrogates	REC (%)	Limits		
Tb 350.917	100	70-130		07/10/2015 14:44

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-6'	1507086-020A	Soil	07/02/2015 11:45	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	9.3	5.0	1	07/06/2015 16:42
Surrogates	REC (%)	Limits		
Tb 350.917	102	70-130		07/06/2015 16:42

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-10'	1507086-021A	Soil	07/02/2015 11:50	ICP-JY	107146

Analytes	Result	RL	DF	Date Analyzed
Lead	8.4	5.0	1	07/06/2015 12:39
Surrogates	REC (%)	Limits		
Tb 350.917	106	70-130		07/06/2015 12:39

Analyst(s): BBO



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	GC2B	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	19	10	10	07/03/2015 07:06
TPH-Motor Oil (C18-C36)	140	50	10	07/03/2015 07:06

Surrogates	REC (%)	Limits	Date Analyzed
C9	73	70-130	07/03/2015 07:06

Analyst(s): TK

Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-6'	1507086-002A	Soil	07/02/2015 09:50	GC11A	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 06:53
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 06:53

Surrogates	REC (%)	Limits	Date Analyzed
C9	94	70-130	07/03/2015 06:53

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-10'	1507086-003A	Soil	07/02/2015 09:55	GC2A	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 02:05
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 02:05

Surrogates	REC (%)	Limits	Date Analyzed
C9	87	70-130	07/03/2015 02:05

Analyst(s): TK

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	GC2B	107129

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	51	20	20	07/06/2015 13:17
TPH-Motor Oil (C18-C36)	560	100	20	07/06/2015 13:17

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	75	70-130	07/06/2015 13:17

Analyst(s): TK

Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-6'	1507086-005A	Soil	07/02/2015 10:25	GC6A	107129

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 07:44
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 07:44

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	97	70-130	07/03/2015 07:44

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	GC11B	107129

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	3.5	2.0	2	07/06/2015 11:54
TPH-Motor Oil (C18-C36)	41	10	2	07/06/2015 11:54

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	98	70-130	07/06/2015 11:54

Analyst(s): TK

Analytical Comments: e7,e2

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-6'	1507086-008A	Soil	07/02/2015 11:15	GC2A	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 04:35
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 04:35

Surrogates	REC (%)	Limits	Date Analyzed
C9	87	70-130	07/03/2015 04:35

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB5-2'	1507086-010A	Soil	07/02/2015 13:40	GC2A	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 07:06
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 07:06

Surrogates	REC (%)	Limits	Date Analyzed
C9	87	70-130	07/03/2015 07:06

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB5-6'	1507086-011A	Soil	07/02/2015 13:45	GC2A	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 09:36
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 09:36

Surrogates	REC (%)	Limits	Date Analyzed
C9	87	70-130	07/03/2015 09:36

Analyst(s): TK

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	GC11B	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	1.4	1.0	1	07/03/2015 01:10
TPH-Motor Oil (C18-C36)	17	5.0	1	07/03/2015 01:10

Surrogates	REC (%)	Limits	Date Analyzed
C9	101	70-130	07/03/2015 01:10

Analyst(s): TK

Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-6'	1507086-014A	Soil	07/02/2015 13:05	GC6A	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 18:40
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 18:40

Surrogates	REC (%)	Limits	Date Analyzed
C9	101	70-130	07/03/2015 18:40

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-2'	1507086-016A	Soil	07/02/2015 10:45	GC6B	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	2.0	1.0	1	07/03/2015 07:44
TPH-Motor Oil (C18-C36)	70	5.0	1	07/03/2015 07:44

Surrogates	REC (%)	Limits	Date Analyzed
C9	83	70-130	07/03/2015 07:44

Analyst(s): TK

Analytical Comments: e7,e2

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-6'	1507086-017A	Soil	07/02/2015 10:50	GC11B	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 05:44
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 05:44

Surrogates	REC (%)	Limits	Date Analyzed
C9	101	70-130	07/03/2015 05:44

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-2'	1507086-019A	Soil	07/02/2015 11:40	GC11B	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 08:01
TPH-Motor Oil (C18-C36)	15	5.0	1	07/03/2015 08:01

Surrogates	REC (%)	Limits	Date Analyzed
C9	99	70-130	07/03/2015 08:01

Analyst(s): TK

Analytical Comments: e7

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-6'	1507086-020A	Soil	07/02/2015 11:45	GC11B	107129

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	07/03/2015 03:27
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/03/2015 03:27

Surrogates	REC (%)	Limits	Date Analyzed
C9	101	70-130	07/03/2015 03:27

Analyst(s): TK

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/2/15

WorkOrder: 1507086
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB9-10'	1507086-021A	Soil	07/02/2015 11:50	GC2A	107129

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND	1.0	1	07/02/2015 22:20
TPH-Motor Oil (C18-C36)	ND	5.0	1	07/02/2015 22:20

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	89	70-130	07/02/2015 22:20

Analyst(s): TK



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC22
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107113
Extraction Method: SW3550B
Analytical Method: SW8081A/8082
Unit: mg/kg
Sample ID: MB/LCS-107113
 1507041-004AMS/MSD

QC Summary Report for SW8081A/8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aldrin	ND	0.0424	0.0010	0.050	-	85	70-130
a-BHC	ND	-	0.0010	-	-	-	-
b-BHC	ND	-	0.0010	-	-	-	-
d-BHC	ND	-	0.0010	-	-	-	-
g-BHC	ND	0.0465	0.0010	0.050	-	93	70-130
Chlordane (Technical)	ND	-	0.025	-	-	-	-
a-Chlordane	ND	-	0.0010	-	-	-	-
g-Chlordane	ND	-	0.0010	-	-	-	-
p,p-DDD	ND	-	0.0010	-	-	-	-
p,p-DDE	ND	-	0.0010	-	-	-	-
p,p-DDT	ND	0.0360	0.0010	0.050	-	72	70-130
Dieldrin	ND	0.0540	0.0010	0.050	-	108	70-130
Endosulfan I	ND	-	0.0010	-	-	-	-
Endosulfan II	ND	-	0.0010	-	-	-	-
Endosulfan sulfate	ND	-	0.0010	-	-	-	-
Endrin	ND	0.0455	0.0010	0.050	-	91	70-130
Endrin aldehyde	ND	-	0.0010	-	-	-	-
Endrin ketone	ND	-	0.0010	-	-	-	-
Heptachlor	ND	0.0445	0.0010	0.050	-	89	70-130
Heptachlor epoxide	ND	-	0.0010	-	-	-	-
Hexachlorobenzene	ND	-	0.010	-	-	-	-
Hexachlorocyclopentadiene	ND	-	0.020	-	-	-	-
Methoxychlor	ND	-	0.0010	-	-	-	-
Toxaphene	ND	-	0.050	-	-	-	-
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	-	0.050	-	-	-	-
PCBs, total	ND	-	0.050	-	-	-	-
Surrogate Recovery							
Decachlorobiphenyl	0.0541	0.0519		0.050	108	104	70-130

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC22
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107113
Extraction Method: SW3550B
Analytical Method: SW8081A/8082
Unit: mg/kg
Sample ID: MB/LCS-107113
 1507041-004AMS/MSD

QC Summary Report for SW8081A/8082

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	NR	NR		ND<0.002	NR	NR	-	NR	
g-BHC	NR	NR		ND<0.002	NR	NR	-	NR	
p,p-DDT	NR	NR		ND<0.002	NR	NR	-	NR	
Dieldrin	NR	NR		ND<0.002	NR	NR	-	NR	
Endrin	NR	NR		ND<0.002	NR	NR	-	NR	
Heptachlor	NR	NR		ND<0.002	NR	NR	-	NR	
Surrogate Recovery									
Decachlorobiphenyl	NR	NR			NR	NR	-	NR	



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: GC22
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107184
Extraction Method: SW3550B
Analytical Method: SW8081A/8082
Unit: mg/kg
Sample ID: MB/LCS-107184
 1507086-001AMS/MSD

QC Summary Report for SW8081A/8082

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aldrin	ND	0.0384	0.0010	0.050	-	77	70-130
a-BHC	ND	-	0.0010	-	-	-	-
b-BHC	ND	-	0.0010	-	-	-	-
d-BHC	ND	-	0.0010	-	-	-	-
g-BHC	ND	0.0430	0.0010	0.050	-	86	70-130
Chlordane (Technical)	ND	-	0.025	-	-	-	-
a-Chlordane	ND	-	0.0010	-	-	-	-
g-Chlordane	ND	-	0.0010	-	-	-	-
p,p-DDD	ND	-	0.0010	-	-	-	-
p,p-DDE	ND	-	0.0010	-	-	-	-
p,p-DDT	ND	0.0477	0.0010	0.050	-	95	70-130
Dieldrin	ND	0.0518	0.0010	0.050	-	103	70-130
Endosulfan I	ND	-	0.0010	-	-	-	-
Endosulfan II	ND	-	0.0010	-	-	-	-
Endosulfan sulfate	ND	-	0.0010	-	-	-	-
Endrin	ND	0.0522	0.0010	0.050	-	104	70-130
Endrin aldehyde	ND	-	0.0010	-	-	-	-
Endrin ketone	ND	-	0.0010	-	-	-	-
Heptachlor	ND	0.0424	0.0010	0.050	-	85	70-130
Heptachlor epoxide	ND	-	0.0010	-	-	-	-
Hexachlorobenzene	ND	-	0.010	-	-	-	-
Hexachlorocyclopentadiene	ND	-	0.020	-	-	-	-
Methoxychlor	ND	-	0.0010	-	-	-	-
Toxaphene	ND	-	0.050	-	-	-	-
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	-	0.050	-	-	-	-
PCBs, total	ND	-	0.050	-	-	-	-
Surrogate Recovery							
Decachlorobiphenyl	0.0480	0.0544		0.050	96	109	70-130

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: GC22
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107184
Extraction Method: SW3550B
Analytical Method: SW8081A/8082
Unit: mg/kg
Sample ID: MB/LCS-107184
 1507086-001AMS/MSD

QC Summary Report for SW8081A/8082

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	NR	NR		ND<0.01	NR	NR	-	NR	
g-BHC	NR	NR		ND<0.01	NR	NR	-	NR	
p,p-DDT	NR	NR		ND<0.01	NR	NR	-	NR	
Dieldrin	NR	NR		ND<0.01	NR	NR	-	NR	
Endrin	NR	NR		ND<0.01	NR	NR	-	NR	
Heptachlor	NR	NR		ND<0.01	NR	NR	-	NR	
Surrogate Recovery									
Decachlorobiphenyl	NR	NR			NR	NR	-	NR	



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC22
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107113
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS-107113
 1507041-004AMS/MSD

QC Summary Report for SW8081A

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aldrin	ND	0.0424	0.0010	0.050	-	85	70-130
a-BHC	ND	-	0.0010	-	-	-	-
b-BHC	ND	-	0.0010	-	-	-	-
d-BHC	ND	-	0.0010	-	-	-	-
g-BHC	ND	0.0465	0.0010	0.050	-	93	70-130
Chlordane (Technical)	ND	-	0.025	-	-	-	-
a-Chlordane	ND	-	0.0010	-	-	-	-
g-Chlordane	ND	-	0.0010	-	-	-	-
p,p-DDD	ND	-	0.0010	-	-	-	-
p,p-DDE	ND	-	0.0010	-	-	-	-
p,p-DDT	ND	0.0360	0.0010	0.050	-	72	70-130
Dieldrin	ND	0.0540	0.0010	0.050	-	108	70-130
Endosulfan I	ND	-	0.0010	-	-	-	-
Endosulfan II	ND	-	0.0010	-	-	-	-
Endosulfan sulfate	ND	-	0.0010	-	-	-	-
Endrin	ND	0.0455	0.0010	0.050	-	91	70-130
Endrin aldehyde	ND	-	0.0010	-	-	-	-
Endrin ketone	ND	-	0.0010	-	-	-	-
Heptachlor	ND	0.0445	0.0010	0.050	-	89	70-130
Heptachlor epoxide	ND	-	0.0010	-	-	-	-
Hexachlorobenzene	ND	-	0.010	-	-	-	-
Hexachlorocyclopentadiene	ND	-	0.020	-	-	-	-
Methoxychlor	ND	-	0.0010	-	-	-	-
Toxaphene	ND	-	0.050	-	-	-	-
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	-	0.050	-	-	-	-
PCBs, total	ND	-	0.050	-	-	-	-
Surrogate Recovery							
Decachlorobiphenyl	0.0541	0.0519		0.050	108	104	70-130

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC22
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107113
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS-107113
 1507041-004AMS/MSD

QC Summary Report for SW8081A

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	NR	NR		ND<0.002	NR	NR	-	NR	
g-BHC	NR	NR		ND<0.002	NR	NR	-	NR	
p,p-DDT	NR	NR		ND<0.002	NR	NR	-	NR	
Dieldrin	NR	NR		ND<0.002	NR	NR	-	NR	
Endrin	NR	NR		ND<0.002	NR	NR	-	NR	
Heptachlor	NR	NR		ND<0.002	NR	NR	-	NR	
Surrogate Recovery									
Decachlorobiphenyl	NR	NR			NR	NR	-	NR	



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC16
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107108
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107108
 1507041-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0392	0.0050	0.050	-	78	53-116
Benzene	ND	0.0483	0.0050	0.050	-	97	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.157	0.050	0.20	-	78	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0470	0.0050	0.050	-	94	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0442	0.0040	0.050	-	88	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0468	0.0040	0.050	-	94	58-135
1,1-Dichloroethene	ND	0.0484	0.0050	0.050	-	97	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC16
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107108
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107108
 1507041-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.0434	0.0050	0.050	-	87	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0420	0.0050	0.050	-	84	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0405	0.0050	0.050	-	81	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0524	0.0050	0.050	-	105	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0480	0.0050	0.050	-	96	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

Surrogate Recovery

Dibromofluoromethane	0.120	0.124		0.12	96	99	70-130
Toluene-d8	0.132	0.131		0.12	106	105	70-130
4-BFB	0.0129	0.0134		0.012	103	107	70-130
Benzene-d6	0.0921	0.0966		0.10	92	97	60-140
Ethylbenzene-d10	0.0980	0.107		0.10	98	107	60-140
1,2-DCB-d4	0.0758	0.0811		0.10	76	81	60-140

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/2/15
Instrument: GC16
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107108
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107108
 1507041-003AMS/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
tert-Amyl methyl ether (TAME)	0.0489	0.0458	0.050	ND	98	92	70-130	6.44	20
Benzene	0.0475	0.0444	0.050	ND	95	89	70-130	6.72	20
t-Butyl alcohol (TBA)	0.190	0.169	0.20	ND	95	84	70-130	12.0	20
Chlorobenzene	0.0476	0.0444	0.050	ND	95	89	70-130	6.96	20
1,2-Dibromoethane (EDB)	0.0442	0.0421	0.050	ND	88	84	70-130	4.75	20
1,2-Dichloroethane (1,2-DCA)	0.0497	0.0476	0.050	ND	99	95	70-130	4.15	20
1,1-Dichloroethene	0.0428	0.0407	0.050	ND	86	81	70-130	4.86	20
Diisopropyl ether (DIPE)	0.0534	0.0501	0.050	ND	107	100	70-130	6.39	20
Ethyl tert-butyl ether (ETBE)	0.0513	0.0479	0.050	ND	103	96	70-130	6.93	20
Methyl-t-butyl ether (MTBE)	0.0486	0.0456	0.050	ND	97	91	70-130	6.43	20
Toluene	0.0456	0.0426	0.050	ND	91	85	70-130	6.78	20
Trichloroethene	0.0428	0.0398	0.050	ND	86	80	70-130	7.21	20
Surrogate Recovery									
Dibromofluoromethane	0.138	0.140	0.12		110	112	70-130	1.17	20
Toluene-d8	0.142	0.140	0.12		113	112	70-130	1.07	20
4-BFB	0.0145	0.0144	0.012		116	115	70-130	0.972	20
Benzene-d6	0.112	0.105	0.10		112	105	60-140	6.20	20
Ethylbenzene-d10	0.126	0.113	0.10		126	113	60-140	11.0	20
1,2-DCB-d4	0.0929	0.0896	0.10		93	90	60-140	3.63	20

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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: GC10
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107183
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107183
 1507086-019AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0378	0.0050	0.050	-	76	53-116
Benzene	ND	0.0496	0.0050	0.050	-	99	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.171	0.050	0.20	-	86	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0468	0.0050	0.050	-	94	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0414	0.0040	0.050	-	83	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0457	0.0040	0.050	-	91	58-135
1,1-Dichloroethene	ND	0.0484	0.0050	0.050	-	97	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: GC10
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107183
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107183
 1507086-019AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	0.0462	0.0050	0.050	-	92	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0434	0.0050	0.050	-	87	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0419	0.0050	0.050	-	84	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0476	0.0050	0.050	-	95	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0489	0.0050	0.050	-	98	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

Surrogate Recovery

Dibromofluoromethane	0.132	0.138		0.12	106	110	70-130
Toluene-d8	0.125	0.123		0.12	100	98	70-130
4-BFB	0.0149	0.0133		0.012	119	107	70-130
Benzene-d6	0.0946	0.102		0.10	95	102	60-140
Ethylbenzene-d10	0.110	0.123		0.10	110	123	60-140
1,2-DCB-d4	0.0876	0.0858		0.10	88	86	60-140

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: GC10
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107183
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: mg/Kg
Sample ID: MB/LCS-107183
 1507086-019AMS/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
tert-Amyl methyl ether (TAME)	0.0471	0.0473	0.050	ND	94	95	70-130	0.281	20
Benzene	0.0469	0.0460	0.050	ND	94	92	70-130	1.85	20
t-Butyl alcohol (TBA)	0.179	0.189	0.20	ND	89	95	70-130	5.50	20
Chlorobenzene	0.0465	0.0458	0.050	ND	93	92	70-130	1.33	20
1,2-Dibromoethane (EDB)	0.0441	0.0443	0.050	ND	88	89	70-130	0.352	20
1,2-Dichloroethane (1,2-DCA)	0.0504	0.0500	0.050	ND	101	100	70-130	0.832	20
1,1-Dichloroethene	0.0416	0.0412	0.050	ND	83	82	70-130	0.889	20
Diisopropyl ether (DIPE)	0.0535	0.0527	0.050	ND	107	105	70-130	1.48	20
Ethyl tert-butyl ether (ETBE)	0.0506	0.0500	0.050	ND	101	100	70-130	1.10	20
Methyl-t-butyl ether (MTBE)	0.0477	0.0474	0.050	ND	95	95	70-130	0	20
Toluene	0.0433	0.0431	0.050	ND	87	86	70-130	0.459	20
Trichloroethene	0.0422	0.0413	0.050	ND	84	83	70-130	2.29	20
Surrogate Recovery									
Dibromofluoromethane	0.138	0.138	0.12		111	110	70-130	0.269	20
Toluene-d8	0.137	0.136	0.12		109	109	70-130	0	20
4-BFB	0.0136	0.0135	0.012		108	108	70-130	0	20
Benzene-d6	0.113	0.110	0.10		113	110	60-140	2.28	20
Ethylbenzene-d10	0.129	0.125	0.10		129	125	60-140	3.47	20
1,2-DCB-d4	0.0975	0.0981	0.10		98	98	60-140	0	20



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/7/15
Date Analyzed: 7/7/15
Instrument: GC35
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107269
Extraction Method: SW3550B
Analytical Method: SW8270C-SIM
Unit: mg/kg
Sample ID: MB/LCS-107269
 1507086-007AMS/MSD

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.010	-	-	-	-
Acenaphthylene	ND	-	0.010	-	-	-	-
Anthracene	ND	-	0.010	-	-	-	-
Benzo (a) anthracene	ND	-	0.010	-	-	-	-
Benzo (b) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.010	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.010	-	-	-	-
Benzo (a) pyrene	ND	0.187	0.010	0.20	-	93	30-130
Chrysene	ND	0.156	0.010	0.20	-	78	30-130
Dibenzo (a,h) anthracene	0.0112	-	0.010	-	-	-	-
Fluoranthene	ND	-	0.010	-	-	-	-
Fluorene	ND	-	0.010	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.010	-	-	-	-
1-Methylnaphthalene	ND	0.182	0.010	0.20	-	91	30-130
2-Methylnaphthalene	ND	0.180	0.010	0.20	-	90	30-130
Naphthalene	ND	-	0.010	-	-	-	-
Phenanthrene	ND	0.171	0.010	0.20	-	86	30-130
Pyrene	ND	0.148	0.010	0.20	-	74	30-130

Surrogate Recovery

1-Fluoronaphthalene	0.332	0.356		0.50	66	71	30-130
2-Fluorobiphenyl	0.300	0.329		0.50	60	66	30-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzo (a) pyrene	NR	NR		ND<0.05	NR	NR	-	NR	
Chrysene	NR	NR		ND<0.05	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		ND<0.05	NR	NR	-	NR	
Pyrene	NR	NR		ND<0.05	NR	NR	-	NR	

Surrogate Recovery

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



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/6/15
Instrument: GC17
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107203
Extraction Method: SW3550B
Analytical Method: SW8270C
Unit: mg/Kg
Sample ID: MB/LCS-107203
 1507104-001AMS/MSD

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	4.36	0.25	5	-	87	30-130
Acenaphthylene	ND	-	0.25	-	-	-	-
Acetochlor	ND	-	0.25	-	-	-	-
Anthracene	ND	-	0.25	-	-	-	-
Benzidine	ND	-	1.3	-	-	-	-
Benzo (a) anthracene	ND	-	0.25	-	-	-	-
Benzo (b) fluoranthene	ND	-	0.25	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.25	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.25	-	-	-	-
Benzo (a) pyrene	ND	-	0.25	-	-	-	-
Benzyl Alcohol	ND	-	1.3	-	-	-	-
1,1-Biphenyl	ND	-	0.25	-	-	-	-
Bis (2-chloroethoxy) Methane	ND	-	0.25	-	-	-	-
Bis (2-chloroethyl) Ether	ND	-	0.25	-	-	-	-
Bis (2-chloroisopropyl) Ether	ND	-	0.25	-	-	-	-
Bis (2-ethylhexyl) Adipate	ND	-	0.25	-	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	-	0.25	-	-	-	-
4-Bromophenyl Phenyl Ether	ND	-	0.25	-	-	-	-
Butylbenzyl Phthalate	ND	-	0.25	-	-	-	-
4-Chloroaniline	ND	-	0.50	-	-	-	-
4-Chloro-3-methylphenol	ND	5.54	0.25	5	-	111	30-130
2-Chloronaphthalene	ND	-	0.25	-	-	-	-
2-Chlorophenol	ND	5.00	0.25	5	-	100	30-130
4-Chlorophenyl Phenyl Ether	ND	-	0.25	-	-	-	-
Chrysene	ND	-	0.25	-	-	-	-
Dibenzo (a,h) anthracene	ND	-	0.25	-	-	-	-
Dibenzofuran	ND	-	0.25	-	-	-	-
Di-n-butyl Phthalate	ND	-	0.25	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.25	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.25	-	-	-	-
1,4-Dichlorobenzene	ND	4.27	0.25	5	-	85	30-130
3,3-Dichlorobenzidine	ND	-	0.50	-	-	-	-
2,4-Dichlorophenol	ND	-	0.25	-	-	-	-
Diethyl Phthalate	ND	-	0.25	-	-	-	-
2,4-Dimethylphenol	ND	-	0.25	-	-	-	-
Dimethyl Phthalate	ND	-	0.25	-	-	-	-
4,6-Dinitro-2-methylphenol	ND	-	1.3	-	-	-	-
2,4-Dinitrophenol	ND	-	6.3	-	-	-	-
2,4-Dinitrotoluene	ND	4.79	0.25	5	-	96	30-130
2,6-Dinitrotoluene	ND	-	0.25	-	-	-	-

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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/6/15
Instrument: GC17
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107203
Extraction Method: SW3550B
Analytical Method: SW8270C
Unit: mg/Kg
Sample ID: MB/LCS-107203
 1507104-001AMS/MSD

QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Di-n-octyl Phthalate	ND	-	0.50	-	-	-	-
1,2-Diphenylhydrazine	ND	-	0.25	-	-	-	-
Fluoranthene	ND	-	0.25	-	-	-	-
Fluorene	ND	-	0.25	-	-	-	-
Hexachlorobenzene	ND	-	0.25	-	-	-	-
Hexachlorobutadiene	ND	-	0.25	-	-	-	-
Hexachlorocyclopentadiene	ND	-	1.3	-	-	-	-
Hexachloroethane	ND	-	0.25	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.25	-	-	-	-
Isophorone	ND	-	0.25	-	-	-	-
2-Methylnaphthalene	ND	-	0.25	-	-	-	-
2-Methylphenol (o-Cresol)	ND	-	0.25	-	-	-	-
3 & 4-Methylphenol (m,p-Cresol)	ND	-	0.25	-	-	-	-
Naphthalene	ND	-	0.25	-	-	-	-
2-Nitroaniline	ND	-	1.3	-	-	-	-
3-Nitroaniline	ND	-	1.3	-	-	-	-
4-Nitroaniline	ND	-	1.3	-	-	-	-
Nitrobenzene	ND	-	0.25	-	-	-	-
2-Nitrophenol	ND	-	1.3	-	-	-	-
4-Nitrophenol	ND	3.94	1.3	5	-	79	30-130
N-Nitrosodiphenylamine	ND	-	0.25	-	-	-	-
N-Nitrosodi-n-propylamine	ND	4.15	0.25	5	-	83	30-130
Pentachlorophenol	ND	3.15	1.3	5	-	63	30-130
Phenanthrene	ND	-	0.25	-	-	-	-
Phenol	ND	4.84	0.25	5	-	97	30-130
Pyrene	ND	4.58	0.25	5	-	92	30-130
1,2,4-Trichlorobenzene	ND	4.79	0.25	5	-	96	30-130
2,4,5-Trichlorophenol	ND	-	0.25	-	-	-	-
2,4,6-Trichlorophenol	ND	-	0.25	-	-	-	-

Surrogate Recovery

2-Fluorophenol	4.01	4.39		5	80	88	30-130
Phenol-d5	4.38	4.71		5	88	94	30-130
Nitrobenzene-d5	3.84	4.33		5	77	87	30-130
2-Fluorobiphenyl	3.69	4.20		5	74	84	30-130
2,4,6-Tribromophenol	1.98	3.31		5	40	66	16-130
4-Terphenyl-d14	3.54	4.27		5	71	85	30-130

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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/6/15
Instrument: GC17
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107203
Extraction Method: SW3550B
Analytical Method: SW8270C
Unit: mg/Kg
Sample ID: MB/LCS-107203
 1507104-001AMS/MSD

QC Summary Report for SW8270C

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acenaphthene	4.95	4.47	5	ND	99	89	30-130	10.1	30
4-Chloro-3-methylphenol	5.24	4.98	5	ND	105	100	30-130	5.14	30
2-Chlorophenol	4.99	4.83	5	ND	100	97	30-130	3.25	30
1,4-Dichlorobenzene	4.40	4.18	5	ND	88	84	30-130	5.19	30
2,4-Dinitrotoluene	5.00	4.68	5	ND	100	94	30-130	6.61	30
4-Nitrophenol	4.81	4.44	5	ND	96	89	30-130	8.03	30
N-Nitrosodi-n-propylamine	4.60	4.37	5	ND	92	87	30-130	5.15	30
Pentachlorophenol	4.98	4.69	5	ND	100	94	30-130	6.12	30
Phenol	4.82	4.77	5	ND	96	95	30-130	0.971	30
Pyrene	4.90	4.33	5	ND	98	87	30-130	12.3	30
1,2,4-Trichlorobenzene	4.73	4.35	5	ND	95	87	30-130	8.43	30
Surrogate Recovery									
2-Fluorophenol	4.84	4.68	5		97	94	30-130	3.48	30
Phenol-d5	5.14	5.01	5		103	100	30-130	2.54	30
Nitrobenzene-d5	4.69	4.34	5		94	87	30-130	7.54	30
2-Fluorobiphenyl	4.69	4.22	5		94	84	30-130	10.4	30
2,4,6-Tribromophenol	3.97	3.52	5		79	70	16-130	12.0	30
4-Terphenyl-d14	4.63	4.12	5		93	82	30-130	11.5	30



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: ICP-MS2
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107185
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107185
 1507125-002AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	53.6	0.50	50	-	107	75-125
Arsenic	ND	51.6	0.50	50	-	103	75-125
Barium	ND	548	5.0	500	-	110	75-125
Beryllium	ND	53.2	0.50	50	-	106	75-125
Cadmium	ND	51.8	0.25	50	-	104	75-125
Chromium	ND	53.7	0.50	50	-	107	75-125
Cobalt	ND	53.7	0.50	50	-	107	75-125
Copper	ND	54.0	0.50	50	-	108	75-125
Lead	ND	53.5	0.50	50	-	107	75-125
Mercury	ND	1.27	0.050	1.25	-	101	75-125
Molybdenum	ND	50.7	0.50	50	-	101	75-125
Nickel	ND	52.8	0.50	50	-	106	75-125
Selenium	ND	52.1	0.50	50	-	104	75-125
Silver	ND	52.0	0.50	50	-	104	75-125
Thallium	ND	49.3	0.50	50	-	99	75-125
Vanadium	ND	53.2	0.50	50	-	106	75-125
Zinc	ND	536	5.0	500	-	107	75-125
Surrogate Recovery							
Terbium	560	543		500	112	109	70-130

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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: ICP-MS2
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107185
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107185
 1507125-002AMS/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	50.0	51.3	50	ND	99	102	75-125	2.57	20
Arsenic	54.6	52.5	50	4.721	100	96	75-125	3.94	20
Barium	751	749	500	202.2	110	109	75-125	0.307	20
Beryllium	42.6	43.2	50	0.5259	84	85	75-125	1.42	20
Cadmium	48.0	49.1	50	ND	96	98	75-125	2.14	20
Chromium	NR	NR	50	68.17	NR	NR	75-125	NR	20
Cobalt	69.4	70.7	50	24.78	89	92	75-125	1.93	20
Copper	NR	NR	50	69.66	NR	NR	75-125	NR	20
Lead	109	75.0	50	44.01	129,F1	62,F1	75-125	36.7,F1	20
Mercury	1.28	1.23	1.25	ND	100	95	75-125	4.30	20
Molybdenum	48.1	49.4	50	1.008	94	97	75-125	2.77	20
Nickel	NR	NR	50	101.1	NR	NR	75-125	NR	20
Selenium	49.6	48.4	50	ND	99	97	75-125	2.49	20
Silver	47.9	49.0	50	ND	96	98	75-125	2.17	20
Thallium	44.6	46.2	50	ND	89	92	75-125	3.68	20
Vanadium	NR	NR	50	84.06	NR	NR	75-125	NR	20
Zinc	594	556	500	77.23	103	96	75-125	6.64	20
Surrogate Recovery									
Terbium	498	520	500		100	104	70-130	4.32	20



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/3/15
Instrument: GC19
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107144
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-107144
 1507093-002AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.533	0.40	0.60	-	89	70-130
MTBE	ND	0.0938	0.050	0.10	-	94	70-130
Benzene	ND	0.113	0.0050	0.10	-	113	70-130
Toluene	ND	0.113	0.0050	0.10	-	113	70-130
Ethylbenzene	ND	0.117	0.0050	0.10	-	117	70-130
Xylenes	ND	0.373	0.0050	0.30	-	124	70-130

Surrogate Recovery

2-Fluorotoluene	0.117	0.116		0.10	117	116	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.464	0.421	0.60	ND	77	70	70-130	9.61	20
MTBE	0.0828	0.0767	0.10	ND	83	77	70-130	7.68	20
Benzene	0.0968	0.0935	0.10	ND	97	93	70-130	3.46	20
Toluene	0.0981	0.0953	0.10	ND	98	95	70-130	2.91	20
Ethylbenzene	0.102	0.0992	0.10	ND	102	99	70-130	2.59	20
Xylenes	0.328	0.321	0.30	ND	109	107	70-130	2.11	20

Surrogate Recovery

2-Fluorotoluene	0.101	0.0988	0.10		101	99	70-130	2.20	20
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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/7/15
Instrument: GC7
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107187
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-107187
 1507125-002AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.546	0.40	0.60	-	91	70-130
MTBE	ND	0.101	0.050	0.10	-	93	70-130
Benzene	ND	0.108	0.0050	0.10	-	108	70-130
Toluene	ND	0.108	0.0050	0.10	-	108	70-130
Ethylbenzene	ND	0.113	0.0050	0.10	-	113	70-130
Xylenes	ND	0.353	0.0050	0.30	-	118	70-130

Surrogate Recovery

2-Fluorotoluene	0.114	0.117		0.10	114	117	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		ND	NR	NR	-	NR	
MTBE	NR	NR		ND	NR	NR	-	NR	
Benzene	NR	NR		ND	NR	NR	-	NR	
Toluene	NR	NR		ND	NR	NR	-	NR	
Ethylbenzene	NR	NR		ND	NR	NR	-	NR	
Xylenes	NR	NR		ND	NR	NR	-	NR	

Surrogate Recovery

2-Fluorotoluene	NR	NR			NR	NR	-	NR	
-----------------	----	----	--	--	----	----	---	----	--



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/6/15
Instrument: ICP-JY
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107111
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg
Sample ID: MB/LCS-107111
 1507086-002AMS/MSD

QC Summary Report for Lead

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	48.3	5.0	50	-	97	75-125
Surrogate Recovery							
Tb 350.917	478	488		500	96	98	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	60.4	60.3	50	9.645	101	101	75-125	0	25
Surrogate Recovery									
Tb 350.917	498	508	500		100	102	70-130	1.89	20

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/6/15
Instrument: ICP-JY
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107146
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg
Sample ID: MB/LCS-107146
 1507086-021AMS/MSD

QC Summary Report for Lead

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	56.2	5.0	50	-	112	75-125
Surrogate Recovery							
Tb 350.917	496	509		500	99	102	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	60.2	61.2	50	8.392	104	106	75-125	1.57	25
Surrogate Recovery									
Tb 350.917	498	527	500		100	105	70-130	5.56	20



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/2/15
Date Analyzed: 7/3/15
Instrument: GC2B
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107129
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg
Sample ID: MB/LCS-107129
 1507086-001AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	35.7	1.0	40	-	89	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-

Surrogate Recovery

C9	19.1	19.0		25	76	76	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	NR	NR		19	NR	NR	-	NR	

Surrogate Recovery

C9	NR	NR			NR	NR	-	NR	
----	----	----	--	--	----	----	---	----	--

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086

ClientCode: ARSB

WaterTrax WriteOn EDF Excel EQUS Email HardCopy ThirdParty J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: 94th & International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: 5 days

Date Received: 07/02/2015
Date Printed: 07/10/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1507086-001	SB1-2'	Soil	7/2/2015 9:45	<input type="checkbox"/>		A	A				A	A	A	A	A	A	A
1507086-002	SB1-6'	Soil	7/2/2015 9:50	<input type="checkbox"/>									A	A			A
1507086-003	SB1-10'	Soil	7/2/2015 9:55	<input type="checkbox"/>									A	A			A
1507086-004	SB2-2'	Soil	7/2/2015 10:20	<input type="checkbox"/>							A		A	A	A	A	A
1507086-005	SB2-6'	Soil	7/2/2015 10:25	<input type="checkbox"/>							A		A	A			A
1507086-007	SB3-2'	Soil	7/2/2015 11:10	<input type="checkbox"/>	A		A	A			A		A	A	A	A	A
1507086-008	SB3-6'	Soil	7/2/2015 11:15	<input type="checkbox"/>	A		A						A	A			A
1507086-010	SB5-2'	Soil	7/2/2015 13:40	<input type="checkbox"/>							A		A	A	A	A	A
1507086-011	SB5-6'	Soil	7/2/2015 13:45	<input type="checkbox"/>									A	A			A
1507086-013	SB7-2'	Soil	7/2/2015 13:00	<input type="checkbox"/>		A				A	A		A	A	A		A
1507086-014	SB7-6'	Soil	7/2/2015 13:05	<input type="checkbox"/>	A								A	A			A
1507086-016	SB8-2'	Soil	7/2/2015 10:45	<input type="checkbox"/>									A	A	A	A	A
1507086-017	SB8-6'	Soil	7/2/2015 10:50	<input type="checkbox"/>									A	A			A
1507086-019	SB9-2'	Soil	7/2/2015 11:40	<input type="checkbox"/>		A	A				A		A	A			A
1507086-020	SB9-6'	Soil	7/2/2015 11:45	<input type="checkbox"/>							A		A	A			A

Test Legend:

1	8081_S	2	8081PCB_S	3	8260B_S	4	8270_PNA_S	5	8270_S
6	ASBESTOS_E600PLM_S	7	CAM17MS_S	8	G-MBTEX_S	9	PB_S	10	STLC_PB_S
11	TCLP_PB_S	12	TPH(DMO)_S						

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 007A, 008A, 010A, 011A, 013A, 014A, 016A, 017A, 019A, 020A, 021A contain testgroup.

Prepared by: Erika Santos

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15

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



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086

ClientCode: ARSB

WaterTrax
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Report to:
 Michael F. Kara
 Applied Remedial Services, Inc.
 P.O. Box 5086
 Walnut Creek, CA 94596-1086
 707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
 cc/3rd Party:
 PO:
 ProjectNo: 94th & International

Bill to:
 Accounts Payable
 Applied Remedial Services, Inc.
 P.O. Box 5086
 Walnut Creek, CA 94596-1086

Requested TAT: 5 days

Date Received: 07/02/2015
Date Printed: 07/10/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)													
					1	2	3	4	5	6	7	8	9	10	11	12		
1507086-021	SB9-10'	Soil	7/2/2015 11:50	<input type="checkbox"/>										A	A			A

Test Legend:

1	8081_S	2	8081PCB_S	3	8260B_S	4	8270_PNA_S	5	8270_S
6	ASBESTOS_E600PLM_S	7	CAM17MS_S	8	G-MBTEX_S	9	PB_S	10	STLC_PB_S
11	TCLP_PB_S	12	TPH(DMO)_S						

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 007A, 008A, 010A, 011A, 013A, 014A, 016A, 017A, 019A, 020A, 021A contain testgroup.

Prepared by: Erika Santos

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A, 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15

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: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!

Contact's Email: mmkara707@aol.com

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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut	
1507086-001A	SB1-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 9:45	1 day*		<input type="checkbox"/>		
			SW6010B (Lead) (STLC)			<input type="checkbox"/>		1 day*		<input type="checkbox"/>		
			SW6010B (Lead)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
			SW6020 (CAM 17)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
			Asbestos - PLM			<input type="checkbox"/>		5 days		<input checked="" type="checkbox"/>		SubOut
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
			SW8081A/8082 (OC Pesticides+PCBs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
1507086-002A	SB1-6'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 9:50	5 days		<input type="checkbox"/>		
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
1507086-003A	SB1-10'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 9:55	5 days		<input type="checkbox"/>		
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
1507086-004A	SB2-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 10:20	1 day*		<input type="checkbox"/>		
			SW6010B (Lead) (STLC)			<input type="checkbox"/>		1 day*		<input type="checkbox"/>		
			SW6010B (Lead)			<input type="checkbox"/>		5 days		<input type="checkbox"/>		
			Multi-Range TPH(g,d,mo)			<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).

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WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!

Contact's Email: mmkara707@aol.com

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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-004A	SB2-2'	Soil	Asbestos - PLM	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 10:20	5 days		<input checked="" type="checkbox"/>	SubOut
1507086-005A	SB2-6'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 10:25	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			Asbestos - PLM			<input type="checkbox"/>		5 days		<input checked="" type="checkbox"/>	SubOut
1507086-006A	SB2-10'	Soil		1	Acetate Liner	<input type="checkbox"/>	7/2/2015 10:30			<input checked="" type="checkbox"/>	
1507086-007A	SB3-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 11:10	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)			<input type="checkbox"/>		1 day*		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			Asbestos - PLM			<input type="checkbox"/>		5 days		<input checked="" type="checkbox"/>	SubOut
			SW8270C (PAHs/PNAs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1507086-008A	SB3-6'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 11:15	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8260B (VOCs)			<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).

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WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!

Contact's Email: mmkara707@aol.com

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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-008A	SB3-6'	Soil	SW8081A (OC Pesticides)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 11:15	5 days		<input type="checkbox"/>	
1507086-009A	SB3-10	Soil		1	Acetate Liner	<input type="checkbox"/>	7/2/2015 11:20			<input checked="" type="checkbox"/>	
1507086-010A	SB5-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 13:40	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)			<input type="checkbox"/>		1 day*		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			Asbestos - PLM			<input type="checkbox"/>		5 days		<input checked="" type="checkbox"/>	SubOut
1507086-011A	SB5-6'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 13:45	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1507086-012A	SB5-10'	Soil		1	Acetate Liner	<input type="checkbox"/>	7/2/2015 13:50			<input checked="" type="checkbox"/>	
1507086-013A	SB7-2'	Soil	Multi-Range TPH(g,d,mo)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 13:00	5 days		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)			<input type="checkbox"/>		1 day*		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			Asbestos - PLM			<input type="checkbox"/>		5 days		<input checked="" type="checkbox"/>	SubOut
			SW8270C (SVOCs)			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
			SW8081A/8082 (OC Pesticides+PCBs)			<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).

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WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!

Contact's Email: mmkara707@aol.com

WaterTrax
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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-014A	SB7-6'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 13:05	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days			
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days			
1507086-015A	SB7-10'	Soil		1	Acetate Liner	<input type="checkbox"/>	7/2/2015 13:10			<input checked="" type="checkbox"/>	
1507086-016A	SB8-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 10:45	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)			<input type="checkbox"/>		1 day*			
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days			
1507086-017A	SB8-6'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 10:50	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days			
1507086-018A	SB8-10'	Soil		1	Acetate Liner	<input type="checkbox"/>	7/2/2015 10:55			<input checked="" type="checkbox"/>	
1507086-019A	SB9-2'	Soil	Multi-Range TPH(g,d,mo)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 11:40	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
			Asbestos - PLM			<input type="checkbox"/>		5 days			
			SW8260B (VOCs)			<input type="checkbox"/>		5 days			
			SW8081A/8082 (OC Pesticides+PCBs)			<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).

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WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!

Contact's Email: mmkara707@aol.com

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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-020A	SB9-6'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 11:45	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		
			Asbestos - PLM			<input type="checkbox"/>		5 days	<input checked="" type="checkbox"/>	SubOut	
1507086-021A	SB9-10'	Soil	SW6010B (Lead)	1	Acetate Liner	<input type="checkbox"/>	7/2/2015 11:50	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days	<input type="checkbox"/>		

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1507086



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Michael Kara Bill To: ARS, Inc.
Company: ARS, Inc.
p.o. Box 5086
Walnut Creek, CA 94596 E-Mail: myon.kara.707@aol.com
Tele: (925) 943-7342 Fax: (925) 943-7314
Project #: _____ Project Name: 94th International
Project Location: 94th International (9400-9500 International Blvd, Oakland)
Sampler Signature: M. Rossmann

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments	
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other				
SBI-2'		7/2	0945	1	Ac	x						x						Filter Samples for Metals analysis: Yes / No
SBI-6'			0950															
SBI-10'			0955															
SBI-2'			1020															
SBI-6'			1025															
SBI-10'			1030															
SBI-2'			1110															
SBI-6'			1115															
SBI-10'			1120															
SBI-2'			1340															
SBI-6'			1345															
SBI-10'			1350															

Relinquished By: [Signature] Date: 7/2/15 Time: 1745 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/W° 2.4
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____

VOAS O&G METALS OTHER
 PRESERVATION pH<2

COMMENTS:
 please Forward Asbestos samples to Microanalytical
 Laboratory in Emeryville for ACS waste
 (Hold sample for 10X STLL)
 analysis

*

* SBS-10' Placed on Hold nothing noted on c.o.c.



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH
 24 HR
 48 HR
 72 HR
 5 DAY

GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Michael Kara Bill To: ARS, Inc.
 Company: ARS, Inc.
P.O. Box 5086
Walnut Creek CA 94596 E-Mail: mmkara707@aol.com
 Tele: (925) 943-7242 Fax: (925) 943-7214
 Project #: _____ Project Name: 94K's International
 Project Location: 9400-9500 International Blvd. Oakland, CA.
 Sampler Signature: M. Rosman

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED		Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL			
SB7-2'		7/2	1300	1									BTEX & TPH as Gas (602 / 8021 + 8015) / MITBE TPH as Diesel (6015) <u>Multi Range</u> Total Petroleum Oil & Grease (1664 / 5520 E/B&F) Total Petroleum Hydrocarbons (418.1) EPA 8260 (HVOCs) MITBE / BTEX ONLY (EPA 602 / 8021) EPA 505 / 608 / 8081 (CI Pesticides) EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners EPA 507 / 8141 (NP Pesticides) EPA 515.3 / 8151 (Acidic CI Herbicides) EPA 524.2 / 624 / 8260 (VOCs) EPA 525.2 / 625 / 8270 (SVOCs) EPA 8270 SIM / 8310 (PAHs / PNAs) CAM 17 Metals (200.8 / 6020) LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) Lead (200.7 / 200.8 / 6010 / 6020) <u>Asbestos to Microanalytical</u>		
SB7-16'			1305												
SB7-10'			1310												Hold
SB9-2'			1045												
SB8-16'			1050												
SB8-10'			1055												Hold
SB9-2'			1140												
SB9-6'			1145												
SB9-10'			1150												

Relinquished By: [Signature] Date: 7/2/15 Time: 1745 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

COMMENTS:
 ICE/° _____
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 Please Forward ACM samples to Microanalytical for analysis
 (Hold sample for 10 X 5 TLC analysis)
 VOAS O&G METALS OTHER
 PRESERVATION pH<2

Blake Brown

From: Blake Brown <blake.brown@mccampbell.com>
Sent: Monday, July 06, 2015 9:54 AM
To: 'Michael Kara'; 'main@mccampbell.com'
Subject: RE: WorkOrder Summary for Project: 94th & International [MAI WO#: 1507086]

Michael-

We will do the following:

- Add-on 8260 to 1507086-019A (SB9-2') ✓ *W.S.*
 - Cancel 8081 on 1507086-020A (SB9-6') ✓ *W.S.*
 - Add-on 8260, 8081/8082, CAM17 to 1507086-001A (SB1-2') ✓ *W.S.*
- MS/MSD MS/MSD MS/MSD*

We have also re-directed your subbed Asbestos work to Micro Analytical. We will have them bill and report to you directly since it seems that you have worked out special pricing with them.

Thanks,
Blake

From: Michael Kara [<mailto:mmkara707@aol.com>]
Sent: Sunday, July 05, 2015 6:14 PM
To: main@mccampbell.com; blake.brown@mccampbell.com
Subject: Re: WorkOrder Summary for Project: 94th & International [MAI WO#: 1507086]

Blake:

1. Please add VOCs 8260 to sample **SB-9-2'** and **delete** Chlorinated pesticides from sample **SB-9-6'**.
2. Please add VOCs, Chlorinated Pesticides, CAM 17 & PCB's to Sample **SB-1-2'**.

I am sorry about these changes. Thanks, Michael

*Michael F. Kara / Principal Toxicologist
ARS, Inc.
P.O. Box 5086
Walnut Creek, CA 94596*

*Ph: 925-943-7742
Cell: 707-567-2202
Fax: 925-943-7714*

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-----Original Message-----

From: main <main@mccampbell.com>
To: mmkara707 <mmkara707@aol.com>
Sent: Thu, Jul 2, 2015 7:21 pm
Subject: WorkOrder Summary for Project: 94th & International [MAI WO#: 1507086]



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Michael Kara Bill To: ARS, Inc.
Company: ARS, Inc.
p.o. Box 5086
Walnut Creek, CA 94596 E-Mail: mmkara707@aol.com
Tele: (925) 943-7342 Fax: (925) 943-7314
Project #: _____ Project Name: 94th International
Project Location: 94th International (9400-9500 International Blvd, Oakland)
Sampler Signature: M. Rosman

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED		Analysis Request	Other	Comments		
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL				HNO ₃	Other
SB1-2'		7/2	0945	1	Acu	X						X				Filter Samples for Metals analysis: Yes / No <u>Asbestos To Microanalytic</u>	
SB1-6'			0950														
SB1-10'			0955														
SB2-2'			1020														
SB2-6'			1025														
SB2-10'			1030														Hold
SB3-2'			1110														
SB3-6'			1115														
SB3-10'			1120														
SB5-2'			1340														
SB5-6'			1345														
SB5-10'			1350														Hold

Relinquished By: _____ Date: 7/2/15 Time: 1745 Received By: M. Rosman

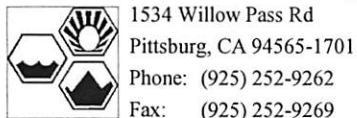
Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/2.4
GOOD CONDITION _____
HEAD SPACE ABSENT _____
DECHLORINATED IN LAB _____
APPROPRIATE CONTAINERS _____
PRESERVED IN LAB _____

VOAS O&G METALS OTHER
PRESERVATION pH<2

COMMENTS:
please forward Asbestos samples to Microanalytic Laboratories in Emeryville for ACB analysis
(Hold sample for 10x STLL analysis)



WorkOrder: 1507086 ClientCode: ARSB EDF: NO

Subcontractor:

Micro Analytical Laboratories
5900 Hollis St
Emeryville, CA

TEL: (510) 653-0824
FAX:
ProjectNo: 94th & International
Acct #: #A31409

Bill TO:
Michael F. Kara
ARS, Inc.
P.O. Box 5086
Walnut Creek
(925) 943-7742

Subcontractor Standard TAT: 48 Hr

Date Received: 07/02/2015

Lab ID	Client ID	Matrix	Collection Date	TAT	Requested Tests			
					Asbestos			
1507086-001A	SB1-2'	Soil	7/2/2015 9:45	2 day(s)	1			
1507086-004A	SB2-2'	Soil	7/2/2015 10:20	2 day(s)	1			
1507086-005A	SB2-6'	Soil	7/2/2015 10:25	2 day(s)	1			
1507086-007A	SB3-2'	Soil	7/2/2015 11:10	2 day(s)	1			
1507086-010A	SB5-2'	Soil	7/2/2015 13:40	2 day(s)	1			
1507086-013A	SB7-2'	Soil	7/2/2015 13:00	2 day(s)	1			
1507086-019A	SB9-2'	Soil	7/2/2015 11:40	2 day(s)	1			
1507086-020A	SB9-6'	Soil	7/2/2015 11:45	2 day(s)	1			

Comments: **PLEASE USE 'CLIENT ID' AS THE SAMPLE ID AND EMAIL ASAP!**

Please email results to Erika Santos at subdata@mcccampbell.com upon completion.

	Date/Time		Date/Time
Relinquished by: <i>Maura V</i>	<i>7/6/15</i>	Received by: _____	_____
Relinquished by: _____	_____	Received by: _____	_____

Mccampbell Analytical, Inc.

From: Michael Kara <mmkara707@aol.com>
Sent: Monday, July 06, 2015 9:44 AM
To: main@mccampbell.com
Subject: 94th & International

Dear Erica:

Can you please take a small portion of the designated samples to be tested for **Bulk Asbestos via PLM** to Micro Analytical laboratories, Inc. they are at 5900 Hollis Street in Emeryville (510) 653-0824. If one of the couriers is in the area, I would be very grateful if they can drop the samples of between **now and wednesday** and request **48 hour turnaround**. Thank you in advance for your assistance. We have an account with Micro Analytical, so they will bill us.
Michael

*Michael F. Kara / Principal Toxicologist
ARS, Inc.
P.O. Box 5086
Walnut Creek, CA 94596*

*Ph: 925-943-7742
Cell: 707-567-2202
Fax: 925-943-7714*

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Sample Receipt Checklist

Client Name: **Applied Remedial Services, Inc.** Date and Time Received: **7/2/2015 5:52:53 PM**
 Project Name: **94th & International** LogIn Reviewed by: **Erika Santos**
 WorkOrder No: **1507086** Matrix: Soil Carrier: Client Drop-In

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 2.4°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

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

* NOTE: If the "No" box is checked, see comments below.

 Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1506A62

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: #15-34-001; 94th + International

Project Received: 06/24/2015

Analytical Report reviewed & approved for release on 06/30/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
WorkOrder: 1506A62

Glossary Abbreviation

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

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c11	The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data has been reported.



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-3.0	1506A62-001A	Soil	06/24/2015 13:35	GC22	106771

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	06/26/2015 02:48
a-BHC	ND	0.0010	1	06/26/2015 02:48
b-BHC	ND	0.0010	1	06/26/2015 02:48
d-BHC	ND	0.0010	1	06/26/2015 02:48
g-BHC	ND	0.0010	1	06/26/2015 02:48
Chlordane (Technical)	ND	0.025	1	06/26/2015 02:48
a-Chlordane	ND	0.0010	1	06/26/2015 02:48
g-Chlordane	ND	0.0010	1	06/26/2015 02:48
p,p-DDD	ND	0.0010	1	06/26/2015 02:48
p,p-DDE	ND	0.0010	1	06/26/2015 02:48
p,p-DDT	ND	0.0010	1	06/26/2015 02:48
Dieldrin	ND	0.0010	1	06/26/2015 02:48
Endosulfan I	ND	0.0010	1	06/26/2015 02:48
Endosulfan II	ND	0.0010	1	06/26/2015 02:48
Endosulfan sulfate	ND	0.0010	1	06/26/2015 02:48
Endrin	ND	0.0010	1	06/26/2015 02:48
Endrin aldehyde	ND	0.0010	1	06/26/2015 02:48
Endrin ketone	ND	0.0010	1	06/26/2015 02:48
Heptachlor	ND	0.0010	1	06/26/2015 02:48
Heptachlor epoxide	ND	0.0010	1	06/26/2015 02:48
Hexachlorobenzene	ND	0.010	1	06/26/2015 02:48
Hexachlorocyclopentadiene	ND	0.020	1	06/26/2015 02:48
Methoxychlor	ND	0.0010	1	06/26/2015 02:48
Toxaphene	ND	0.050	1	06/26/2015 02:48
Surrogates	REC (%)	Limits		
Decachlorobiphenyl	121	70-130		06/26/2015 02:48

Analyst(s): CK

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg

Organochlorine Pesticides (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-3.0	1506A62-004A	Soil	06/24/2015 15:05	GC22	106771

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	06/26/2015 03:22
a-BHC	ND	0.0010	1	06/26/2015 03:22
b-BHC	ND	0.0010	1	06/26/2015 03:22
d-BHC	ND	0.0010	1	06/26/2015 03:22
g-BHC	ND	0.0010	1	06/26/2015 03:22
Chlordane (Technical)	ND	0.025	1	06/26/2015 03:22
a-Chlordane	ND	0.0010	1	06/26/2015 03:22
g-Chlordane	ND	0.0010	1	06/26/2015 03:22
p,p-DDD	ND	0.0010	1	06/26/2015 03:22
p,p-DDE	ND	0.0010	1	06/26/2015 03:22
p,p-DDT	ND	0.0010	1	06/26/2015 03:22
Dieldrin	ND	0.0010	1	06/26/2015 03:22
Endosulfan I	ND	0.0010	1	06/26/2015 03:22
Endosulfan II	ND	0.0010	1	06/26/2015 03:22
Endosulfan sulfate	ND	0.0010	1	06/26/2015 03:22
Endrin	ND	0.0010	1	06/26/2015 03:22
Endrin aldehyde	ND	0.0010	1	06/26/2015 03:22
Endrin ketone	ND	0.0010	1	06/26/2015 03:22
Heptachlor	ND	0.0010	1	06/26/2015 03:22
Heptachlor epoxide	ND	0.0010	1	06/26/2015 03:22
Hexachlorobenzene	ND	0.010	1	06/26/2015 03:22
Hexachlorocyclopentadiene	ND	0.020	1	06/26/2015 03:22
Methoxychlor	ND	0.0010	1	06/26/2015 03:22
Toxaphene	ND	0.050	1	06/26/2015 03:22

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	114	70-130	06/26/2015 03:22

Analyst(s): CK



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
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
SB-4-3.0	1506A62-001A	Soil	06/24/2015 13:35	GC19	106784

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/27/2015 00:07
MTBE	---	0.050	1	06/27/2015 00:07
Benzene	---	0.0050	1	06/27/2015 00:07
Toluene	---	0.0050	1	06/27/2015 00:07
Ethylbenzene	---	0.0050	1	06/27/2015 00:07
Xylenes	---	0.0050	1	06/27/2015 00:07

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	106	70-130	06/27/2015 00:07

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-6.0	1506A62-002A	Soil	06/24/2015 13:45	GC19	106784

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/27/2015 00:36
MTBE	---	0.050	1	06/27/2015 00:36
Benzene	---	0.0050	1	06/27/2015 00:36
Toluene	---	0.0050	1	06/27/2015 00:36
Ethylbenzene	---	0.0050	1	06/27/2015 00:36
Xylenes	---	0.0050	1	06/27/2015 00:36

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	106	70-130	06/27/2015 00:36

Analyst(s): IA

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
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
SB-4-10.0	1506A62-003A	Soil	06/24/2015 13:55	GC7	106784

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/25/2015 20:23
MTBE	---	0.050	1	06/25/2015 20:23
Benzene	---	0.0050	1	06/25/2015 20:23
Toluene	---	0.0050	1	06/25/2015 20:23
Ethylbenzene	---	0.0050	1	06/25/2015 20:23
Xylenes	---	0.0050	1	06/25/2015 20:23
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	101	70-130		06/25/2015 20:23

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-3.0	1506A62-004A	Soil	06/24/2015 15:05	GC19	106784

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/27/2015 01:06
MTBE	---	0.050	1	06/27/2015 01:06
Benzene	---	0.0050	1	06/27/2015 01:06
Toluene	---	0.0050	1	06/27/2015 01:06
Ethylbenzene	---	0.0050	1	06/27/2015 01:06
Xylenes	---	0.0050	1	06/27/2015 01:06
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
2-Fluorotoluene	108	70-130		06/27/2015 01:06

Analyst(s): IA

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
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
SB-6-6.0	1506A62-005A	Soil	06/24/2015 15:15	GC19	106784

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/27/2015 01:36
MTBE	---	0.050	1	06/27/2015 01:36
Benzene	---	0.0050	1	06/27/2015 01:36
Toluene	---	0.0050	1	06/27/2015 01:36
Ethylbenzene	---	0.0050	1	06/27/2015 01:36
Xylenes	---	0.0050	1	06/27/2015 01:36

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	104	70-130	06/27/2015 01:36

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-10.0	1506A62-006A	Soil	06/24/2015 15:25	GC19	106784

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	1.0	1	06/27/2015 03:05
MTBE	---	0.050	1	06/27/2015 03:05
Benzene	---	0.0050	1	06/27/2015 03:05
Toluene	---	0.0050	1	06/27/2015 03:05
Ethylbenzene	---	0.0050	1	06/27/2015 03:05
Xylenes	---	0.0050	1	06/27/2015 03:05

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorotoluene	104	70-130	06/27/2015 03:05

Analyst(s): IA



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-3.0	1506A62-001A	Soil	06/24/2015 13:35	ICP-JY	106789

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	17	5.0	1	06/26/2015 15:43

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	102	70-130

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-6.0	1506A62-002A	Soil	06/24/2015 13:45	ICP-JY	106789

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	8.3	5.0	1	06/26/2015 15:46

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	103	70-130

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-10.0	1506A62-003A	Soil	06/24/2015 13:55	ICP-JY	106789

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	6.4	5.0	1	06/26/2015 15:48

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	101	70-130

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-3.0	1506A62-004A	Soil	06/24/2015 15:05	ICP-JY	106789

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Lead	9.5	5.0	1	06/26/2015 15:51

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>
Tb 350.917	102	70-130

Analyst(s): DVH

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-6.0	1506A62-005A	Soil	06/24/2015 15:15	ICP-JY	106789

Analytes	Result	RL	DF	Date Analyzed
Lead	11	5.0	1	06/26/2015 15:58

Surrogates	REC (%)	Limits	Date Analyzed
Tb 350.917	105	70-130	06/26/2015 15:58

Analyst(s): DVH

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-10.0	1506A62-006A	Soil	06/24/2015 15:25	ICP-JY	106789

Analytes	Result	RL	DF	Date Analyzed
Lead	7.1	5.0	1	06/26/2015 15:28

Surrogates	REC (%)	Limits	Date Analyzed
Tb 350.917	102	70-130	06/26/2015 15:28

Analyst(s): DVH



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-3.0	1506A62-001A	Soil	06/24/2015 13:35	GC11A	106762

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	06/26/2015 13:20
TPH-Motor Oil (C18-C36)	ND	5.0	1	06/26/2015 13:20

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
C9	148	S	70-130	06/26/2015 13:20

Analyst(s): TK **Analytical Comments:** c11

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-6.0	1506A62-002A	Soil	06/24/2015 13:45	GC11A	106762

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	06/26/2015 14:29
TPH-Motor Oil (C18-C36)	ND	5.0	1	06/26/2015 14:29

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	06/26/2015 14:29

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-10.0	1506A62-003A	Soil	06/24/2015 13:55	GC11A	106762

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	06/26/2015 15:38
TPH-Motor Oil (C18-C36)	ND	5.0	1	06/26/2015 15:38

Surrogates	REC (%)	Limits	Date Analyzed
C9	101	70-130	06/26/2015 15:38

Analyst(s): TK

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-3.0	1506A62-004A	Soil	06/24/2015 15:05	GC9a	106790

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	06/25/2015 17:59
TPH-Motor Oil (C18-C36)	ND	5.0	1	06/25/2015 17:59

Surrogates	REC (%)	Limits	Date Analyzed
C9	108	70-130	06/25/2015 17:59

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-6.0	1506A62-005A	Soil	06/24/2015 15:15	GC11A	106790

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	06/26/2015 07:37
TPH-Motor Oil (C18-C36)	ND	5.0	1	06/26/2015 07:37

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	06/26/2015 07:37

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-10.0	1506A62-006A	Soil	06/24/2015 15:25	GC11A	106790

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	1.0	1	06/26/2015 09:54
TPH-Motor Oil (C18-C36)	ND	5.0	1	06/26/2015 09:54

Surrogates	REC (%)	Limits	Date Analyzed
C9	102	70-130	06/26/2015 09:54

Analyst(s): TK



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/24/15 - 6/25/15
Instrument: GC22
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 106771
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS-106771
 1506A43-007AMS/MSD

QC Summary Report for SW8081A

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Aldrin	ND	0.0415	0.0010	0.050	-	83	70-130
a-BHC	ND	-	0.0010	-	-	-	-
b-BHC	ND	-	0.0010	-	-	-	-
d-BHC	ND	-	0.0010	-	-	-	-
g-BHC	ND	0.0473	0.0010	0.050	-	95	70-130
Chlordane (Technical)	ND	-	0.025	-	-	-	-
a-Chlordane	ND	-	0.0010	-	-	-	-
g-Chlordane	ND	-	0.0010	-	-	-	-
p,p-DDD	ND	-	0.0010	-	-	-	-
p,p-DDE	ND	-	0.0010	-	-	-	-
p,p-DDT	ND	0.0352	0.0010	0.050	-	70	70-130
Dieldrin	ND	0.0509	0.0010	0.050	-	102	70-130
Endosulfan I	ND	-	0.0010	-	-	-	-
Endosulfan II	ND	-	0.0010	-	-	-	-
Endosulfan sulfate	ND	-	0.0010	-	-	-	-
Endrin	ND	0.0428	0.0010	0.050	-	85	70-130
Endrin aldehyde	ND	-	0.0010	-	-	-	-
Endrin ketone	ND	-	0.0010	-	-	-	-
Heptachlor	ND	0.0410	0.0010	0.050	-	82	70-130
Heptachlor epoxide	ND	-	0.0010	-	-	-	-
Hexachlorobenzene	ND	-	0.010	-	-	-	-
Hexachlorocyclopentadiene	ND	-	0.020	-	-	-	-
Methoxychlor	ND	-	0.0010	-	-	-	-
Toxaphene	ND	-	0.050	-	-	-	-
Aroclor1016	ND	-	0.050	-	-	-	-
Aroclor1221	ND	-	0.050	-	-	-	-
Aroclor1232	ND	-	0.050	-	-	-	-
Aroclor1242	ND	-	0.050	-	-	-	-
Aroclor1248	ND	-	0.050	-	-	-	-
Aroclor1254	ND	-	0.050	-	-	-	-
Aroclor1260	ND	-	0.050	-	-	-	-
Surrogate Recovery							
Decachlorobiphenyl	0.0608	0.0579		0.050	122	116	70-130

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/24/15 - 6/25/15
Instrument: GC22
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 106771
Extraction Method: SW3550B
Analytical Method: SW8081A
Unit: mg/kg
Sample ID: MB/LCS-106771
 1506A43-007AMS/MSD

QC Summary Report for SW8081A

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	NR	NR		ND<0.01	NR	NR	-	NR	
g-BHC	NR	NR		ND<0.01	NR	NR	-	NR	
p,p-DDT	NR	NR		ND<0.01	NR	NR	-	NR	
Dieldrin	NR	NR		ND<0.01	NR	NR	-	NR	
Endrin	NR	NR		ND<0.01	NR	NR	-	NR	
Heptachlor	NR	NR		ND<0.01	NR	NR	-	NR	
Surrogate Recovery									
Decachlorobiphenyl	NR	NR			NR	NR	-	NR	



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/25/15
Instrument: GC7
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 106784
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: mg/Kg
Sample ID: MB/LCS-106784
 1506A51-002AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.539	0.40	0.60	-	90	70-130
MTBE	ND	0.108	0.050	0.10	-	99	70-130
Benzene	ND	0.113	0.0050	0.10	-	113	70-130
Toluene	ND	0.110	0.0050	0.10	-	110	70-130
Ethylbenzene	ND	0.116	0.0050	0.10	-	116	70-130
Xylenes	ND	0.353	0.0050	0.30	-	118	70-130

Surrogate Recovery

2-Fluorotoluene	0.112	0.118		0.10	113	117	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.487	0.491	0.60	ND	81	82	70-130	0.696	20
MTBE	0.103	0.106	0.10	ND	103	106	70-130	3.05	20
Benzene	0.0997	0.0992	0.10	ND	100	99	70-130	0.491	20
Toluene	0.0985	0.0978	0.10	ND	98	98	70-130	0	20
Ethylbenzene	0.103	0.102	0.10	ND	103	102	70-130	0.598	20
Xylenes	0.317	0.314	0.30	ND	106	104	70-130	1.20	20

Surrogate Recovery

2-Fluorotoluene	0.106	0.103	0.10		106	103	70-130	2.71	20
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Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/26/15
Instrument: ICP-JY
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 106789
Extraction Method: SW3050B
Analytical Method: SW6010B
Unit: mg/Kg
Sample ID: MB/LCS-106789
 1506A62-006AMS/MSD

QC Summary Report for Lead

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	49.8	5.0	50	-	100	75-125
Surrogate Recovery							
Tb 350.917	506	529		500	101	106	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	54.9	58.6	50	7.102	96	103	75-125	6.57	25
Surrogate Recovery									
Tb 350.917	511	534	500		102	107	70-130	4.45	20



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/25/15
Instrument: GC6A, GC6B
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 106762
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg
Sample ID: MB/LCS-106762
 1506A33-004AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	41.2	1.0	40	-	103	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-

Surrogate Recovery

C9	26.6	24.0		25	106	96	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	40.3	40.0	40	ND	101	100	70-130	0.567	30

Surrogate Recovery

C9	25.8	25.8	25		103	103	70-130	0	30
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(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/25/15
Instrument: GC2B, GC6B
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 106790
Extraction Method: SW3550B
Analytical Method: SW8015B
Unit: mg/Kg
Sample ID: MB/LCS-106790
 1506A62-004AMS/MSD

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	37.6	1.0	40	-	94	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-

Surrogate Recovery

C9	26.4	20.0		25	106	80	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	35.6	37.1	40	ND	89	93	70-130	4.11	30

Surrogate Recovery

C9	26.9	27.0	25		108	108	70-130	0	30
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1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506A62

ClientCode: ARSB

WaterTrax
 WriteOn
 EDF
 Excel
 EQulS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: #15-34-001; 94th + International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: 5 days

Date Received: 06/24/2015
Date Printed: 06/24/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1506A62-001	SB-4-3.0	Soil	6/24/2015 13:35	<input type="checkbox"/>	A	A	A	A									
1506A62-002	SB-4-6.0	Soil	6/24/2015 13:45	<input type="checkbox"/>		A	A	A									
1506A62-003	SB-4-10.0	Soil	6/24/2015 13:55	<input type="checkbox"/>		A	A	A									
1506A62-004	SB-6-3.0	Soil	6/24/2015 15:05	<input type="checkbox"/>	A	A	A	A									
1506A62-005	SB-6-6.0	Soil	6/24/2015 15:15	<input type="checkbox"/>		A	A	A									
1506A62-006	SB-6-10.0	Soil	6/24/2015 15:25	<input type="checkbox"/>		A	A	A									

Test Legend:

1	8081_S	2	G-MBTX_S	3	PB_S	4	TPH(DMO)_S	5	
6		7		8		9		10	
11		12							

The following SamplIDs: 001A, 002A, 003A, 004A, 005A, 006A contain testgroup.

Prepared by: Agustina Venegas

Comments:

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



WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1506A62

Project: #15-34-001; 94th + International

Client Contact: Michael F. Kara

Date Received: 6/24/2015

Comments:

Contact's Email: mmkara707@aol.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A62-001A	SB-4-3.0	Soil	SW6010B (Lead)	1	Stainless Tube	<input type="checkbox"/>	6/24/2015 13:35	5 days		<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days			
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days			
1506A62-002A	SB-4-6.0	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Tube	<input type="checkbox"/>	6/24/2015 13:45	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
1506A62-003A	SB-4-10.0	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Tube	<input type="checkbox"/>	6/24/2015 13:55	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
1506A62-004A	SB-6-3.0	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Tube	<input type="checkbox"/>	6/24/2015 15:05	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
			SW8081A (OC Pesticides)			<input type="checkbox"/>		5 days			
1506A62-005A	SB-6-6.0	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Tube	<input type="checkbox"/>	6/24/2015 15:15	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<input type="checkbox"/>		5 days			
1506A62-006A	SB-6-10.0	Soil	Multi-Range TPH(g,d,mo)	1	Stainless Tube	<input type="checkbox"/>	6/24/2015 15:25	5 days		<input type="checkbox"/>	
			SW6010B (Lead)			<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.



Sample Receipt Checklist

Client Name: **Applied Remedial Services, Inc.** Date and Time Received: **6/24/2015 8:51:03 PM**
 Project Name: **#15-34-001; 94th + International** Login Reviewed by: **Agustina Venegas**
 WorkOrder No: **1506A62** Matrix: Soil Carrier: Client Drop-In

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 4.1°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

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

* NOTE: If the "No" box is checked, see comments below.

 Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1506A62 A

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: #15-34-001; 94th + International

Project Received: 06/24/2015

Analytical Report reviewed & approved for release on 07/02/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
WorkOrder: 1506A62

Glossary Abbreviation

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

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c11	The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data has been reported.



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-4-3.0	1506A62-001A	Soil	06/24/2015 13:35	ICP-MS2	107000

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	06/30/2015 13:52
Arsenic	8.0	0.50	1	06/30/2015 13:52
Barium	230	5.0	1	06/30/2015 13:52
Beryllium	0.70	0.50	1	06/30/2015 13:52
Cadmium	ND	0.25	1	06/30/2015 13:52
Chromium	56	0.50	1	06/30/2015 13:52
Cobalt	7.2	0.50	1	06/30/2015 13:52
Copper	36	0.50	1	06/30/2015 13:52
Mercury	0.055	0.050	1	06/30/2015 13:52
Molybdenum	ND	0.50	1	06/30/2015 13:52
Nickel	43	0.50	1	06/30/2015 13:52
Selenium	ND	0.50	1	06/30/2015 13:52
Silver	ND	0.50	1	06/30/2015 13:52
Thallium	ND	0.50	1	06/30/2015 13:52
Vanadium	58	0.50	1	06/30/2015 13:52
Zinc	62	5.0	1	06/30/2015 13:52
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	99	70-130		06/30/2015 13:52

Analyst(s): DVH



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 6/24/15

WorkOrder: 1506A62
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg

CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-6-6.0	1506A62-005A	Soil	06/24/2015 15:15	ICP-MS2	107000

Analytes	Result	RL	DF	Date Analyzed
Antimony	ND	0.50	1	06/30/2015 13:58
Arsenic	8.1	0.50	1	06/30/2015 13:58
Barium	290	5.0	1	06/30/2015 13:58
Beryllium	0.71	0.50	1	06/30/2015 13:58
Cadmium	ND	0.25	1	06/30/2015 13:58
Chromium	64	0.50	1	06/30/2015 13:58
Cobalt	12	0.50	1	06/30/2015 13:58
Copper	41	0.50	1	06/30/2015 13:58
Mercury	0.055	0.050	1	06/30/2015 13:58
Molybdenum	0.52	0.50	1	06/30/2015 13:58
Nickel	55	0.50	1	06/30/2015 13:58
Selenium	ND	0.50	1	06/30/2015 13:58
Silver	ND	0.50	1	06/30/2015 13:58
Thallium	ND	0.50	1	06/30/2015 13:58
Vanadium	62	0.50	1	06/30/2015 13:58
Zinc	75	5.0	1	06/30/2015 13:58
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Terbium	110	70-130		06/30/2015 13:58

Analyst(s): DVH



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/30/15
Instrument: ICP-MS2
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 107000
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107000
 1506A62-006AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	49.2	0.50	50	-	98	75-125
Arsenic	ND	51.2	0.50	50	-	102	75-125
Barium	ND	508	5.0	500	-	102	75-125
Beryllium	ND	48.8	0.50	50	-	98	75-125
Cadmium	ND	48.7	0.25	50	-	97	75-125
Chromium	ND	50.8	0.50	50	-	102	75-125
Cobalt	ND	48.5	0.50	50	-	97	75-125
Copper	ND	52.1	0.50	50	-	104	75-125
Lead	ND	50.7	0.50	50	-	101	75-125
Mercury	ND	1.21	0.050	1.25	-	97	75-125
Molybdenum	ND	48.8	0.50	50	-	98	75-125
Nickel	ND	51.8	0.50	50	-	104	75-125
Selenium	ND	54.0	0.50	50	-	108	75-125
Silver	ND	48.3	0.50	50	-	97	75-125
Thallium	ND	45.8	0.50	50	-	92	75-125
Vanadium	ND	51.1	0.50	50	-	102	75-125
Zinc	ND	512	5.0	500	-	102	75-125
Surrogate Recovery							
Terbium	503	497		500	101	99	70-130

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 6/24/15
Date Analyzed: 6/30/15
Instrument: ICP-MS2
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 107000
Extraction Method: SW3050B
Analytical Method: SW6020
Unit: mg/Kg
Sample ID: MB/LCS-107000
 1506A62-006AMS/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	48.2	46.9	50	ND	96	93	75-125	2.57	20
Arsenic	57.7	59.3	50	6.275	103	106	75-125	2.77	20
Barium	708	702	500	189.0	104	103	75-125	0.922	20
Beryllium	46.5	46.0	50	0.5584	92	91	75-125	1.08	20
Cadmium	50.4	49.1	50	ND	100	98	75-125	2.57	20
Chromium	110	114	50	59.64	101	109	75-125	3.66	20
Cobalt	54.3	55.0	50	13.00	83	84	75-125	1.24	20
Copper	80.5	82.7	50	31.77	98	102	75-125	2.68	20
Lead	57.8	58.6	50	8.130	99	101	75-125	1.46	20
Mercury	1.39	1.27	1.25	0.1196	102	92	75-125	9.32	20
Molybdenum	49.5	48.5	50	ND	98	96	75-125	2.06	20
Nickel	124	127	50	77.44	92	100	75-125	2.87	20
Selenium	51.2	51.7	50	ND	102	103	75-125	0.894	20
Silver	49.5	48.2	50	ND	99	96	75-125	2.54	20
Thallium	46.5	46.0	50	ND	93	92	75-125	1.10	20
Vanadium	93.2	100	50	41.63	103	117	75-125	7.26	20
Zinc	570	571	500	64.03	101	101	75-125	0	20
Surrogate Recovery									
Terbium	508	496	500		102	99	70-130	2.39	20

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



CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506A62 A **ClientCode: ARSB**

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: #15-34-001; 94th + International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: **5 days**
Date Received: **06/24/2015**
Date Add-On: **06/30/2015**
Date Printed: **06/30/2015**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1506A62-001	SB-4-3.0	Soil	6/24/2015 13:35	<input type="checkbox"/>	A												
1506A62-005	SB-6-6.0	Soil	6/24/2015 15:15	<input type="checkbox"/>	A												
1506A62-006	SB-6-10.0	Soil	6/24/2015 15:25	<input type="checkbox"/>	A												

Test Legend:

1	CAM17MS_S	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Agustina Venegas

Add-On Prepared By: Maria Venegas

Comments:

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



WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.
Project: #15-34-001; 94th + International
Comments: CAM17 added to 001 and 005 added 6/30/15 2D TAT

QC Level: LEVEL 2
Client Contact: Michael F. Kara
Contact's Email: mmkara707@aol.com

Work Order: 1506A62
Date Received: 6/24/2015
Date Add-On: 6/30/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A62-001A	SB-4-3.0	Soil	SW6020 (CAM 17) <Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc>	1	Stainless Tube	6/24/2015 13:35	1 day		<input type="checkbox"/>	
1506A62-005A	SB-6-6.0	Soil	SW6020 (CAM 17) <Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc>	1	Stainless Tube	6/24/2015 15:15	1 day		<input type="checkbox"/>	
1506A62-006A	SB-6-10.0	Soil	SW6020 (CAM 17)	1	Stainless Tube	6/24/2015 15:25	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.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086 A

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/10/2015 by:

Angela Rydelius,
Laboratory Manager

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Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
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 was out of acceptance criteria; LCS validated the prep batch.
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Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/6/15

WorkOrder: 1507086
Extraction Method: CA Title 22
Analytical Method: SW6010B
Unit: mg/L

STLC Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	ICP-JY	107237

Analytes	Result	RL	DF	Date Analyzed
Lead	19	0.20	1	07/09/2015 14:46

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	ICP-JY	107237

Analytes	Result	RL	DF	Date Analyzed
Lead	5.8	0.20	1	07/09/2015 14:49

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB5-2'	1507086-010A	Soil	07/02/2015 13:40	ICP-JY	107237

Analytes	Result	RL	DF	Date Analyzed
Lead	2.2	0.20	1	07/09/2015 14:51

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB7-2'	1507086-013A	Soil	07/02/2015 13:00	ICP-JY	107237

Analytes	Result	RL	DF	Date Analyzed
Lead	3.2	0.20	1	07/09/2015 14:53

Analyst(s): BBO

(Cont.)



Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: CA Title 22

Date Received: 7/2/15 17:52

Analytical Method: SW6010B

Date Prepared: 7/6/15

Unit: mg/L

STLC Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-2'	1507086-016A	Soil	07/02/2015 10:45	ICP-JY	107237

Analytes	Result	RL	DF	Date Analyzed
Lead	6.8	0.20	1	07/09/2015 14:56

Analyst(s): BBO



Analytical Report

Client: Applied Remedial Services, Inc.
Project: 94th & International
Date Received: 7/2/15 17:52
Date Prepared: 7/7/15

WorkOrder: 1507086
Extraction Method: SW1311/SW3010
Analytical Method: SW6010B
Unit: mg/L

TCLP Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	ICP-JY	107320

Analytes	Result	RL	DF	Date Analyzed
Lead	ND	0.20	1	07/09/2015 10:54

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB3-2'	1507086-007A	Soil	07/02/2015 11:10	ICP-JY	107320

Analytes	Result	RL	DF	Date Analyzed
Lead	0.36	0.20	1	07/09/2015 10:57

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB5-2'	1507086-010A	Soil	07/02/2015 13:40	ICP-JY	107320

Analytes	Result	RL	DF	Date Analyzed
Lead	ND	0.20	1	07/09/2015 10:59

Analyst(s): BBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB8-2'	1507086-016A	Soil	07/02/2015 10:45	ICP-JY	107320

Analytes	Result	RL	DF	Date Analyzed
Lead	ND	0.20	1	07/09/2015 11:02

Analyst(s): BBO



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/6/15
Date Analyzed: 7/9/15
Instrument: ICP-JY
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107237
Extraction Method: CA Title 22
Analytical Method: SW6010B
Unit: mg/L
Sample ID: MB/LCS-107237
 1507125-001AMS/MSD

QC Summary Report for Metals (STLC)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	0.866	0.20	1	-	87	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	NR	NR	1	12.53	NR	NR	70-130	NR	30

(Cont.)



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/7/15
Date Analyzed: 7/9/15
Instrument: ICP-JY
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107320
Extraction Method: SW1311/SW3010
Analytical Method: SW6010B
Unit: mg/L
Sample ID: MB/LCS-107320
 1505274-001AMS/MSD

QC Summary Report for Metals (TCLP)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	0.974	0.20	1	-	97	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1.07	1.10	1	ND	107	110	70-130	3.22	30



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086 **A** **ClientCode:** ARSB

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: 94th & International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: 5 days
Date Received: 07/02/2015
Date Add-On: 07/06/2015
Date Printed: 07/10/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1507086-004	SB2-2'	Soil	7/2/2015 10:20	<input type="checkbox"/>	A	A											
1507086-007	SB3-2'	Soil	7/2/2015 11:10	<input type="checkbox"/>	A	A											
1507086-010	SB5-2'	Soil	7/2/2015 13:40	<input type="checkbox"/>	A	A											
1507086-013	SB7-2'	Soil	7/2/2015 13:00	<input type="checkbox"/>	A												
1507086-016	SB8-2'	Soil	7/2/2015 10:45	<input type="checkbox"/>	A	A											

Test Legend:

1	STLC_PB_S	2	TCLP_PB_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Erika Santos
Add-On Prepared By: Jena Alfaro

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15

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: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!

Contact's Email: mmkara707@aol.com

Date Add-On: 7/6/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-004A	SB2-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	7/2/2015 10:20	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)				1 day*			
1507086-007A	SB3-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	7/2/2015 11:10	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)				1 day*			
1507086-010A	SB5-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	7/2/2015 13:40	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)				1 day*			
1507086-013A	SB7-2'	Soil	SW6010B (Lead) (STLC)	1	Acetate Liner	7/2/2015 13:00	1 day*		<input type="checkbox"/>	
1507086-016A	SB8-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	7/2/2015 10:45	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)				1 day*			

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

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

MICRO ANALYTICAL LABORATORIES, INC.
BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1004
 Erika Santos
 1534 Willow Pass Road
 Pittsburg, CA 945646-1701

PROJECT:
94TH & INTERNATIONAL
ACCT NO. A31409

Micro Log In **208051**
 Total Samples 8
 Date Sampled 07/02/2015
 Date Received 07/07/2015
 Date Analyzed 07/07/2015

ASBESTOS INFORMATION


SAMPLE IDENTIFICATION

QUANTITY (AREA %) / TYPES / LAYERS / DISTINCT SAMPLES

DOMINANT
OTHER MATERIALS

Client #: SB1-2' Micro #: 208051-01 Analyst: MO SOIL	SOIL: NONE DETECTED	NFM: CLAY, ROCK FRAGMENTS.
Client #: SB2-2' Micro #: 208051-02 Analyst: MO SOIL	SOIL: NONE DETECTED	NFM: CLAY, ROCK FRAGMENTS.
Client #: SB2-6' Micro #: 208051-03 Analyst: MO SOIL	SOIL: NONE DETECTED	NFM: CLAY, ROCK FRAGMENTS.
Client #: SB3-2' Micro #: 208051-04 Analyst: MO SOIL	SOIL: NONE DETECTED	NFM: CLAY, ROCK FRAGMENTS.
Client #: SB5-2' Micro #: 208051-05 Analyst: MO BK SOIL	SOIL: NONE DETECTED	NFM: CLAY, ROCK FRAGMENTS.

Technical Supervisor:


 Gamini Ranatunga, Ph.D.

7/7/2015

Date Reported

NVLAP Lab Code 101872-0, CA ELAP Certification #1037. Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow the EPA Interim Method for Bulk Insulation Samples (1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below $\sim 1 \mu\text{m}$ may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for any reported materials other than asbestos. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in all layers of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Samples that were reanalyzed are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed. NFM = Non-fibrous materials.

MICRO ANALYTICAL LABORATORIES, INC.
BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)



1004
 Erika Santos
 1534 Willow Pass Road
 Pittsburg, CA 94564-1701

PROJECT:
94TH & INTERNATIONAL
ACCT NO. A31409

Micro Log In **208051**
 Total Samples 8
 Date Sampled 07/02/2015
 Date Received 07/07/2015
 Date Analyzed 07/07/2015

ASBESTOS INFORMATION

SAMPLE IDENTIFICATION

QUANTITY (AREA %) / TYPES / LAYERS / DISTINCT SAMPLES

DOMINANT
OTHER MATERIALS

Client #: SB7-2'		
Micro #: 208051-06 SOIL	Analyst: MO	SOIL: NONE DETECTED NFM: CLAY, ROCK FRAGMENTS.
Client #: SB9-2'		
Micro #: 208051-07 SOIL	Analyst: MO	SOIL: NONE DETECTED NFM: CLAY, ROCK FRAGMENTS.
Client #: SB9-6'		
Micro #: 208051-08 SOIL	Analyst: MO	SOIL: NONE DETECTED NFM: CLAY, ROCK FRAGMENTS.

Technical Supervisor:

7/7/2015

Gamini Ranatunga
 Gamini Ranatunga, Ph.D.

Date Reported

NVLAP Lab Code 101872-0, CA ELAP Certification #1037. Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow the EPA Interim Method for Bulk Insulation Samples (1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for any reported materials other than asbestos. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in all layers of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Samples that were reanalyzed are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed. NFM = Non-fibrous materials.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1506A62 B

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: #15-34-001; 94th + International

Project Received: 06/24/2015

Analytical Report reviewed & approved for release on 07/06/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
WorkOrder: 1506A62

Glossary Abbreviation

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

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c11	The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data has been reported.



Analytical Report

Client: Applied Remedial Services, Inc.
Project: #15-34-001; 94th + International
Date Received: 6/24/15 20:51
Date Prepared: 7/4/15

WorkOrder: 1506A62
Extraction Method: CA Title 22
Analytical Method: SW6010B
Unit: mg/L

STLC Metals

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-4-3.0	1506A62-001A	Soil	06/24/2015 13:35	ICP-JY	107167

Analytes	Result	RL	DF	Date Analyzed
Chromium	0.090	0.050	1	07/06/2015 11:10

Analyst(s): BBO

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-6-6.0	1506A62-005A	Soil	06/24/2015 15:15	ICP-JY	107167

Analytes	Result	RL	DF	Date Analyzed
Chromium	0.10	0.050	1	07/06/2015 11:13

Analyst(s): BBO



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/4/15
Date Analyzed: 7/6/15
Instrument: ICP-JY
Matrix: Soil
Project: #15-34-001; 94th + International

WorkOrder: 1506A62
BatchID: 107167
Extraction Method: CA Title 22
Analytical Method: SW6010B
Unit: mg/L
Sample ID: MB/LCS-107167
 1507067-006AMS/MSD

QC Summary Report for Metals (STLC)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Chromium	ND	1.03	0.050	1	-	102	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Chromium	1.07	1.10	1	0.076	99	102	70-130	2.22	30



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506A62 B **ClientCode: ARSB**

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: #15-34-001; 94th + International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: **5 days**
Date Received: **06/24/2015**
Date Add-On: **07/01/2015**
Date Printed: **07/06/2015**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1506A62-001	SB-4-3.0	Soil	6/24/2015 13:35	<input type="checkbox"/>	A												
1506A62-005	SB-6-6.0	Soil	6/24/2015 15:15	<input type="checkbox"/>	A												

Test Legend:

1	STLC_METALS_S	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Agustina Venegas
Add-On Prepared By: Jena Alfaro

Comments: CAM17 added to 001 and 005 added 6/30/15 2D TAT. STLC Cr added to 001 and 005 7/1/15 2D TAT

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: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1506A62

Project: #15-34-001; 94th + International

Client Contact: Michael F. Kara

Date Received: 6/24/2015

Comments: CAM17 added to 001 and 005 added 6/30/15 2D TAT. STLC Cr added to 001 and 005 7/1/15 2D TAT

Contact's Email: mmkara707@aol.com

Date Add-On: 7/1/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A62-001A	SB-4-3.0	Soil	SW6010B (Metals) (STLC) <Chromium>	1	Stainless Tube	6/24/2015 13:35	2 days*		<input type="checkbox"/>	
1506A62-005A	SB-6-6.0	Soil	SW6010B (Metals) (STLC) <Chromium>	1	Stainless Tube	6/24/2015 15:15	2 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.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086 B

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/13/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
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 was out of acceptance criteria; LCS validated the prep batch.
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Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: CA Title 22

Date Received: 7/2/15 17:52

Analytical Method: SW6010B

Date Prepared: 7/8/15

Unit: mg/L

STLC Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	ICP-JY	107367

Analytes	Result	RL	DF	Date Analyzed
Lead	57	0.20	1	07/13/2015 12:10

Analyst(s): BBO



Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW1311/SW3010

Date Received: 7/2/15 17:52

Analytical Method: SW6010B

Date Prepared: 7/8/15

Unit: mg/L

TCLP Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	ICP-JY	107357

Analytes	Result	RL	DF	Date Analyzed
Lead	0.97	0.20	1	07/10/2015 10:54

Analyst(s): DB



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/8/15
Date Analyzed: 7/13/15
Instrument: ICP-JY
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107367
Extraction Method: CA Title 22
Analytical Method: SW6010B
Unit: mg/L
Sample ID: MB/LCS-107367
 1507231-001AMS/MSD

QC Summary Report for Metals (STLC)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	0.932	0.20	1	-	93	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1.01	0.970	1	ND	101	97	70-130	3.89	30



Quality Control Report

Client: Applied Remedial Services, Inc.	WorkOrder: 1507086
Date Prepared: 7/8/15	BatchID: 107357
Date Analyzed: 7/10/15	Extraction Method: SW1311/SW3010
Instrument: ICP-JY	Analytical Method: SW6010B
Matrix: Soil	Unit: mg/L
Project: 94th & International	Sample ID: MB/LCS-107357 1507126-008AMS/MSD

QC Summary Report for Metals (TCLP)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	0.990	0.20	1	-	99	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1.05	0.978	1	ND	105	98	70-130	6.85	30



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086 B ClientCode: ARSB

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: 94th & International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: 5 days
Date Received: 07/02/2015
Date Add-On: 07/08/2015
Date Printed: 07/08/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1507086-001	SB1-2'	Soil	7/2/2015 9:45	<input type="checkbox"/>	A	A											

Test Legend:

1	STLC_PB_S	2	TCLP_PB_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Erika Santos

Add-On Prepared By: Jena Alfaro

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15

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: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!
 TCLP Pb: 1507086-004, 7-10-16 7/6/15 STLC -- 1 TCLP

Contact's Email: mmkara707@aol.com

Date Add-On: 7/8/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-001A	SB1-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	7/2/2015 9:45	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)				1 day*		<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.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086 B

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/10/2015 by:

Angela Rydelius,
Laboratory Manager

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Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
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 was out of acceptance criteria; LCS validated the prep batch.
----	--



McC Campbell Analytical, Inc.

"When Quality Counts"

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

Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW1311/SW3010

Date Received: 7/2/15 17:52

Analytical Method: SW6010B

Date Prepared: 7/8/15

Unit: mg/L

TCLP Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB1-2'	1507086-001A	Soil	07/02/2015 09:45	ICP-JY	107357

Analytes	Result	RL	DF	Date Analyzed
Lead	0.97	0.20	1	07/10/2015 10:54

Analyst(s): DB



Quality Control Report

Client: Applied Remedial Services, Inc.
Date Prepared: 7/8/15
Date Analyzed: 7/10/15
Instrument: ICP-JY
Matrix: Soil
Project: 94th & International

WorkOrder: 1507086
BatchID: 107357
Extraction Method: SW1311/SW3010
Analytical Method: SW6010B
Unit: mg/L
Sample ID: MB/LCS-107357
 1507126-008AMS/MSD

QC Summary Report for Metals (TCLP)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	0.990	0.20	1	-	99	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1.05	0.978	1	ND	105	98	70-130	6.85	30



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086 B ClientCode: ARSB

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
Michael F. Kara
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086
707-748-4205 FAX: 707-748-4207

Email: mmkara707@aol.com
cc/3rd Party:
PO:
ProjectNo: 94th & International

Bill to:
Accounts Payable
Applied Remedial Services, Inc.
P.O. Box 5086
Walnut Creek, CA 94596-1086

Requested TAT: 5 days
Date Received: 07/02/2015
Date Add-On: 07/08/2015
Date Printed: 07/08/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1507086-001	SB1-2'	Soil	7/2/2015 9:45	<input type="checkbox"/>	A	A											

Test Legend:

1	STLC_PB_S	2	TCLP_PB_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Erika Santos

Add-On Prepared By: Jena Alfaro

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15

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: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!
 TCLP Pb: 1507086-004, 7-10-16 7/6/15 STLC -- 1 TCLP

Contact's Email: mmkara707@aol.com

Date Add-On: 7/8/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-001A	SB1-2'	Soil	SW6010B (Lead) (TCLP)	1	Acetate Liner	7/2/2015 9:45	1 day*		<input type="checkbox"/>	
			SW6010B (Lead) (STLC)				1 day*		<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.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1507086 D

Report Created for: Applied Remedial Services, Inc.

P.O. Box 5086
Walnut Creek, CA 94596-1086

Project Contact: Michael F. Kara

Project P.O.:

Project Name: 94th & International

Project Received: 07/02/2015

Analytical Report reviewed & approved for release on 07/15/2015 by:

Angela Rydelius,
Laboratory Manager

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





Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Glossary Abbreviation

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

Analytical Qualifiers

a3	sample diluted due to high organic content.
a7	reporting limit raised due to limited sample amount
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
h4	sulfuric acid permanganate (EPA 3665) cleanup



Glossary of Terms & Qualifier Definitions

Client: Applied Remedial Services, Inc.
Project: 94th & International
WorkOrder: 1507086

Quality Control Qualifiers

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



Analytical Report

Client: Applied Remedial Services, Inc.

WorkOrder: 1507086

Project: 94th & International

Extraction Method: SW1311/SW3010

Date Received: 7/2/15 17:52

Analytical Method: SW6020

Date Prepared: 7/15/15

Unit: mg/L

TCLP Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB2-2'	1507086-004A	Soil	07/02/2015 10:20	ICP-MS1	107642

Analytes	Result	RL	DF	Date Analyzed
Mercury	ND	0.010	1	07/15/2015 13:14

Analyst(s): AC



Quality Control Report

Client: Applied Remedial Services, Inc.	WorkOrder: 1507086
Date Prepared: 7/14/15	BatchID: 107642
Date Analyzed: 7/15/15	Extraction Method: SW1311/SW3010
Instrument: ICP-MS1	Analytical Method: SW6020
Matrix: Soil	Unit: mg/L
Project: 94th & International	Sample ID: MB/LCS-107642 1507086-004AMS/MSD

QC Summary Report for Metals (TCLP)

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Mercury	ND	0.240	0.010	0.25	-	96	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Mercury	0.227	0.241	0.25	ND	91	96	75-125	5.99	20

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507086 D ClientCode: ARSB

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 ProjectNo: 94th & International

Bill to:
 Accounts Payable
 Applied Remedial Services, Inc.
 P.O. Box 5086
 Walnut Creek, CA 94596-1086

Requested TAT: 5 days
Date Received: 07/02/2015
Date Add-On: 07/14/2015
Date Printed: 07/15/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1507086-004	SB2-2'	Soil	7/2/2015 10:20	<input type="checkbox"/>	A												

Test Legend:

1	METALSMS_TCLP_S	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Erika Santos

Add-On Prepared By: Maria Venegas

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A. 7/6/15 5D TAT. 001 Not enough sample remaining for anything! TCLP Pb also added to 004, 7, 10, 16 7/6/15. STLC and TCLPs changed to RUSH TAT. Asbestos Samples returned & received 7/8/15 001 Set up for STLC and TCLP Pb 7/8/15. Additional Analysis per email added 7/13/15 1 and 2D TATs

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).



WORK ORDER SUMMARY

Client Name: APPLIED REMEDIAL SERVICES, INC.

QC Level: LEVEL 2

Work Order: 1507086

Project: 94th & International

Client Contact: Michael F. Kara

Date Received: 7/2/2015

Comments: Pb STLC: 1507086-001A, -004A, -007A, -010A, -013A, -016A.
 7/6/15 5D TAT. 001 Not enough sample remaining for anything!
 TCLP Pb: 1507086-001A, -004A, -007A, -010A, -013A, -016A

Contact's Email: mmkara707@aol.com

Date Add-On: 7/14/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507086-004A	SB2-2'	Soil	SW6020 (Metals) (TCLP) <Mercury>	1	Acetate Liner	7/2/2015 10:20	Same Day*		<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.

