Updated Soil and Groundwater Management Plan

Bay Road Phase II and III Improvement Project
East Palo Alto, California

T.Y. Lin International

345 California Street | San Francisco, California 94104

September 21, 2018 | Project No. 402068004





Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

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Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

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September 21, 2018
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Ms. Sneha Pavuluri
T.Y. Lin International
345 California Street
San Francisco, California 94104

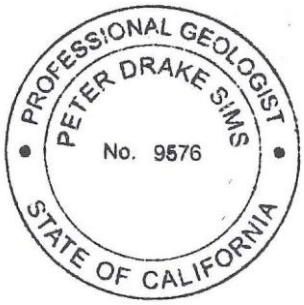
Subject: Updated Soil and Groundwater Management Plan
Bay Road Phase II and III Improvement Project
East Palo Alto, California

Dear Ms. Pavuluri:

Ninyo & Moore has prepared for T.Y. Lin International (T.Y. Lin) this Updated Soil and Groundwater Management Plan (Updated SGMP) for the above-referenced site. This Updated SGMP, which replaces the SGMP prepared by Ninyo & Moore in October 2016 due to the expansion of the project area, has been prepared to provide T.Y. Lin an understanding of the special handling and management procedures that are to be followed when encountering potentially contaminated soil and/or groundwater during the implementation of the Bay Road Phase II and III Improvement Project. The environmental concerns identified for this media were obtained from available Environmental Site Assessment Reports for the site and adjoining properties prepared by Ninyo & Moore and others.

We appreciate the opportunity to be of service to you on this project.

Respectfully submitted,
NINYO & MOORE



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1 INTRODUCTION AND BACKGROUND

This Updated Soil and Groundwater Management Plan (Updated SGMP) was prepared for T.Y. Lin International (T.Y. Lin) for the Bay Road Phase II and III Improvement Project being conducted by the City of East Palo Alto (the City) in California. This Updated SGMP replaces the SGMP prepared by Ninyo & Moore in October 2016 due to the expansion of the project area. The new project area consists of replacement and/or relocation of storm drain, water main and/or sanitary sewer laterals on Bay Road, east of Illinois Street/Clarke Avenue; Runnymede Street, east of Pulgas Avenue; Weeks Street, east of Pulgas Avenue; Pulgas Avenue from Bay Road to approximately 280 feet south of Runnymede Street; and small sections on Illinois Street (approximately 210 feet) and Clark Avenue (approximately 350 feet), north and south of Bay Road, respectively. The project area is collectively referred to as the "site" (Figure 1). This Updated SGMP has been prepared to provide T.Y. Lin an understanding of the special handling and management procedures that are to be followed when encountering potentially contaminated soil and/or groundwater during the implementation of the Bay Road Phase II and III Improvement Project. Based on previous investigations on properties adjacent to the site boundaries, Ninyo & Moore's January 2015 and S.S. Papadopulos & Associates' (SSPA) September 2016 site investigation activities on a portion of Bay Road (beginning just west of Pulgas Avenue to the Bay Trail near Cooley Landing and a small section of Tara Road), SSPA's September 2014 site investigation on a portion of Runnymede Street (east of Pulgas), and SSPA's 2012 and 2014 monitoring report and previous investigations on a portion of Weeks Street (east of Pulgas), this project may encounter potential contaminated soil and/or groundwater with elevated concentrations of heavy metals, in particular arsenic; total petroleum hydrocarbons (TPH), as gasoline (TPHg), diesel (TPHd), and motor oil (TPHmo); organochlorine pesticides (OCPs) including but not limited to chlordane, dieldrin, 4,4-dichlorodiphenyldichloroethylene (4,4-DDE), 4,4-dichlorodiphenyltrichloroethane (4,4-DDT), heptachlor epoxide, lindane, and toxaphene; and/or volatile organic compounds (VOCs) including but not limited to tetrachloroethylene (PCE), trichloroethylene (TCE), and cis-1,2-dichloroethene (DCE).

This Updated SGMP has been prepared to summarize the protocol to be implemented during future construction activities at the site. This Updated SGMP should be implemented during activities including, but not limited to, excavations, utility installations, and other intrusive activities associated with the construction activities at the site.

In the event that during excavations and utility installations the excavated materials are temporarily stockpiled on-site, this Updated SGMP provides the protocol to be followed in association with their management.

This Updated SGMP addresses worker health and safety controls, personnel assignments and responsibilities, soil excavation, management of contaminated and potentially contaminated materials, on-site reuse and, if required, off-site disposal procedures, and provides recommendations to reduce exposure to workers and the public from contaminants, if encountered. Work performed under this Updated SGMP shall be in compliance with site construction specifications, a site health and safety plan, and applicable local, state, and federal statutes and regulations.

2 SITE DESCRIPTION

The project area encompasses Bay Road, east of Illinois Street/Clarke Avenue; Runnymede Street, east of Pulgas Avenue; Weeks Street, east of Pulgas Avenue; Pulgas Avenue from Bay Road to approximately 280 feet south of Runnymede Street; and small sections on Illinois Street (approximately 210 feet) and Clark Avenue (approximately 350 feet), north and south of Bay Road, respectively. (Figure 1). Properties on Bay Road and north on Pulgas Avenue and Tara Road are currently used for commercial and industrial purposes. Properties east of Pulgas Avenue on Weeks Street and Runnymede Street and on Pulgas Avenue between Bay Road and Weeks Street are currently used for commercial and industrial purposes, are residential, or are vacant. Properties on Pulgas Avenue, south of Weeks and on the sections of Illinois Street and Clark Avenue are currently residential.

2.1 Land Use Restrictions of Adjoining Properties

The following properties are the subject of deed restrictions: 1990 Bay Road, 1950 Bay Road, Pacific Gas & Electric Pole Yard that is a portion of the 2000 Bay Road property, 1200 Weeks Street, 1275 Runnymede Street, and 1885 Bay Road. The 2296 Pulgas Avenue property has a potential land use restriction pending over-excavation activities.

The deed restriction for properties at 1990 Bay Road, 1950 Bay Road, the Pacific Gas & Electric Pole Yard that is a portion of 2000 Bay Road, 1200 Weeks Street, and 1275 Runnymede Street require compliance with the San Francisco Bay Regional Water Quality Control Board (RWQCB) Order No. R2-2016-0037 for Starlink Logistics, Inc. (SLLI), the 1990 Bay Road property owner. RWQCB Order No. R2-2016-0037 includes portions of Bay Road, Weeks Street, and Runnymede that are identified on Figure 2 as “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)”. The deed restrictions require the following:

- Any soil or groundwater brought to the surface shall be handled in accordance with all applicable provisions of state and federal law;
- Any work performed in the areas covered by the deed restrictions shall preserve the integrity of remedial measures or groundwater monitoring systems; and

- The RWQCB should be notified 10 days prior to any work that may affect the integrity of remedial measure or groundwater monitoring systems.

The deed restriction for the 1885 Bay Road property require compliance with the Environmental Covenant and Deed Restriction and its associated Operation and Maintenance Plan (OMP) per the RWQCB, which include the following:

- Maintenance of durable cover in accordance with the OMP;
- Any soil or groundwater brought to the surface shall be handled in accordance with all applicable provisions of state and federal law;
- A well shall not be drilled, bored, or otherwise constructed for the purpose of extracting water for any use, unless expressly permitted in writing by the RWQCB.

The property at 2296 Pulgas Avenue requires compliance with the County of San Mateo Groundwater Protection Program (GPP). There is a pending case closure with a building department notification letter by the GPP for the site, as the lateral and vertical extent of TPH-impacted soil and groundwater were assessed by the property owner. A building department notification letter would require a Updated SGMP prior to issuing a permit for future development that would disturb the residual contamination. In June 2018, a work plan to over-excavate the residual TPH-contaminated soil was submitted to the GPP with the intent to receive a case closure with no land use restrictions.

Implementation of this Updated SGMP will ensure compliance with the requirements of the land use restrictions.

2.2 Impacted Soil and/or Groundwater on Adjoining Properties

The following adjoining properties did not have deed restrictions listed on Geotracker but have been under the oversight of the San Mateo County Environmental Health Department (SMCEHD) for assessment and/or remediation: 2447 Pulgas Avenue, 2479 Pulgas Avenue, 1801-1805 Bay Road, and 1802-1804 Bay Road (Figure 2).

The adjoining properties at 2447 Pulgas Avenue and 1805 Bay Road are identified as leaking underground storage tank (LUST) closed SMCEHD cases. Impact at the properties was discovered in 1994 and related to gasoline; however, no records are available. The property at 2447 Pulgas Avenue is noted as having excavation; the case was closed in 2002. The 1805 Bay Road case was closed in 2009.

The adjoining property at 2479 Pulgas Avenue is a closed SMCEHD LUST case. A 1,000 gallon gasoline UST was removed in 1991 and over excavation of impacted soil was performed. Confirmation soil samples had a maximum TPHg concentration of 150 parts per million (ppm)

and confirmation groundwater samples had maximum TPHg concentrations of 430 parts per billion (ppb) and benzene concentrations of 1 ppb. Depth to water was measured from approximately 5 to 9 feet below ground surface (bgs) in the four wells. The case was closed in 1997.

The adjoining properties at 1801-1805 Bay Road and 1802-1804 are within the Ravenswood Industrial Area (RIA) and under RWQCB Orders, Nos. 92-037 and 92-086. Properties within the RIA have a history of agricultural uses, industrial uses, and/or fill operations, and more recently as auto wrecking yards and storage facilities with little or no regulation of land-use. Site contamination can be treated by the application of the Land Use Covenant (LUC) which consists primarily of the construction of a durable cover over the surface of a site and is intended to eliminate the pathway of direct exposure to native site soils, thereby eliminating the risk posed by these soils. However, the Updated SGMP for the RIA requires soil encountered during trenching and other earthwork construction activities (e.g., excavation) which contain constituents of potential environmental concern (COPCs) above the cleanup goals (CGs) (Table 1 in Appendix A) to be removed from a site and properly disposed off-site or evaluated (stockpiled and sampled) for potential reuse onsite with specific conditions (placed beneath durable cover) and with approval by the RWQCB (Ninyo & Moore, 2018).

3 DEFINITIONS

Definitions of key terms used in this Updated SGMP are provided in the following sections.

3.1 Materials

For purposes of this Updated SGMP, the term “materials” refers to soil and/or other subsurface materials that may be encountered during the planned construction.

3.2 Contaminated Substance

In the context of this Updated SGMP, a contaminated substance contains a substance, or substances, at concentrations that would: require special training, handling, or the use of personal protective equipment; restrict the end use to protect human health or the environment; be subject to local, state, or federal regulatory requirements.

Based on the results of the previous site and adjoining property investigations, contaminated soil and groundwater may be encountered and possibly generated. This contaminated soil and/or groundwater may be considered a contaminated substance that may contain chemicals at levels that make it a hazardous substance, or in some cases, a hazardous waste under state and/or federal regulations, unless additional analytical testing confirms otherwise.

Protective measures and equipment to reduce or prevent exposures from contaminated soil and/or groundwater generated during this project will be specified in the project health and safety plan, discussed in further detail in Section 8.

3.3 Hazardous Substance

A hazardous substance is any substance that is toxic, corrosive, an irritant, a strong sensitizer, flammable, combustible, radioactive, or that may cause personal injury or illness as a result of any customary or reasonable foreseeable handling or use.

3.4 Hazardous Waste

A California-hazardous waste is a contaminated substance that meets the definition of hazardous waste as defined in the California Code of Regulations (CCR) Title 22 Sections 66261.20 through 66261.24. A Resource Conservation and Recovery Act (RCRA)-hazardous waste is a contaminated substance that meets the definition of hazardous waste as defined in 40 Code of Federal Regulations (CFR) Part 261.

3.5 Competent Person

A competent person shall have demonstrated knowledge of, and professional experience in the observation and documentation of environmental excavating activities; environmental and geologic conditions in the project area; and recognition of, and testing for, hazardous materials and conditions. A competent person shall have current Occupational Safety and Health Administration (OSHA) training and certificates and the authority to respond to changed conditions. Typically, a competent person will be a state-licensed geologist, engineer, or health professional with sufficient knowledge of local conditions and environmental regulations, or a person working under the direct supervision of such a geologist or engineer.

4 SITE CHARACTERIZATION

This section describes soil and groundwater conditions at the site.

4.1 Soil

Based on information obtained from the January 2015 investigation of a portion of the site on Bay Road and investigations on adjoining properties, the soil underlying the site varies. Along Bay Road, soil consists of finely graded, moist, silty sand with trace gravel and low plasticity to 10 feet below ground surface (bgs) (Ninyo & Moore, 2015). Along Runnymede Street, soil beneath the road base consists of clay from approximately 1 to 3 feet bgs underlain by sandy silt, clayey sand, sandy clay, and/or poorly graded sand to approximately 7 feet bgs (Geomatrix, 2007). On the adjoining property at 2296 Pulgas Avenue, lean clay was present from the

surface to approximately 12 feet bgs (Clearwater, 2018). Boring logs and/or soil descriptions were not available for other adjoining properties.

Uses of the various historical properties that have comprised the site such as a metal plating facility, an agricultural chemical manufacturing facility, auto wrecking yards and storage facilities, commercial businesses with USTs, former agricultural uses, etc. are reportedly the source of soil impacts at the site. Investigations dating back to 1991 have indicated that potential sources of environmental concern include VOCs, TPH, Title 22 metals (focused on arsenic and lead), semi-volatile organic compounds (SVOCs), organochlorine pesticides (OCPs), hexavalent chromium (Cr+6), polychlorinated biphenyls (PCBs), and/or polycyclic aromatic hydrocarbons (PAHs) on site (Ninyo & Moore, 2014) and/or on adjacent properties (Ninyo & Moore, 2004, 2015, and 2018, Geomatrix 2007). The COPCs identified by Ninyo & Moore during our January 2015 investigation activities for a portion of the site included similar COPCs (arsenic, TPH, and VOCs including PCE, and TCE). However, these COPCs were reported in low levels are not above the 2016 RWQCB Environmental Screening Levels (ESLs) based on Direct Exposure Human Health Risk Levels (Table S-1) (RWQCB, 2016), which are the screening criteria for this project. The highest concentration of any particular COPC, is likely arsenic associated with the 1990 Bay Road property, which is discussed below. The potential arsenic impacted soil locations on the site consist of those areas identified in RWQCB Order No. R2-2016-0037 and labeled on Figure 2 as "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" and those areas where adjacent properties have known or potential arsenic impacted soil and labeled on Figure 2 as "Potential Area of Arsenic Impacted Soil" (Figure 2).

1990 Bay Road

Based on information discussed in the Ninyo & Moore Phase I Environmental Site Assessment prepared in July 2014 (Ninyo & Moore, 2014), historical pesticide manufacturing activities conducted at 1990 Bay Road (Figure 2) is the source of the extremely high arsenic concentrations within the property, and arsenic impacted soils are present beneath Bay Road and along the north and south shoulders of Bay Road and extend to the east towards the tidal marsh and south to Weeks Street and Runnymede Street. Remedial actions conducted to address the arsenic impacted soils in the vicinity of Bay Road included excavating and disposing arsenic in soils exceeding 70 milligrams per kilogram (mg/kg) located on the north side of Bay Road, and a 2-inch asphalt cap for soils impacted with arsenic exceeding 70 mg/kg on the south site of Bay Road (and adjacent to the 1990 Bay Road property) (Figure 2).

Based on Ninyo & Moore's Phase II Environmental Site Assessment prepared in April 2015, six soil samples (two each from boring locations B-6 through B-8) collected within the vicinity of

1990 Bay Road (Figure 2) had low levels of arsenic ranging from 3.4 to 9.3 mg/kg, suggesting that arsenic impacted soil is unlikely uniformly distributed beneath Bay Road. Because arsenic impacted soil on the north side of Bay Road was the only soil exceeding 70 mg/kg that was excavated and disposed off-site, it is likely that high concentrations of arsenic still remain in several areas adjacent to the roadway.

In September 2016, SSPA performed soil sampling on behalf of SLLI to evaluate the potential for reuse of soil to the site or the waste classification for soil that would be disposed off-site in connection with trenching activities to be performed by the City on the portion of Bay Road beginning just west of Pulgas Avenue and continuing to the Bay Trail near Cooley Landing. Presented in Appendix B are the laboratory analytical results of soil samples collected by SSPA (Tables 1 through 3); the soil sample locations within Bay Road adjacent to the 1990 Bay Road property (SSPA Figures 1 through 3); and the laboratory analytical reports. Additional soil sample locations are shown on Figure 2. Soil excavated from utility trenches or removed by means of directional boring within the area labeled "Potential Area of Arsenic Impacted Soil" (RWQCB Order No. R2-2016-0037) on Figure 2 shall be direct loaded into trucks and disposed of based on the waste classification(s) that will be provided to the City by SLLI. Soil outside of the area labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" on the portion of Bay Road beginning just west of Pulgas Avenue and continuing to the Bay Trail near Cooley Landing that is excavated from utility trenches or removed by means of directional boring is acceptable for reuse on site.

The 1990 Bay Road property is the subject of several environmental deed restrictions, as are properties to the south and east that are impacted from the 1990 Bay Road historic operations. Included in the requirements of the deed restrictions is compliance with the RWQCB Order No. R2-2016-0037 for SLLI, the 1990 Bay Road property owner. Impacted properties to the south that are adjacent to the site are 1200 Weeks Street and 1275 Runnymede Street. It is the understanding of the City of East Palo Alto that SLLI and their consultant are responsible for remediating and mitigating these impacts during Bay Road Phase II and III Improvement activities. City of East Palo Alto is responsible for notifying SLLI a minimum of 14 days prior to any scheduled improvements, widening, realignment, or excavation below the paving of Bay Road, Weeks Street, and Runnymede Street within the area marked "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" on Figure 2.

4.2 Groundwater

According to the California RWQCB, Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), the site is located in the Santa Clara Valley, San Mateo Plain Basin/Sub-

Basin (RWQCB, 2013). The reported existing beneficial uses for groundwater include municipal and domestic water supply, industrial service and process water supply, and potential agricultural water supply.

Historical and regulatory documents and databases reviewed indicate TPH, VOC, and arsenic releases within the site vicinity have impacted groundwater in the area. The COPCs identified in groundwater during the January 2015 investigation activities for a portion of the site on Bay Road included TPH as diesel and motor oil (TPHd and TPHmo), TCE, and PCE. The approximate locations of these COPCs are shown on Figure 2. COPCs identified in groundwater during the 2004 investigation activities at 1802-1804 Bay Road included TPH as gasoline (TPHg) and VOCs (1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene, ethylbenzene, xylenes, methyl-tert-butyl-ether (MTBE), naphthalene, and toluene) and barium. The approximate locations of these COPCs are presented on tables and a figure in Appendix A. The COPC, arsenic, was identified in groundwater during the 2007 investigation activities in Runnymede Street. The approximate locations are presented on a figure in Appendix A. In addition, groundwater with elevated concentrations of arsenic has been detected in monitoring wells under Bay Road adjacent to the 1990 Bay Road property and under Weeks Street and Runnymede Street, south of the 1990 Bay Road property. Groundwater samples were collected as recently as 2012 and 2014 from wells W-130, W-131, and W-132 located in Bay Road, W-133 located in Weeks Street, and W-136 and W-143 located in Runnymede Street. The maximum concentration of arsenic reported in samples collected from the three wells under Bay Road was in the groundwater sample collected in 2010 from well W-131 at 6.82 µg/L. The maximum concentration of arsenic reported from W-133 under Weeks Street was in the groundwater sample collected in 2005 at 4.6 µg/L. The maximum concentration of arsenic reported from W-136 under Runnymede Street was in the groundwater sample collected in 2010 at 40.2 µg/L. In addition, groundwater with elevated concentrations of arsenic ranging from 0.58 µg/L to 50.4 µg/L were detected in grab groundwater samples beneath Runnymede Street during the 2007 investigation.

Historic depth to groundwater in the site vicinity was reported ranging from approximately 5 to 10 feet bgs, and groundwater flow direction is to the east/southeast towards the San Francisco Bay. Groundwater was encountered between 5.5 and 6.5 feet bgs in temporary soil borings advanced in January 2015 as part of Ninyo & Moore's investigation activities of a portion of the site on Bay Road. Based on groundwater water level measurements for several monitoring wells in Bay Road collected by the 1990 Bay Road property owner's environmental consultant, depth to groundwater below current pavement is approximately 3.7 feet bgs adjacent to the

PG&E Poleyard property, 4.5 ft to 4.75 feet bgs near Tara Road, approximately 1.8 feet bgs in Weeks Street and approximately 3.5 feet bgs Runnymede Street.

5 CONSTITUENTS OF POTENTIAL ENVIRONMENTAL CONCERN

Based on Ninyo & Moore's January 2105 site investigation and SSPC's September 2016 site investigation activities on a portion of the site on Bay Road and previous investigation activities on adjacent properties, the following are COPCs that may be encountered by the General Contractor (Contractor) in the soil and/or groundwater to be generated, handled and managed during the implementation of the Bay Road Phase II and III Improvement Project[1]:

- TPHd (groundwater), TPHg and TPHmo (soil and groundwater);
- VOCs (groundwater), specifically TCE, PCE, benzene, and MTBE; and,
- California Title 22 Metals (soil and groundwater), specifically arsenic.

Based on groundwater monitoring analytical results by the 1990 Bay Road property owner's environmental consultant, elevated concentrations of arsenic have been detected in groundwater under Bay Road, Weeks Street, and Runnymede Street or have the potential to be present based on adjacent property investigations within the area labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" and "Potential Area of Arsenic Impacted Soil," respectively on Figure 2.

6 PROJECT TEAM

This section describes the general project team relevant to the excavation, handling, transportation, reuse, and, as applicable, off-site disposal of contaminated materials and groundwater if encountered at the site.

6.1 Project Manager

The City will designate a Project Manager who will oversee future construction activities at the site. The Project Manager will serve as the point of contact and will coordinate with the involved parties.

[1] Due to limitations in the sampling scopes and properties with investigations, additional COPCs and areas of impacted soil may be encountered during construction.

6.2 General Contractor

Because future planned construction activities include the potential to encounter COPC-impacted materials, the Contractor responsible for site construction will be required to implement this Updated SGMP addressing excavation and management, direct-loading, temporary stockpiling, possible off-site disposal, and measures to protect worker/public health and the environment from impacts caused by the Contractor's activities. The Contractor shall be responsible for assigning qualified personnel to execute the work, and for selecting and supervising the work of other subcontractors assigned to the project.

The Contractor shall provide a site Superintendent, who will be responsible for site activities. The site Superintendent's responsibilities will include oversight of equipment, labor, materials, and resources needed to complete the project as it involves the COPC-impacted materials.

6.3 Health and Safety Manager

The Contractor shall retain a Health and Safety Manager (HSM). The HSM will be responsible for preparing and overseeing implementation of a Site-specific Health and Safety Plan (SHSP). The SHSP shall list the various safety-related Contractor personnel and their duties and responsibilities. The SHSP is discussed in further detail in Section 8.

6.4 Subcontractors

The Contractor may utilize subcontractors to execute subtasks of this project, subject to approval by the Project Manager. The supervision, inspection, and approval of such subcontractor work will be the responsibility of the Contractor.

6.5 Project Environmental Consultant

The Project Manager will retain Ninyo & Moore as the qualified environmental consulting firm to provide environmental oversight services for site construction activities involving COPC-impacted materials. Ninyo & Moore will monitor soil excavation activities, provide guidance to the Contractor on segregation of materials, as necessary, and document on-site reuse of excavated materials. As applicable, they will assist in characterizing and profiling previously unknown COPC-impacted materials, if such materials are proposed to be transported and disposed of offsite.

6.6 Project Geotechnical Consultant

The Project Manager may retain or assign a qualified geotechnical consultant to serve as the Project Geotechnical Consultant. If needed, the Geotechnical Consultant will perform compaction testing and oversee backfilling of excavations.

6.7 1990 Bay Road Site Manager

SLLI, the owner of 1990 Bay Road, will assign a 1990 Bay Road Site Manager to assist the Project Manager and Contractor with coordinating the off-site disposal of soil from the "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" shown on Figure 2. The 1990 Bay Road Site Manager will determine the waste classification of the soil to be disposed off-site, select an off-site disposal facility, and coordinate direct loading the soil onto trucks for transport to the off-site disposal facility.

7 NOTIFICATIONS

In addition to required permits, approvals, and notifications required by law, as applicable, the Contractor shall be responsible for notifying California OSHA in accordance with the Contractor's Annual Trenching and Excavation Permit and notifying Underground Service Alert. The City of East Palo Alto and appropriate regulatory agencies should be notified prior to commencing construction activities. If contaminated soil and/or groundwater are found on-site, the Project Manager will be immediately informed. In accordance with the environmental agreement between the City and SLLI, property owner of the 1990 Bay Road property, the City will notify SLLI with a minimum 14 day notice in advance of any scheduled improvements, widening, realignment, or excavation below the paving of Bay Road within the 1990 Bay Road site and within the areas on Figure 2 labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" on Weeks Street and on Runnymede Street so that SLLI can test soils. In accordance with the deed restrictions for adjacent properties and properties within the Ravenswood Industrial Area (RIA) and under RWQCB Orders, Nos. 92-037 and 92-086, the RWQCB will be notified 10 working days prior to any work that may affect the integrity of remedial measure or groundwater monitoring systems.

8 HEALTH AND SAFETY PLAN

Prior to site mobilization, the Contractor's HSM shall prepare the SHSP. During site construction activities the site will be restricted from public access. The SHSP will provide policies, information, requirements, and guidelines to be followed while conducting excavation activities, direct-loading, temporary stockpiling/management/storage, and handling, and, as applicable, disposal of waste from the site. The SHSP shall be prepared in accordance with the Federal and State OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Standards: 29 CFR 1910.120 and 8 CCR Section 5192.

The SHSP shall provide for contingencies and be structured to handle a variety of situations that may arise, but be concise enough so that site workers understand the hazards and are able to

follow the procedures to reduce the level of risk. If previously unknown contaminated or hazardous soils are encountered during construction activities, field personnel working in these areas shall be trained and current in accordance with the standards provided by HAZWOPER (40-hour initial training with annual updates), and shall be overseen by an environmental professional who has a 40 hour HAZWOPER certificate and eight-hour HAZWOPER supervisor training. Additional training will be required for personnel engaged in specialized tasks, as appropriate.

Field personnel shall be required to review the SHSP and provide written acknowledgement of their review and understanding of the SHSP and willingness to abide by its requirements. In addition, the Contractor's site Superintendent will perform a daily tailgate safety meeting held at the beginning of each workday to discuss relevant task-specific safety issues. Additionally, daily site visitors will be required to review the SHSP and sign the acknowledgement sheet.

9 SOIL EXCAVATION

It is anticipated that the Contractor will be responsible for construction activities associated with subsurface excavation, trenching and/or directional boring, handling, on-site reuse, direct-loading for off-site disposal, and temporary stockpiling of soil in accordance with project specifications, the SHSP, this Updated SGMP, and all applicable local, state, and federal statutes, regulations, and guidelines. Excavation and handling of COPC-impacted soils will be conducted in a manner that prevents the release of contamination, if present, to other on-site and off-site areas. Areas of potentially COPC-impacted soil and properties with releases are identified on Figure 2[2] .

Directional boring may be selected as a method for utility installation within the areas of potentially COPC-impacted soil identified on Figure 2. Drilling and receiving pits that may be needed to implement directional boring should be located outside of the areas of potentially COPC-impacted soil identified on Figure 2.

Ninyo & Moore will provide construction oversight during excavation-related activities associated with COPC-impacted materials, and use appropriate field screening procedures and indicators and project-specific experience to guide the Contractor in segregating excavated impacted soil.

[2] Due to limitations in the sampling scopes and properties with investigations, additional COPCs and areas of impacted soil may be encountered during construction.

Segregation of soil into "potentially contaminated," "contaminated," and "clean" stockpiles may be necessary to evaluate reuse options as follows:

- **"Potentially Contaminated" Soils/Materials Stockpile:** Soils and/or materials that may not be obviously contaminated based on field observations or may only be minimally contaminated. Analytical testing to evaluate the stockpile for on-site reuse or off-site disposal will be required.

- **"Contaminated" Soils/Materials Stockpile:** Soils and/or materials that based on field observations, such as odors, discoloration, and/or content, likely are contaminated and will require analytical testing to evaluate the stockpile for possible off-site disposal options.

- **"Clean" Soil Stockpile:** Soil that is not suspected to be contaminated based on the type of material encountered (e.g., imported clean fill) and lack of visual or field screening indicators of contamination. Analytical testing to evaluate the stockpile for potential reuse or disposal options may be required.

9.1 Excavated Material Characterization and On-Site Backfilling

Soils excavated in association with future site construction will be direct loaded on to trucks for transport to permitted landfills or treatment/disposal facilities. Onsite material that meets the City's chemical testing requirements, or imported clean fill material, both with geotechnical qualities evaluated as suitable by the Geotechnical consultant, will be used as backfill. Clean excavated material that will not be reused in place will be segregated and either immediately reused at a pre-approved on-site location or temporarily stockpiled. Stockpiles will be managed according to the guidelines specified in Section 12. If materials require off-site disposal, the soil will be tested according to the applicable requirements of the receiving facility.

Soil in proximity to the 1990 Bay Road property has been sampled and pre-characterized by SLLI for direct loading and off-site disposal (Tables 1, 2 and 3 in Appendix B). Soil excavated from utility trenches or removed by means of directional boring within the area labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)" on Figure 2 shall be direct loaded into trucks and disposed of based on the waste classification(s) that will be provided to the City by SLLI.

Soil in two locations on Bay Road, one segment east of the 1990 Bay Road property and one segment west of the 1990 Bay Road property, have been sampled by SLLI and pre-characterized by the City for reuse on site. The segment to the west begins just west of Pulgas Avenue to the area labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)", west of the Bay Road property (Figure 2). The segment to the east begins at the west end of the area labeled "Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)", east of the Bay Road property, and continues to the Bay Trail near Cooley Landing. Soil excavated from utility trenches or removed by means of directional boring outside

of the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” and in the two locations identified above and on Figure 2 shall be either immediately reused at an on-site location or temporarily stockpiled.

Soil in proximity to the Runnymede Storm Drain improvements project has been sampled to evaluate arsenic concentrations in the areas to be excavated for Phase II of the City of East Palo Alto’s Runnnymede Storm Drain improvements project. Presented in Appendix A is SSPA’s letter report with a table of the analytical results and a figure with the sampling locations. Based on the letter, the arsenic concentrations detected (1.8 to 24 mg/kg) will not impact worker health and safety or limit soil disposal options.

Soils at other locations within the site have not been evaluated and/or pre-characterized and shall be evaluated and managed as outlined in Section 9.

9.2 Intrusive Work Monitoring

Ninyo & Moore will observe intrusive work activities associated with COPC-impacted materials, and use appropriate field screening equipment, including a photo-ionization detector (PID) meter, procedures and indicators to identify the possible presence of contaminated material. Physical characteristics (staining and odors) will also be documented as a method for identifying COPC-impacted materials. These activities will help minimize potential construction delays.

10 SEGREGATION AND STOCKPILING

Excavated soil that needs to be transported off-site for disposal by the city will be disposed of at a pre-approved facility. If excavated COPC-impacted soil outside the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” on Figure 2 is required to be disposed of off-site and is not directly loaded on to trucks, the Contractor will transport the materials to a pre-determined temporary stockpile staging area. If excavated materials are designated for on-site reuse, and evaluated as suitable for on-site reuse by Ninyo & Moore and the Geotechnical consultant, it will be placed by the Contractor into a “Reuse” stockpile.

Asphalt pavement to be removed from Bay Road and the south shoulder areas within the 1990 Bay Road Site area (“Potential Area of Arsenic Impacted Soil” [RWQCB Order No. R2-2016-0037]) shall be sawcut and removed by the Contractor and recycled offsite.

10.1 Stockpile Management

As applicable, a staging area and temporary stockpiles will be managed by the Contractor in accordance with this document, construction specifications, and the project Storm Water

Pollution Prevention Plan (SWPPP). It is recommended that excavated and stockpiled soils associated with construction activities at the site be managed as follows:

- Clean soils will not be allowed to be in direct contact with any contaminated or potentially contaminated materials. This may be accomplished by separately placing the excavated/stockpiled clean soils onto a relatively impervious surface, such as asphalt, concrete, or underlain by 10-millimeter (mil) or thicker HDPE liner.
- Stockpiles will be sprayed or misted with water to minimize dust emissions during stockpiling, if necessary.
- Stockpiles will be securely covered with a 6-mil or thicker HDPE liner to minimize runoff from rain, and
- Stockpiles will be configured in such a manner that surface water runoff, if present, from the stockpile does not carry stockpiled materials beyond the stockpile area.

Ninyo & Moore will assist the Project Manager with removing stockpiles from the site in a timely manner to avoid nuisance complaints. It is anticipated that soil classified as hazardous waste will be direct-loaded on to trucks for off-site disposal. If it is necessary to stockpile material that was classified as hazardous waste based on the analytical results of samples collected from the stockpiles, then these materials will be temporarily stockpiled on-site by the Contractor in accordance with hazardous waste regulations.

10.2 Best Management Practices

The Contractor shall implement BMPs associated with the site SWPPP to protect the temporary stockpiles from erosion and storm water run-on and runoff. The BMPs include, but are not limited to, the following:

- Erosion control,
- Storm water drainage control,
- Secondary containment (as applicable),
- Fugitive emission control of dust and/or vapors,
- Spill prevention, and
- Additional BMPs specified in the project SWPPP.

10.3 Odor and Vapor Control

There may potentially be odors (associated with contaminated soils) and dust present during construction activities, including during excavation and management of direct-loaded or temporarily stockpiled contaminated materials. If dust or odors are present during construction, the Contractor shall employ engineering controls, to mitigate impacts to site workers and

visitors. An active business district is located on Bay Road between Clarke Avenue and Pulgas Avenue. Industrial and commercial properties are located along Bay Road between Pulgas Avenue and Cooley Landing. Residential and/or commercial properties are located along Pulgas Avenue between Bay Road and Runnymede Street. Residential properties are located on Weeks and Runnymede Streets. With the appropriate engineering controls these facilities and/or residences should not be impacted by the generation or presence of dust and/or odors. The Contractor shall implement appropriate means and methods, including water misting and blowers to suppress dust and odors during construction, and covering stockpiles and open excavations or trenches, prior to leaving the site at the end of each workday.

10.4 Dust Control

The Contractor will mitigate dust with water, either with a hand held sprayer or by water trucks, as-needed, on the surface of active work areas. Care will be exercised to minimize the overuse of water so as not to create surface water runoff or excessively saturated conditions.

Dust control will also be conducted on site during construction activities. If obvious dust is being generated by construction and stockpiling activities, especially in areas where elevated concentrations of COPCs are known, dust monitoring should be conducted by an environmental professional. If dust monitoring is to be conducted on site, a Dust Monitoring Plan (DMP) will need to be prepared by the Contractor prior to site construction activities. The DMP will be submitted to the Project Manager for review and approval.

11 UNKNOWN CONTAMINATION

This section presents a general protocol regarding unknown contamination that may be encountered during intrusive work activities.

If hazardous substances or conditions are encountered which present an immediate threat of injury to human health or water quality, the Contractor shall secure the area and shall notify the Project Manager immediately. The Contractor shall call "911" to summon the emergency services, as necessary.

If previously unknown contamination or hazardous substances are encountered that do not present an immediate threat to human health or water quality, the Contractor shall immediately notify Ninyo & Moore and the Project Manager. As necessary, the area surrounding the discovery of unknown contamination/hazardous materials will be isolated and secured by the Contractor with markings, fencing, or a suitable barrier so that construction activities can be excluded from the zone of impact. Ninyo & Moore and the Project Manager will then decide

whether immediate excavation, segregation, stockpiling, containerization, and/or other activities are warranted as well as notification of the appropriate regulatory authority.

12 STOCKPILE CHARACTERIZATION

This section discusses the stockpile sampling procedures required for the off-site disposal and/or reuse of COPC-impacted soil. Any additional stockpile sampling, analytical testing and reporting required for waste profiling and/or on-site reuse evaluation shall be the responsibility of the Contractor.

12.1 Stockpile Sampling

If off-site disposal of COPC-impacted soil is required, stockpile sampling will be necessary to meet the acceptance criteria of the disposal facility. The preferred disposal facility should be contacted regarding this option. If stockpile sampling is required, it shall be conducted in general conformance with the waste disposal site acceptance requirements of the respective disposal facility.

12.2 Analytical Testing Program

Analytical testing for materials to be disposed of off-site will be based on the accepting facility(s) requirements and other requirements. Materials that do not meet geotechnical or environmental requirements for reuse (i.e., requiring off-site disposal) will be tested according to the requirements of the accepting facility(s). Contractor should assume the materials may be tested for the following:

- California Title 22 Metals; samples containing one or more metal concentrations less than the California Total Threshold Limit Concentrations (TTLCs) but greater than 10-times the California Soluble Threshold Limit Concentrations (STLCs) will be analyzed for soluble metal concentrations by the California Waste Extraction Test (WET) method to profile the waste as either California Class I hazardous or California Class II non-hazardous. Samples containing one or more metal concentrations exceeding 20-times the Federal Toxicity Characteristics Leaching Procedures (TCLPs) will be analyzed for soluble metal concentrations by the Federal TCLP to classify the waste as either RCRA or non-RCRA hazardous waste.
- VOCs (e.g. PCE, TCE).
- Semi-volatile organic compounds (SVOCs).
- TPH compounds (e.g. TPHg, TPHd and TPHmo).
- Polychlorinated Biphenyls (PCBs).
- Organochlorine pesticides (OCPs).
- Asbestos.

- Other analytical tests required by the accepting facility(s).

According to the Department of Toxic Substances Control (DTSC) 2001 *Information Advisory (for) Clean Imported Fill* guidelines, the following sampling schedules may apply[3]:

- One sample per every 250 cubic yards (cy) for up to 1,000 cy.
- Four samples for the first 1,000 cy plus one extra sample per each additional 500 cy; and
- For a volume of soil greater than 5,000 cy, 12 samples collected for the first 5,000 cy, and one extra sample for every additional 1,000 cy.

A copy of the DTSC guidelines is included in Appendix C.

12.3 Stockpile Reuse Evaluation

The stockpile sampling analytical results will be evaluated to determine if the stockpiled soil can be reused on-site. Stockpiled soil will be considered acceptable for on-site reuse if the analytical results indicate concentrations less than the Table S-1 (Construction Worker Direct Exposure) RWQCB ESLs, except for arsenic within the area of potential COPC-impacted soil shown on Figure 2, which the RWQCB has determined to be acceptable if less than or equal to 70 mg/kg on Bay Road and less than or equal to 20 mg/kg on Weeks Street and Runnymede Street[4] (Appendix A). Prior to any onsite reuse of stockpiled soil, Ninyo & Moore shall review the stockpile sampling analytical results and confirm reuse is acceptable.

12.4 Imported Material

If the Contractor requires the importation of material to replace contaminated soil that has been transported and disposed off-site, this imported material shall be characterized following the DTSC Information Advisory for Imported Clean Fill guidelines. Ninyo & Moore shall be provided the analytical sampling results to confirm that this material is acceptable as clean imported fill material. Additional geotechnical evaluation will also be required for any imported material.

13 WASTE CATEGORIES, TRANSPORT AND DISPOSAL

[3] Because waste acceptance criteria may change, the receiving facility should always be contacted prior to determining the sampling schedule and analytical methods.
[4] The 70 mg/kg and 20 mg/kg reuse goal for arsenic and location is based on the RWQCB Order No. R2-2016-0037.

13.1 Waste Categories

The following describes the potential waste categories for soil to be generated for disposal by the Bay Road Phase II and III Improvement Project.

- Resource Conservation and Recovery Act (RCRA)-hazardous wastes will be disposed of at a RCRA landfill facility. This waste may require pretreatment prior to RCRA disposal based on the levels of contaminants in the waste.
- Non-RCRA, California Class I hazardous wastes may be disposed of at a California hazardous waste Class I landfill facility, or out-of-state, non-RCRA hazardous waste facility. If transported to an out-of- state facility, the material would be disposed of based on classification in the state where the receiving facility is located.
- Non-hazardous contaminated materials may be disposed of at a California Class II solid waste facility, or used as Alternative Daily Cover (ADC) at such a facility, as appropriate.

If materials are transported and disposed of offsite, it is important to note that various permitted landfill and treatment/disposal facilities may have additional analytical requirements beyond federal and state requirements based on their permits from local and state regulatory agencies. Landfill and treatment/disposal facilities should be contacted during project planning stages to confirm that waste will be accepted as characterized.

13.2 Transport and Disposal

Off-site transport of excavated material is anticipated. Transporters and disposal facilities used must be appropriately licensed and/or permitted and properly insured, and be pre-approved by the Project Manager. The Contractor, with assistance from Ninyo & Moore, will manage the transportation and disposal of wastes to the appropriate treatment and disposal or recycling facilities. The Contractor shall prepare waste profiles and manifests for review by Ninyo & Moore and signature by the City of East Palo Alto. Manifests and waste profiles will be forwarded to the appropriate disposal/recycling facility for acceptance. The Contractor shall be responsible for the scheduling of shipments of wastes after notice of acceptance.

Coordinating vehicles entering the site for loading and off-site disposal of site materials shall be tracked through documentation by the Contractor. Vehicles shall be decontaminated, as necessary, prior to their departure from the site. Care shall be taken to avoid spillage of contaminated materials and/or tracking such materials off-site. The contractor shall maintain a daily log of contaminated substances, hazardous substances, or hazardous wastes removed from the site for disposal. The logs shall include a description of the truck, the date and time the truck left the site, and the destination. Upon project completion, the logs shall be accompanied by copies of waste manifests and load tickets that document receipt of the waste at the permitted facility and the weight of the load.

Hazardous wastes transported off-site for disposal or recycling shall be performed in accordance with Department of Transportation (DOT) Hazardous Material Transportation regulations 49 CFR Parts 171 and 180, 40 CFR Part 262, Subpart B, and Title 22 CCR Section 66262, which involve packaging, placarding, labeling, and manifesting requirements. Hazardous wastes transported shall also have appropriate certification notices per 40 CFR Par 268 and Title 22 CCR Section 66268. Personnel having the required DOT-training shall perform DOT-related functions, if required.

Contaminated materials characterized as non-hazardous that do not exhibit the DOT hazard class characteristics (i.e., explosives, gases, flammable/combustible liquids, flammable solids/spontaneously combustible materials/dangerous when wet materials, oxidizers and organic peroxides, toxic materials and infectious substances, radioactive materials, and corrosive materials) are not regulated under DOT rules for hazardous materials transportation. If a material is suspected to be hazardous, it shall be shipped under the appropriate hazard class.

Trucks carrying contaminated substances, hazardous substances, or hazardous wastes shall be enclosed such that there is no odor or dust during transportation along the haul route identified in the project specifications. Open trucks shall not be permitted to transport waste from the site that may produce odor or dust during transportation.

14 GROUNDWATER MANAGEMENT

Activities associated with site construction may involve subsurface excavations, and depending on the excavation depths could potentially encounter groundwater. Groundwater data collected during the January 2015 investigation on a portion of the site indicated that groundwater concentrated near borings B-5, B-7, and B-8 in Bay Road are impacted by COPCs including TPHd, TPHmo, TCE and PCE. Concentrations of these COPCs are illustrated on Figure 2[5]. Arsenic has also been reported in groundwater samples collected during the 2012 and 2014 groundwater monitoring events for the 1990 Bay Road property and other properties included in the RWQCB Order No. R2-2016-0037, inclusive of Weeks Street and Runnymede Street (Appendix B). Groundwater data collected during the 2014 investigation activities at 1802-1804

[5] Due to limitations in our 2015 sampling scope, additional COPCs and areas of impacted groundwater may be encountered during construction.

Bay Road indicated that groundwater concentrations are impacted with COPCs including TPHg, VOCs, and barium.

If select excavations are planned to extend below approximately 4 feet, groundwater will likely be encountered and will need to be contained during construction dewatering activities. The Contractor will be responsible for providing equipment (e.g. vacuum truck or a pump, holding tanks, filtration systems, etc.) to contain groundwater and conduct the permit-required sampling and analytical testing until it can be discharged to either the sanitary or storm drain systems or receiving water bodies. Additionally, the Contractor shall ensure that this groundwater and other water draining from excavated materials will not be allowed to flow onto the ground surface unless the surface is protected with a High Density Polyethylene (HDPE) geomembrane. Surface water runoff will be handled according to the site-specific SWPPP, national pollution discharge elimination system requirements, and other pertinent statutes and regulations.

If discharging to the sanitary sewer is desired and possible, the Contactor shall obtain and comply with a Special Discharge Permit to be issued by the East Palo Alto Sanitary District. Prior to any discharge, Ninyo & Moore shall be provided the analytical sampling results to confirm discharging is acceptable.

If the contractor plans to discharge to the storm drain system or surface water, they will be required to follow the guidelines presented in the RWQCB Order No. R2-2012-0012, NPDES No. CAG912002, “General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit)", dated February 8, 2012 (RWQCB, 2012).

Should off-site disposal be required, the groundwater will be stored, sampled and analyzed by the Contractor in accordance with the accepting off-site facilities requirements.

Groundwater dewatered from the area labeled “Potential Area of Arsenic Impacted Soil (RWQCB Order No. R2-2016-0037)” on Figure 2 shall be pumped by the Contractor into groundwater storage tanks. Contractor shall utilize equipment and methods when dewatering trenches to minimize the amount of sediment and other solids pumped from trenches to Contractor’s groundwater storage tanks. SLLI will periodically sample groundwater in Contractor’s storage tanks to confirm groundwater is below discharge limits for arsenic.

15 DOCUMENTATION

Documentation shall be provided by the Contractor to Ninyo & Moore summarizing the activities involving COPC-impacted materials. The documentation will include information relating to soil excavation, including volumes of materials excavated and reused on-site or disposed off-site, and placement locations of on-site reused materials. If materials are transported off-site, information will be provided by the Contractor regarding the characterization, handling, and disposition of these materials. The documentation will be included in a report by Ninyo & Moore which will be signed by a registered professional (e.g., Professional Geologist, Professional Engineer).

The report will include the following information:

- Site map showing the lateral extent and depths of the COPC-impacted materials excavated at the site.
- Placement location(s), of the COPC-impacted excavated materials reused on-site.
- As applicable, identification of each COPC-impacted soil stockpile, a plot plan detailing the stockpile locations, and corresponding estimates of the volumes of materials in each stockpile.
- A description of the stockpile sampling methodologies and sample location/selection process, and sample locations, a copy of the sample analytical results, chain-of-custody documents, and quality assurance/quality control supporting data, and summary tables of the laboratory analytical results of the stockpile sampling for COPC-impacted stockpiles to be either reused on-site or to be disposed of off-site.
- If materials are transported off-site, an accounting of the materials transported and disposed of off-site, including weight tickets and waste manifests.
- Health and safety monitoring records, including air monitoring analytical data during excavation activities and procedures used to mitigate odors and dust.
- Daily field reports of activities conducted accompanied by appropriate documentation, including photographs.

16 LIMITATIONS

This Updated SGMP has been prepared in general accordance with current regulatory guidelines and the standard-of-care exercised in preparing similar plans in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this Updated SGMP. Variations in site conditions may exist and conditions not observed or described in this Updated SGMP may be encountered during subsequent activities. Please also note that this Updated SGMP did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this Updated SGMP, are based on limited subsurface assessments. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored.

The environmental interpretations and opinions contained in this Updated SGMP are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site, and on work performed by others. The testing and analyses have been conducted by independent laboratories, which are certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis or work performed by others. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results and work performed by others.

Our conclusions and opinions are based on an analysis of the observed site conditions and work performed by others. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this Updated SGMP may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This Updated SGMP is intended exclusively for use by T.Y. Lin. Any use or reuse of the findings, conclusions, and/or recommendations of this Updated SGMP by parties other than T.Y. Lin is undertaken at said parties' sole risk.

17 REFERENCES

California RWQCB, 2013, Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, Fourth Edition, dated January 29.

California RWQCB, 2012 Order No. R2-2012-0012, NPDES No. CAG912002, General Waste Discharge Requirements for: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit), dated February 9.

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San Francisco Bay RWQCB, 2016 Environmental Screening Levels, dated February.

Ninyo & Moore, 2004, Revised Limited Phase II Environmental Site Assessment Report, 1800 and 1802 Bay Road, East Palo Alto, California, dated July 1.

Ninyo & Moore, 2015, Remedial Action Completion Report, Ravenswood Family Health Center, 1885 Bay Road, East Paolo Alto, California, dated April 14.

Ninyo & Moore, 2014, Phase I Environmental Site Assessment, Bay Road Improvements Project, Phases 2 and 3, Bay Road between Clarke Avenue and Cooley Landing, East Palo Alto, California, dated August 7.

Ninyo & Moore, 2015, Phase II Environmental Site Assessment Report, Bay Road Improvements Project, Phases 2 and 3, Bay Road and Pulgas Avenue, East Palo Alto, California, dated April 30.

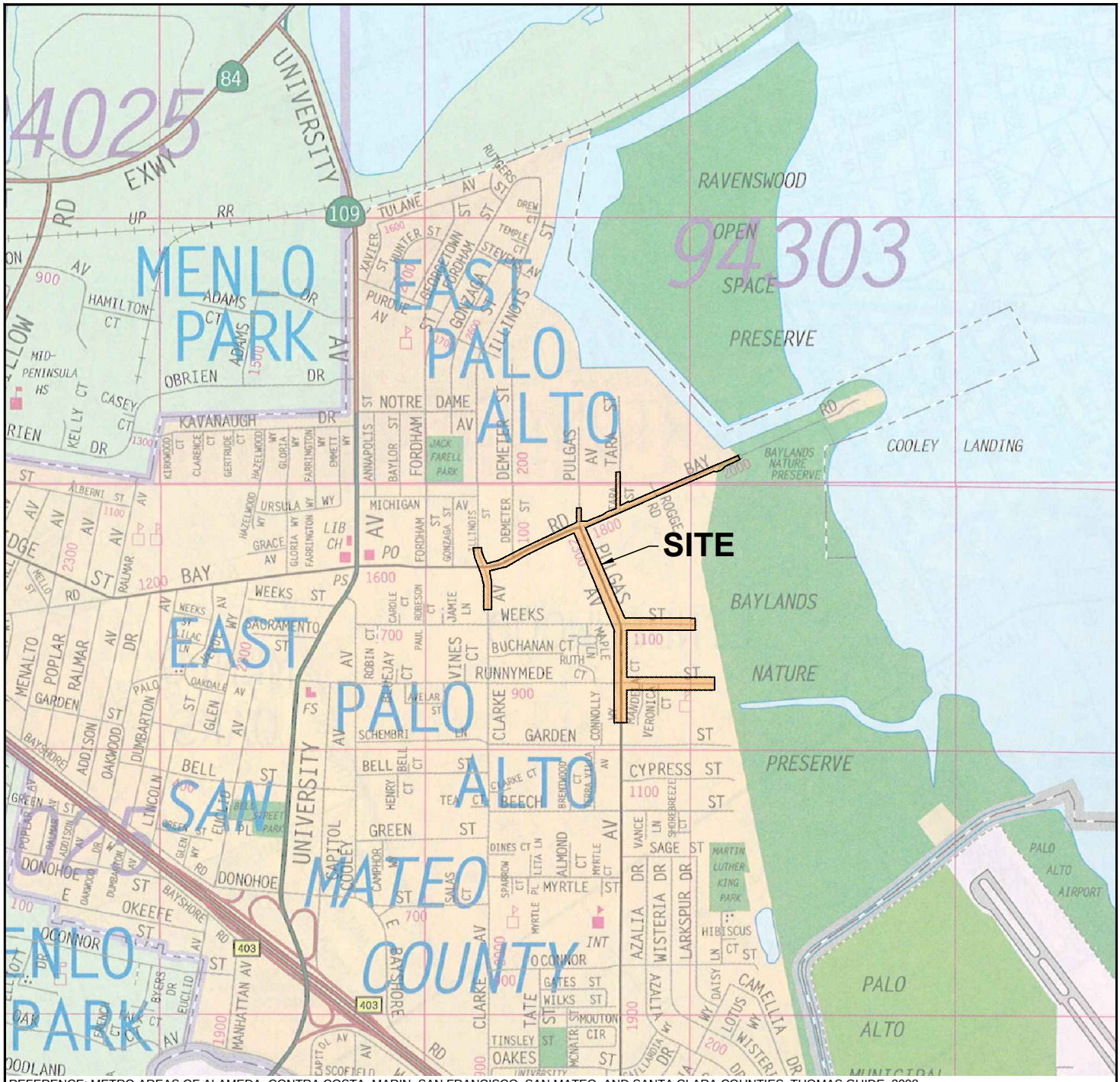
Ninyo & Moore, 2018, Area-Wide Soil and Groundwater Management Plan, Ravenswood Industrial Area, East Palo Alto, California, dated July 18.

RPS Group, 2018, Updated Work Plan for Predevelopment, Soil Excavation and Final Remedy, 1200 Weeks Street, East Palo Alto, California, dated May 15.

Geomatrix Consultants, Inc. and S.S., Papadopulos & Associates, Inc., 2007, Groundwater Investigation Results, Vicinity of Well W-136, 1990 Bay Road Site, East Palo Alto, California, dated March 30.

Clearwater Group, 2018, Subsurface Investigation and Case Closure Request, 2296 Pulgas Avenue, East Palo Alto, California, dated February 16.

FIGURES



REFERENCE: METRO AREAS OF ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO, AND SANTA CLARA COUNTIES, THOMAS GUIDE, 2008.

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NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

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FEET

0 1500 3000

FIGURE 1

SITE LOCATION

SOIL AND GROUNDWATER MANAGEMENT PLAN
BAY ROAD IMPROVEMENT PROJECT PHASE II AND III
EAST PALO ALTO, CALIFORNIA

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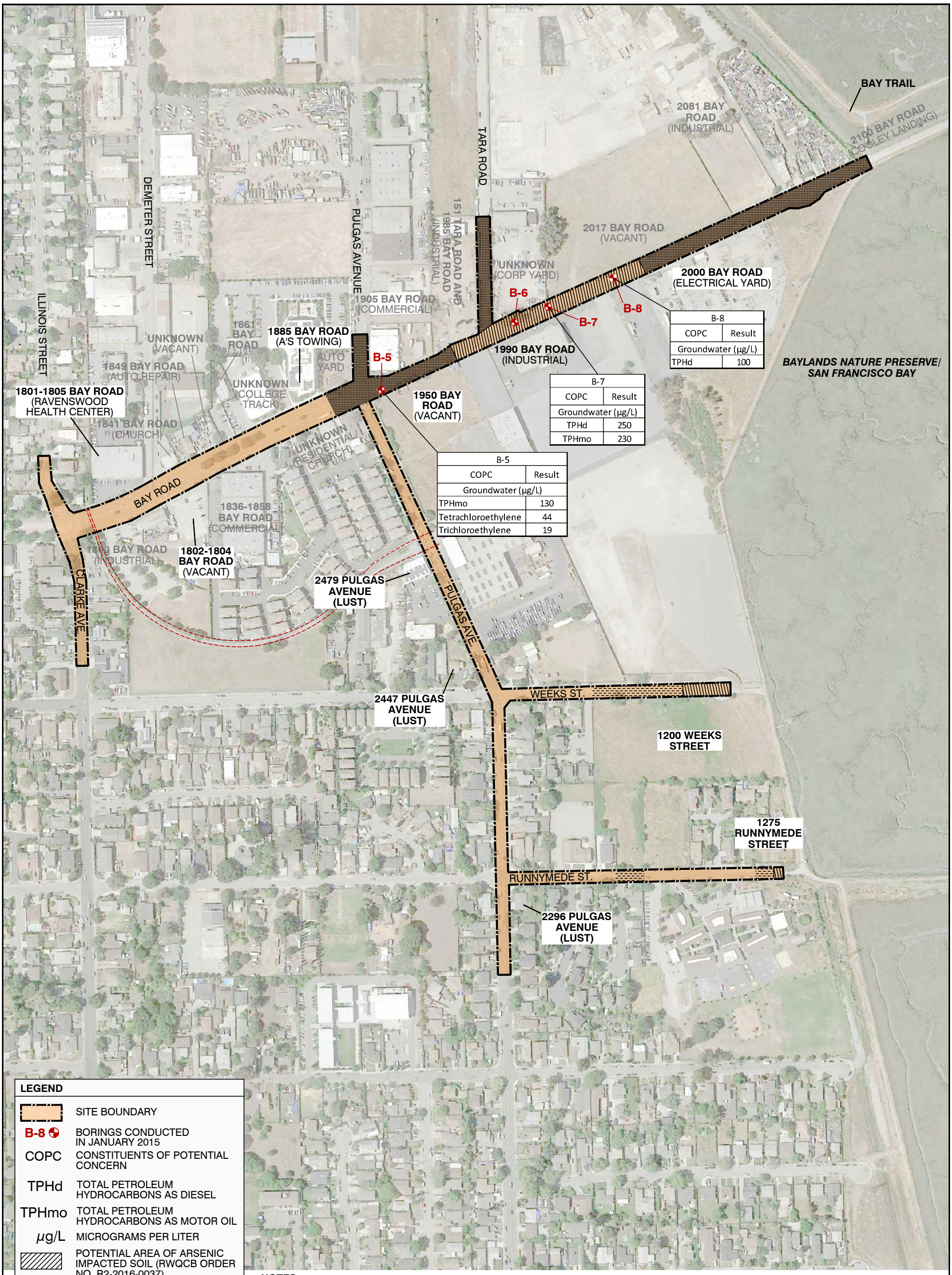
Ninyo & Moore
Geotechnical & Environmental Sciences Consultants



B-8	
COPC	Result
Groundwater (µg/L)	
TPHd	100

B-7	
COPC	Result
Groundwater (µg/L)	
TPHd	250
TPHmo	230

B-5	
COPC	Result
Groundwater (µg/L)	
TPHmo	130
Tetrachloroethylene	44
Trichloroethylene	19

LEGEND

- SITE BOUNDARY
- **B-8** BORINGS CONDUCTED IN JANUARY 2015
- COPC CONSTITUENTS OF POTENTIAL CONCERN
- TPHd TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- TPHmo TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
- µg/L MICROGRAMS PER LITER
- POTENTIAL AREA OF ARSENIC IMPACTED SOIL (RWQCB ORDER NO. R2-2016-0037)
- POTENTIAL AREA OF ARSENIC IMPACTED SOIL (BASED ON ADJACENT PROPERTY INVESTIGATIONS
- SOIL ACCEPTABLE FOR REUSE ON SITE (SSPA, 2016)
- **1950 BAY ROAD** PROPERTY WITH KNOWN ENVIRONMENTAL ASSESSMENT

NOTES:

REPORTED GROUNDWATER VALUES EXCEED SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD TIER 1 ENVIRONMENTAL SCREENING LEVELS.

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I REFERENCE: GOOGLE EARTH, 2018.

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FIGURE 2

SITE PLAN AND APPROXIMATE LOCATION OF COPCs

SOIL AND GROUNDWATER MANAGEMENT PLAN
BAY ROAD IMPROVEMENT PROJECT PHASE II AND III
EAST PALO ALTO, CALIFORNIA

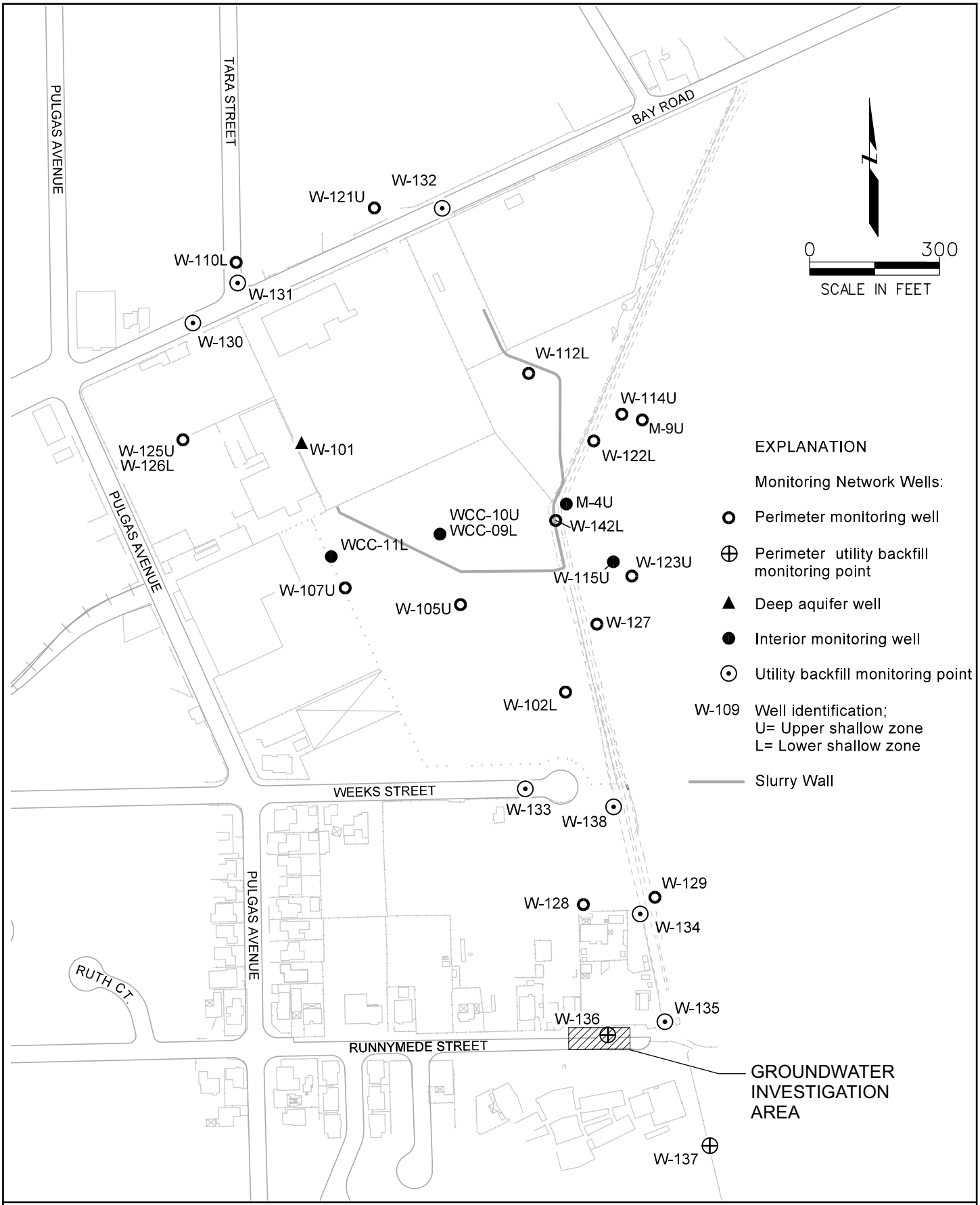
402068004 I 9/18

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

APPENDIX A

Soil and Groundwater Sample Locations and Data for Adjacent Properties to the Site

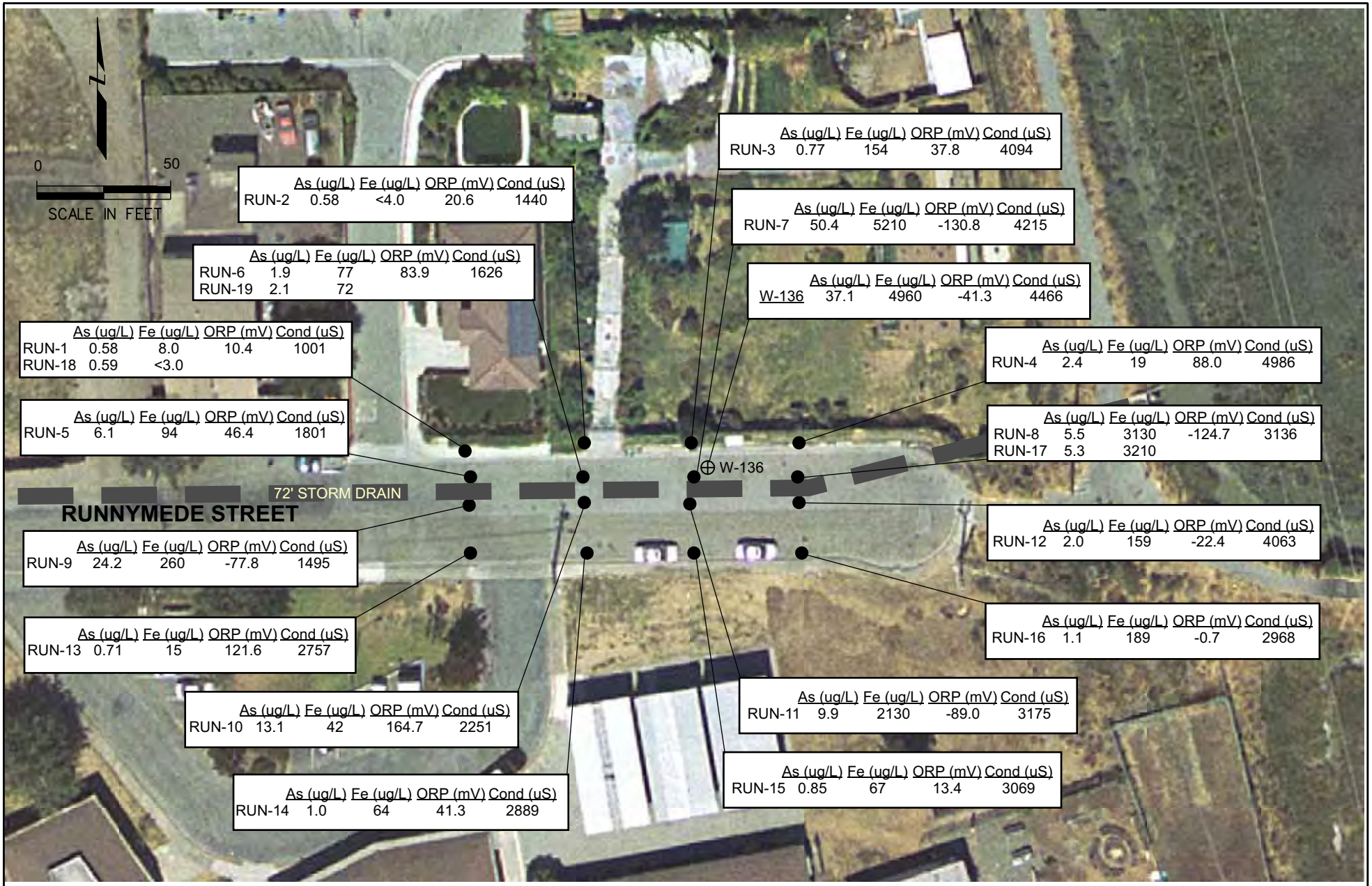
1 – Runnymede Street W-136 Borehole Logs and Analytical Data



S.S. Papadopulos & Associates, Inc.

SITE PLAN
Vicinity of Well W-136 Groundwater Investigation
1990 Bay Road Site
East Palo Alto, California

Figure 1



● Groundwater sample location

⊕ Monitoring Well

S.S. Papadopulos & Associates, Inc.

ARSENIC AND IRON CONCENTRATIONS IN GROUNDWATER

Vicinity of Well W-136 Groundwater Investigation
1990 Bay Road Site
East Palo Alto, California

Figure 2

Project No. SSP-082-401

PROJECT: 1990 BAY ROAD SITE	**Log of Boring No. RUN-1**
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/6/07 / DATE FINISHED: 3/6/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0' / MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 3.5' COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (2.5Y 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2						
3						
4					SANDY SILT (ML): very dark grayish brown (10YR 3/2), wet, 65% fines, 35% fine sand, low plasticity, soft fine fraction is a mix of silt and clay	
5						
6	RUN-1-6.5				↓ brown (10YR 4/3), 60% fines, 40% fine to coarse sand	
7	RUN-1-7.0				Bottom of boring at 7.0 ft	
8						
9						
10						
11						
12						
13						
14						
15						

Project No. 1220.000	**Geomatrix Consultants**	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-2	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/5/07	DATE FINISHED: 3/5/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 3.3'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					CLAYEY GRAVEL (GC): dark brown (10YR 3/3), moist, 60% fine to coarse gravel, 25% low plasticity fines, 15% coarse sand	
1					BRICK	
					LEAN CLAY (CL): black (2.5Y 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2						
3						
					SANDY SILT (MH): very dark grayish brown (10YR 3/2), wet, 70% fines, 30% fine sand, trace medium to coarse sand, low plasticity, soft fine fraction is a mix of silt and clay	
4						
5					↓ 60% fines, 40% fine to coarse sand	
6	RUN-2' 6.5 RUN-2' 7.0					
7					Bottom of boring at 7.0 ft	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	**Log of Boring No.** RUN-3
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/5/07 / DATE FINISHED: 3/5/07
DRILLING METHOD: ~~Air Knife~~ Hand Auger	TOTAL DEPTH: 7.0' / MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 3.2' COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					POORLY GRADED GRAVEL (GP): dark gray (10YR 4/1), dry, 95% coarse gravel, 5% low plasticity fines	
1					LEAN CLAY (CL): black (2.5Y 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, firm	
2					↓ very dark grayish brown (10YR 3/2)	
3					↓ wet, dark brown (10YR 3/3), fine fraction is a mix of clay and silt	
4					SANDY SILT (ML): dark brown (10YR 3/3), wet, 65% fines, 35% fine sand, low plasticity, soft, fines are a mix of silt and clay	
5					↓ sand fraction fine to coarse	
6	RUN3-6.5					
7	RUN3-7.0				Bottom of boring at 7.0ft	
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Project No. 1220.000	**Geomatrix Consultants**	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-4	
BORING LOCATION: Runnymede Street, East Palo Alto	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/5/07	DATE FINISHED: 3/5/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 3.2'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					POORLY GRADED GRAVEL (GP): dark gray (10YR 4/1), dry, 95% coarse gravel, 5% low plasticity fines	
1					LEAN CLAY WITH SAND (CL): very dark brown (10YR 2/2), moist, 80% fines, 20% fine sand, low to medium plasticity, soft.	
2					↓ fine fraction a mix of clay and silt, sand fraction fine to medium, trace coarse sand.	
3					↓ wet	
4						
5	4-(5.0-5.5)-Silty				SANDY SILT (ML): dark yellowish brown (10YR 4/4), wet, 70% fines, 30% fine to coarse sand, low plasticity, soft fine fraction is a mix of silt and clay	
6						
7					Bottom of boring at 7.0 ft	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-5	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/7/07	DATE FINISHED: 3/7/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 5.5'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (10YR 2/1) mottled with olive gray (5Y 4/2), moist, 90% fines, 10% fine to coarse sand, low plasticity, firm	
2						
3						
4					LEAN CLAY WITH SAND (CL): dark olive gray (5Y 3/2), moist, 80% fines, 20% fine sand, low plasticity, soft. Fine fraction is a mix of silt and clay	
5						
6	RUN-5-6.5				POORLY GRADED SAND (SP): very dark gray (5Y 3/1), wet, 90% fine sand, 10% low plasticity fines.	
7	RUN-5-7.0				Bottom of boring at 7.0 ft bgs	
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Project No. 1220.000	**Geomatrix Consultants**	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-6	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/9/07	DATE FINISHED: 3/7/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 6.5'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 5.5'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, firm	
2						
3					▼ black (10YR 2/1) mottled with olive (5Y 4/3), soft	
4						
5						
6	RUN-6 6.0 RUN-6 6.5				CLAYEY SAND (SC): dark gray (5Y 4/1), wet, 80% fine to medium sand, 20% low plasticity fines	
7					Bottom of boring at 6.5 ft	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-7	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/6/07	DATE FINISHED: 3/6/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 5.0'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY WITH SAND (CL): black (2.5Y 2.5/1), moist, 80% fines, 20% fine sand, low plasticity, firm	
2					↓ black (2.5Y 2.5/1) mottled with brown (10YR 4/3)	
3						
4					↓ olive gray (5Y 4/2) mottled with black (2.5Y 2.5/1) and brown (10YR 4/3), 85% fines, 15% fine sand	
5					CLAYEY SAND (SC): very dark gray (10YR 3/1), wet, 85% fine sand, 15% low plasticity fines, trace medium sand	
6	RUN-7-6.5					
7	RUN-7-7.0				Bottom of boring at 7.0'	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN - 8
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/5/07 / DATE FINISHED: 3/5/07
DRILLING METHOD: ~~Air Knife~~ Hand Auger	TOTAL DEPTH: 7.2' / MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: Pacific Tek	DEPTH TO WATER: FIRST 4.0' COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY WITH SAND (CL): very dark brown (10YR 2/2), 85% fines, 15% fine to course sand, low plasticity, firm	
2					I black (5Y 2.5/2)	
3						
4					POORLY GRADED SAND (SP): black (5Y 2.5/1), wet, 95% fine sand, 5% low plasticity fines, trace medium to coarse sand [backfill]	
5	Boring 8-6.0					
6	Boring 8-6.5				CLAYEY SAND (SC): black (5Y 2.5/1), wet, 65% fine sand, 35% low plasticity fines	
7					SANDY LEAN CLAY (CL): dark yellowish brown (10YR 3/4), moist, 70% fines, 30% fine sand, low plasticity, soft, fines are	
8					Bottom of boring at 7.2 ft	
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Project No. 1220.000	**Geomatrix Consultants**	Figure

PROJECT: 1990 BAY ROAD SITE	**Log of Boring No. RUN -9**
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/7/07 / DATE FINISHED: 3/7/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0' / MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 5.7' COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, trace coarse sand to fine gravel, low plasticity, firm	
2						
3						
4						
5					↓ olive gray (5Y 4/2) mottled with black (10YR 2/1). Sand fraction fine (no coarse sand or gravel).	
6	RUN-9-6.5				SANDY SILT (ML): dark gray (5Y 4/1), wet, 60% fines, 40% fine to coarse sand, trace fine gravel, nonplastic, soft	
7	RUN-9-7.0				Bottom of boring at 7.0 ft	
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Project No. 1220.000	**Geomatrix Consultants**	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-10	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/7/07	DATE FINISHED: 3/7/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 5.5'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, trace medium sand, low plasticity, firm.	
2						
3					↓ black (10YR 2/1) mottled with olive gray (5Y 5/2), with white (5Y 8/1) stringers, soft	
4					↓ olive (5Y 4/3) mottled with black (10YR 2/1), low to medium plasticity, firm	
5						
6	RUN-10-6.5				SANDY SILT WITH GRAVEL (ML): dark grayish brown (10YR 4/2), wet, 60% fines, 25% fine to coarse sand, 15% fine gravel, nonplastic, soft	
7	RUN-10-7.0				Bottom of boring at 7.0 ft	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-11	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/6/07	DATE FINISHED: 3/6/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.5'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 6.5'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, firm	
2						
3					↓ olive (5Y 4/3) mottled with black (10YR 2/1), stringers of white (5Y 8/1).	
4						
5					↓ olive (5Y 4/3) mottled with brown (10YR 4/3)	
6	RUN-11-7.0					
7	RUN-11-7.5				CLAYEY SAND (SC): olive gray (5Y 4/2), wet, 70% fine sand, 30% low plasticity fines	
8					Bottom of boring at 7.5 ft	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-12
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/5/07 / DATE FINISHED: 3/5/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.2' / MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 4.2' COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (2.5Y 2.5/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2						
3					LEAN CLAY WITH SAND (CL): very dark brown (10YR 2/2), moist, 85% fines, 15% fine sand, low plasticity, firm	
4					CLAYEY SAND (SC): dark yellowish brown (10YR 3/4), wet, 60% fine to coarse sand, 40% low plasticity fines, fine fraction is a mix of clay and silt	
5					↓ 80% fine to medium sand, 20% low plasticity fines	
6	RUN-12-6.7				SANDY LEAN CLAY (CL): dark brown (10YR 3/3), moist, 65% fines, 35% fine sand, low plasticity, soft, fine fraction is mix of clay and silt.	
7	RUN-12-7.2				Bottom of boring at 7.2 ft	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	**Log of Boring No. RUN-13**
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/6/07 / DATE FINISHED: 3/6/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.5' / MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 3.6' COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL: REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
0					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY WITH SAND (CL): black (10YR 2/1), moist, 80% fines, 20% fine sand, low plasticity, soft	
2						
3					SANDY LEAN CLAY (CL): very dark brown (10YR 2/2), moist, 70% fines, 30% fine to medium sand, low plasticity, soft	
4					SANDY SILT (ML): dark grayish brown (2.5Y 4/2), wet, 65% fines, 35% fine sand, trace medium sand, low plasticity, soft. Fine fraction is a mix of silt and clay	
5						
6	RUN-13-7.0				CLAYEY SAND (SC): very dark grayish brown (10YR 3/2), wet, 80% fine to coarse sand, 20% low plasticity fines, trace fine gravel	
7	RUN-13-7.5				SANDY SILT (ML): dark grayish brown (10YR 4/2), 65% fines, 35% fine sand, low plasticity, soft; Fine fraction is a mix of silt and sand	
8					Bottom of boring at 7.5 ft	
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Project No. 1220.000	**Geomatrix Consultants**	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-14	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/6/07	DATE FINISHED: 3/6/07
DRILLING METHOD: ~~Air Knife~~ Hand augers	TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 3.5'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
1					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2						
3						
4					SANDY SILT (ML): dark yellowish brown (10YR 4/4), wet, 60% fines, 40% fine sand, trace medium sand, non-plastic, many rootlets < 1" long. soft	
5						
6	RUN-14- 6.5				↓ 65% fines, 35% fine sand, trace medium sand, low plasticity. Fine fraction is a mix of silt and clay	
7	RUN-14- 7.0				Bottom of boring at 7.0 ft	
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Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-15	
BORING LOCATION: Runnymede St	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/6/07	DATE FINISHED: 3/6/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: NA	DEPTH TO WATER: FIRST 3.7'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, soft	
2					↓ fine fraction is a mix of clay and silt	
3						
4					SANDY SILT (ML): dark yellowish brown (10YR 4/4), wet, 60% fines, 40% fine sand, trace medium sand, nonplastic, soft	
5						
6	RUN-15-6.5				↓ low plasticity, fine fraction is a mix of silt and clay	
7	RUN-15-7.0				SANDY LEAN CLAY (CL)	
					Bottom of boring at 7.0 ft	
8						
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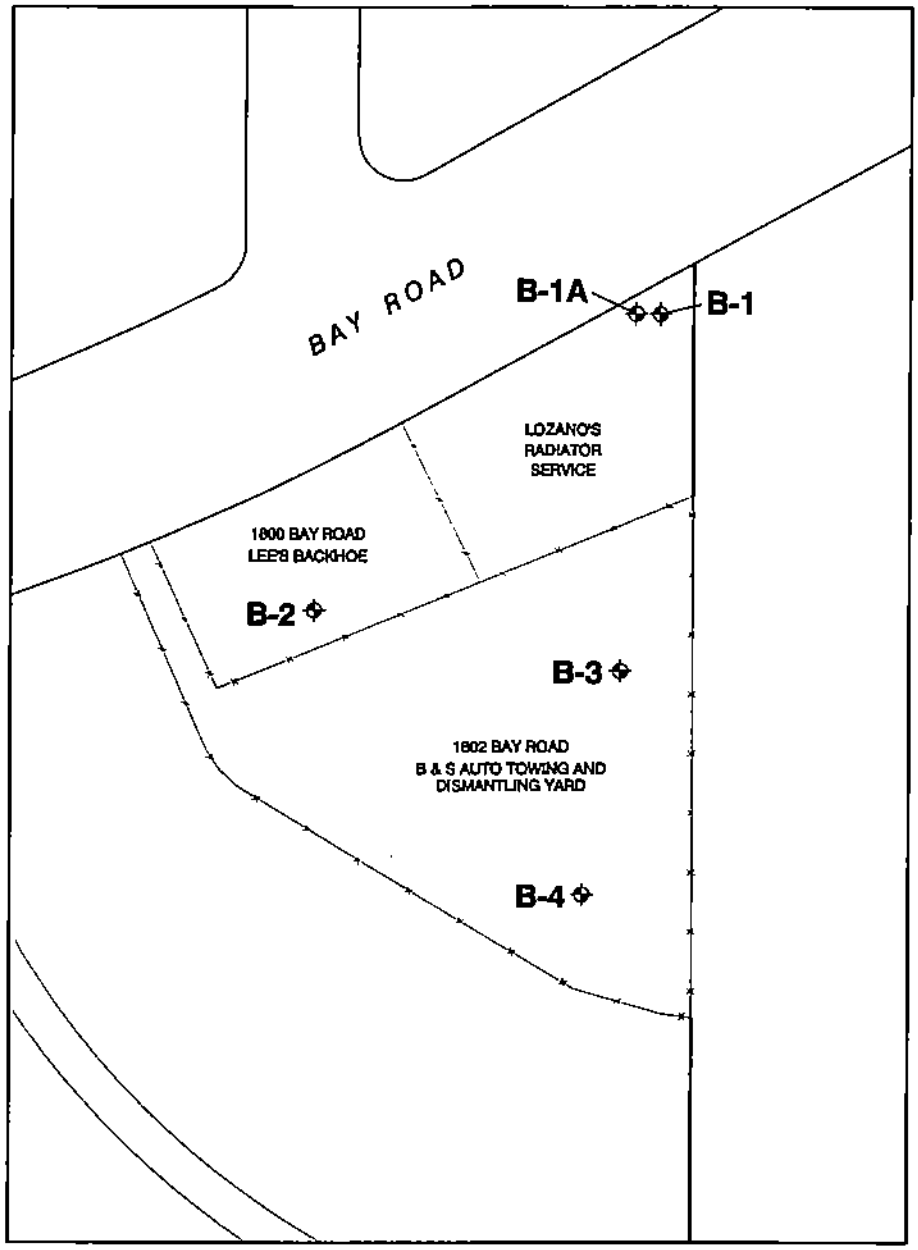
Project No. 1220.000	Geomatrix Consultants	Figure

PROJECT: 1990 BAY ROAD SITE	Log of Boring No. RUN-16	
BORING LOCATION: Runnymede Street	ELEVATION AND DATUM: Not surveyed; datum is ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 3/6/07	DATE FINISHED: 3/6/07
DRILLING METHOD: ~~Air Knife~~ Hand auger	TOTAL DEPTH: 7.0'	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT:	DEPTH TO WATER: FIRST 4.5'	COMPL
SAMPLING METHOD: ~~Slide hammer [6" x 2"]~~ Hand auger	LOGGED BY: M. Calhoun	
HAMMER WEIGHT: NA DROP: NA	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist. % by weight, plast., consistency, structure, cementation, react. W/HCl, geo. inter.	REMARKS
					Surface Elevation:	
					ASPHALTIC CONCRETE	
					AGGREGATE BASE	
1					LEAN CLAY (CL): black (10YR 2/1), moist, 90% fines, 10% fine sand, low plasticity, soft.	
2						
3						
4					↓ fine fraction is a mix of clay and silt, very soft	
5					SANDY SILT (ML): yellowish brown (10YR 5/4), wet, 60% fines, 40% fine sand, non plastic, very soft.	
6	RUN-16-6.5				↓ sand fraction fine to coarse	
7	RUN-16-7.0				SANDY LEAN CLAY (CL)	
8					Bottom of boring at 7.0 ft	
9						
10						
11						
12						
13						
14						
15						

Project No. 1220.000	Geomatrix Consultants	Figure

2 – 1802-1804 Bay Road – 2004 Soil and Groundwater Tables



400982-A2.DWG

REFERENCE: USCOE TECHNICAL MEMORANDUM, MARCH 19, 2004.

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

BORING LOCATION MAP

1600 AND 1802 BAY ROAD
EAST PALO ALTO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
400982001	6/2004	2

TABLE 1
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, DIESEL AND MOTOR OIL
SOIL SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY STREET
EAST PALO ALTO

ANALYTE	ANALYTICAL RESULTS (mg/kg)	SAMPLE NUMBER								
		B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1
TPH-G		<1.0	<1.0	<1.0	<1.0	1800[1]	<1.1	<1.0[2]	<1.0	300
TPH-D		47	6.8	8.7	4.4	1800	7.7	2800	6.3	1300
TPH-MO		180	8.1	11	<2.5	2800	17	4100	15	1800

Notes:
Samples analyzed using EPA Method 8015B.
mg/kg = milligrams per kilograms.
1 = Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
2 = The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

TABLE 2
PCB AND ORGANOCHLORINE PESTICIDE
SOIL SAMPLE ANALYTICAL DATA
1600 AND 1602 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER								
		B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1[4]	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1
		ORGANOCHLORINE PESTICIDES								
4,4'-DDD	ANALYTICAL RESULTS (µg/kg)	<5.0[1]	<5.0[1]	<5.0[1]	<5.0	<12[1]	<5.0[1]	<12[1]	<5.0[1]	<5.0
4,4'-DDE		5.3	<5.0	<5.0	<5.0	<12	11	12	<5.0	<5.0
4,4'-DDT		5.7[2,3]	<5.0[2]	<5.0[2]	<5.0	<12[2]	<5.0[2]	<12[2]	<5.0[2]	<5.0
Aldrin		<5.0	<5.0	<5.0	<5.0	<25	<5.0	<25	<5.0	<5.0
alpha-BHC		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
beta-BHC		<5.0	<5.0	<5.0	<5.0	<120	<5.0	<120	<5.0	<5.0
Chlordane		<50	<50	<50	<50	<12	<50	<12	<50	<50
delta-BHC		<10	<10	<10	<10	<12	<10	<12	<10	<10
Dieldrin		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Endosulfan I		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Endosulfan II		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Endosulfan sulfate		<10	<10	<10	<10	<25	<10	<25	<10	<10
Endrin		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Endrin aldehyde		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0[5]
Endrin ketone		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0[5]
(Lindane)		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Heptachlor		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Heptachlor epoxide		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Methoxychlor		<5.0	<5.0	<5.0	<5.0	<12	<5.0	<12	<5.0	<5.0
Toxaphene		<200	<200	<200	<500	<12	<200	<12	<200	<200
		PCBs								
Aroclor 1016		<50	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor 1221		<50	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor 1232		<50	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor 1242		<50	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor 1248		<50	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor 1254		<50	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor 1260		<50	<50	<50	<50	<50	<50	<50	<50	<50

Notes:
Organochlorine Pesticide analyzed using EPA Method 8081A, PCBs analyzed using EPA Method 8082.
µg/kg = micrograms per kilograms.
1 = Calibration Verification recovery was above the method control limit for this analyte, however the average % difference for all analytes met method criteria.
2 = Calibration Verification recovery was below the method control limit for this analyte, however the average % difference for all analytes met method criteria.
3 = The RPD between the primary and confirmatory analysis exceeded 40%. Per method 8000B, the lower value was reported due to apparent chromatographic problems.
4 = Reporting limit raised due to sample matrix effects.
5 = The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).

TABLE 3
SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER								
		B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1[4,10]	B3-S-5-1	B4-S-1-1[8,10]	B4-S-5-1[11]	B6-S-1-1[9]
1,2,4-Trichlorobenzene	ANALYTICAL RESULTS (µg/kg)	<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
1,2-Dichlorobenzene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
1,2-Diphenylhydrazine/Azobenzene		<330[1,3]	<330[1,2,6]	<330[1,3]	<330[1,2]	<1700	<330[3]	<3300	<670	<1700
1,3-Dichlorobenzene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
1,4-Dichlorobenzene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2,4,5-Trichlorophenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2,4,6-Trichlorophenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2,4-Dichlorophenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2,4-Dimethylphenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2,4-Dinitrophenol		<420	<420	<420	<420	<2100	<420	<4200	<830[5]	<2100
2,4-Dinitrotoluene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2,6-Dinitrotoluene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2-Chloronaphthalene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2-Chlorophenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2-Methylnaphthalene		<330	<330	<330	<330	5300	<330	<3300	<670	4800
2-Methylphenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2-Nitroaniline		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
2-Nitrophenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
3,3-Dichlorobenzidine		<830	<830	<830	<830	<4200	<830	<8300	<1700	<4200[12]
3-Nitroaniline		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
4,6-Dinitro-2-methylphenol		<420	<420[3,4,5]	<420	<420	<2100	<420	<4200	<830[5]	<2100
4-Bromophenyl phenyl ether		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
4-Chloro-3-methylphenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
4-Chloroaniline		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
4-Chlorophenyl phenyl ether		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
4-Methylphenol		<330	<330	<330	<330	2100	<330	<3300	<670	2100
4-Nitroaniline		<830	<830	<830	<830	<4200	<830	<8300	<1700[5]	<4200
4-Nitrophenol		<830	<830	<830	<830	<4200	<830	<8300	<1700[5]	<4200
Acenaphthene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Acenaphthylene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Aniline		<420	<420	<420	<420	<2100	<420	<4200	<830	<2100
Anthracene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Benzidine		<660	<660	<660	<660	<3300[7]	<660	<6600[7]	<1300	<3300[12,7]
Benzo(a)anthracene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Benzo(a)pyrene		<330	<330	<330	<330	<1700[9]	<330	<3300	<670	<1700
Benzo(b)fluoranthene		<330	<330	<330	<330	<1700[9]	<330	<3300	<670	<1700
Benzo(g,h,i)perylene		<330	<330	<330	<330	<1700[9]	<330	<3300	<670	<1700
Benzo(k)fluoranthene		<330	<330	<330	<330	<1700[9]	<330	<3300	<670	<1700
Benzoic acid		<830	<830	<830	<830	<4200	<830	<8300	<1700	<4200
Benzyl alcohol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Bis(2-chloroethoxy)methane		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700

TABLE 3
SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL SAMPLE ANALYTICAL DATA
1600 AND 1602 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER								
		B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1[8,10]	B3-S-5-1	B4-S-1-1[8,10]	B4-S-5-1[11]	B6-S-1-1[F]
Bis(2-chloroethyl)ether	ANALYTICAL RESULTS (mg/kg)	170	170	170	170	<840	170	<1700	<330	<840
Bis(2-chloroisopropyl)ether		<330[1]	<330[1]	<330[1]	<330[1]	<1700	<330	<3300	<670	<1700
Bis(2-ethylhexyl)phthalate		<330	<330	<330	<330	7600	<330	<3300	<670	12000[12]
Butyl benzyl phthalate		<330	<330	<330	<330	<1700	<330	<3300	<670	2700[12]
Chrysene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700[12]
Di-n-butyl phthalate		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700[12]
Di-n-octyl phthalate		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Dibenz(a,h)anthracene		<420	<420	<420	<420	<2100[9]	<420	<4200	<830	<2100[9]
Dibenzofuran		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Diethyl phthalate		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Dimethyl phthalate		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Fluoranthene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Fluorene		<330	<330	<330	<330	<1700	<330	<3300	<670[5]	<1700
Hexachlorobenzene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Hexachlorobutadiene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Hexachlorocyclopentadiene		<830	<830	<830	<830	<4200	<830	<8300	<1700	<4200
Hexachloroethane		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Indeno(1,2,3-cd)pyrene		<330	<330	<330	<330	<1700[9]	<330	<3300	<670	<1700[9]
Isophorone		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
n-Nitroso-di-n-propylamine		<250	<250	<250	<250	<1200	<250	<2500	<500	<1200
n-Nitrosodiphenylamine		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Naphthalene		<330	<330	<330	<330	6600	<330	<3300	<670	4100
Nitrobenzene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Pentachlorophenol		<830	<830	<830	<830	<4200	<830	<8300	<1700[5]	<4200
Phenanthrene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Phenol		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700
Pyrene		<330	<330	<330	<330	<1700	<330	<3300	<670	<1700[12]

Notes:
Samples analyzed using EPA Method 8270c
µg/kg = micrograms per kilograms
1 = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
2 = Laboratory Control Sample recovery was above the method control limits. Analyte not detected, data not impacted.
3 = The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
4 = The RPD exceeded the method control limit due to sample matrix effects.
5 = The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.
6 = The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS).
7 = Laboratory Control Sample recovery was below method control limits.
8 = Reporting limit raised due to high concentrations of hydrocarbons.
9 = Internal Standard recovery was outside of method limits. Matrix interference was confirmed by reanalysis.
10 = GPC cleanup used for removing petroleum hydrocarbon interference
11 = Reporting limit raised due to sample matrix effects.
12 = Internal Standard was below acceptance limit.

TABLE 4
VOLATILE ORGANIC COMPOUNDS
SOIL SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER								
		B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1
1,1,1,2-Tetrachloroethane	ANALYTICAL RESULTS (µg/kg)	<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
1,1,1-Trichloroethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,1,2,2-Tetrachloroethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,1,2-Trichloroethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,1-Dichloroethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,1-Dichloroethene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
1,1-Dichloropropene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,2,3-Trichlorobenzene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
1,2,3-Trichloropropane		<10	<8.2	<8.9	<8.7	<10	<8.4	<10	<10	<13
1,2,4-Trichlorobenzene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
1,2,4-Trimethylbenzene		<2.0	<1.6	<1.8	<1.7	91	<1.7	<2.0	9.7	81
1,2-Dibromo-3-chloropropane		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
1,2-Dibromoethane (EDB)		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,2-Dichlorobenzene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,2-Dichloroethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,2-Dichloropropane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,3,5-Trimethylbenzene		<2.0	<1.6	<1.8	<1.7	35	<1.7	<2.0	3.4	32
1,3-Dichlorobenzene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,3-Dichloropropane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
1,4-Dichlorobenzene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
2,2-Dichloropropane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.01	<2.01	<2.01
2-Chlorotoluene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
4-Chlorotoluene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Benzene		<2.0	<1.6	<1.8	<1.7	8.9	<1.7	<2.0	<2.0	2.8
Bromobenzene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Bromochloromethane		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Bromodichloromethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Bromoform		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Bromomethane		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Carbon tetrachloride		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Chlorobenzene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Chloroethane		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Chloroform		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Chloromethane		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6

TABLE 4
VOLATILE ORGANIC COMPOUNDS
SOIL SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER								
		B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1
cis-1,2-Dichloroethene	ANALYTICAL RESULTS (µg/kg)	<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
cis-1,3-Dichloropropene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Dibromochloromethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Dibromomethane		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Dichlorodifluoromethane		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Ethylbenzene		<2.0	<1.6	<1.8	<1.7	20	<1.7	<2.0	<2.0	14
Hexachlorobutadiene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Isopropylbenzene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
m,p-Xylenes		<2.0	<1.6	<1.8	<1.7	100	1.8	<2.0	7.8	70
Methyl-tert-butyl Ether (MTBE		<5.0	<4.1	<4.5	<4.3	<3	130	29	35	150
Methylene chloride		<20	<16	<18	<17	<20	<17	<20	<20	<26
n-Butylbenzene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
n-Propylbenzene		<2.0	<1.6	<1.8	<1.7	7.2	<1.7	<2.0	<2.0	6.9
Naphthalene		<5.0	<4.1	<4.5	<4.3	13	<4.2	<5.0	<5.0	10
o-Xylene		<2.0	<1.6	<1.8	<1.7	53	<1.7	<2.0	3.5	34
p-Isopropyltoluene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
sec-Butylbenzene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Styrene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
tert-Butylbenzene		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Tetrachloroethene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Toluene		<2.0	<1.6	<1.8	<1.7	76	1.7	<2.0	<2.0	40
trans-1,2-Dichloroethene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
trans-1,3-Dichloropropene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Trichloroethene		<2.0	<1.6	<1.8	<1.7	<2.0	<1.7	<2.0	<2.0	<2.6
Trichlorofluoromethane		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6
Vinyl chloride		<5.0	<4.1	<4.5	<4.3	<5.0	<4.2	<5.0	<5.0	<6.6

Notes:
Samples analyzed using EPA Method 8260B.
1 = Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
µg/kg = micorgrams per kilograms.

TABLE 5
TITLE 22 METALS
SOIL SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
AEST PALO ALTO

ANALYTE		SAMPLE NUMBER								
		B1-S-1-1	B1-S-5-1	B2-S-1-1	B2-S-5-1	B3-S-1-1	B3-S-5-1	B4-S-1-1	B4-S-5-1	B6-S-1-1
Antimony	ANALYTICAL RESULTS (mg/kg)	<20[1]	<10	<10	<10	<10	<10	<3.0[1]	<10	<10
Arsenic		<4.0[1]	3.3	3.7	4.2	3.3	7.2	<6.0[1]	3.7	2.7
Barium		25	97	150	130	120	160	45	140	170
Beryllium		<1.0[1]	<0.5	0.6	0.62	0.9	0.61	<1.5[1]	0.6	<0.5
Cadmium		<1.0[1]	<0.5	<0.5	<0.5	0.81	0.59	<1.5[1]	<0.5	1.4
Chromium		29	31	35	35	57	37	32	37	37
Cobalt		18	7.2	9.9	7.9	11	8.4	16	8.4	7.9
Copper		32	15	18	19	45	22	46	20	60
Lead		5.5	5	6.2	6.3	54	18	25	6.8	120
Mercury		<0.020	<0.02	<0.02	0.039	0.096	0.022	0.18	0.038	0.079
Molybdenum		<4.0[1]	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0[1]	<2.0	<2.0
Nickel		23	35	35	38	51	39	26	38	35
Selenium		<4.0[1]	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0[1]	<2.0	<2.0
Silver		<2.0	<1.0[1]	<1.0	<1.0	<1.0	<1.0	<3.0[1]	<1.0	<1.0
Thallium		<20[1]	<10	<10	<10	<10	<10	<30[1]	<10	<10
Vanadium		74	30	36	36	58	38	80	37	43
Zinc		42	41	49	52	120	61	82	52	140

Notes:
1 = Reporting limit raised due to sample matrix effects.
Samples analyzed using EPA method 6010B and 7471A for mercury.
mg/kg = milligrams per kilograms.

TABLE 6
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE, DIESEL AND MOTOR OIL
GROUNDWATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY STREET
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
TPH-G (µg/L)	ANALYTICAL RESULTS	<50	<50	80	82	<50	<50
TPH-D (mg/L)		<0.28	<0.28	<0.25	<0.25	<0.25	<0.25
TPH-MO (mg/L)		<0.28	<0.28	<0.25	<0.25	<0.25	<0.25

Notes:
Samples analyzed using EPA Method 8015B.
µg/L = micrograms per liter.
mg/L = milligrams per liter.

TABLE 7
PCB AND ORGANOCHLORINE PESTICIDE
GROUNDATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
		ORGANOCHLORINE PESTICIDES					
4,4'-DDD	ANALYTICAL RESULTS (µg/L)	<0.11[2]	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT		<0.11[1]	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
alpha-BHC		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
beta-BHC		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Chlordane		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
delta-BHC		<0.22	<0.20	<0.20	<0.20	<0.20	<0.20
Dieldrin		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan I		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan II		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan sulfate		<0.22	<0.20	<0.20	<0.20	<0.20	<0.20
Endrin		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Endrin aldehyde		<0.11	<0.10	<0.10	0.14	<0.10	<0.10
Endrin ketone		<0.11[1]	<0.10	<0.10	<0.10	<0.10	<0.10
gamma-BHC (Lindane)		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor[1]		<0.11	<0.10	<0.10	<0.10	<0.10	<0.10
Toxaphene		<5.6	<5.0	<5.0	<5.0	<5.0	<5.0

TABLE 7
PCB AND ORGANOCHLORINE PESTICIDE
GROUNDATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
		PCBs					
Aroclor 1016	ANALYTICAL RESULTS (µg/L)	<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1221		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1232		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1242		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1248		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1254		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0
Aroclor 1260		<1.1	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:
Organochlorine Pesticide analyzed using EPA method 8081A
PCBs analyzed using EPA method 8082
1 = Calibration Verification recovery was below the method control limit for this analyte, however the average % difference for all analytes met method criteria.

2 = Calibration Verification recovery was above the method control limit for this analyte, however the average % difference for all analytes met method criteria.

TABLE 8
SEMI-VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
1,2,4-Trichlorobenzene	ANALYTICAL RESULTS (µg/L)	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene		<10	<10	<10	<10	<10	<10
1,2-Diphenylhydrazine/Azobenzene		<20	<20	<20	<20	<20	<20
1,3-Dichlorobenzene		<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene		<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol		<20	<20	<20	<20	<20	<20
2,4,6-Trichlorophenol		<20	<20	<20	<20	<20	<20
2,4-Dichlorophenol		<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol		<20	<20	<20	<20	<20	<20
2,4-Dinitrophenol		<20	<20	<20	<20	<20	<20
2,4-Dinitrotoluene		<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene		<10	<10	<10	<10	<10	<10
2-Chloronaphthalene		<10	<10	<10	<10	<10	<10
2-Chlorophenol		<10	<10	<10	<10	<10	<10
2-Methylnaphthalene		<10	<10	<10	<10	<10	<10
2-Methylphenol		<10	<10	<10	<10	<10	<10
2-Nitroaniline		<20	<20	<20	<20	<20	<20
2-Nitrophenol		<10	<10	<10	<10	<10	<10
3,3-Dichlorobenzidine		<20	<20	<20	<20	<20	<20
3-Nitroaniline		<20	<20	<20	<20	<20	<20
4,6-Dinitro-2-methylphenol		<20	<20	<20	<20	<20	<20
4-Bromophenyl phenyl ether		<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol		<20	<20	<20	<20	<20	<20
4-Chloroaniline		<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether		<10	<10	<10	<10	<10	<10
4-Methylphenol		<10	<10	<10	<10	<10	<10
4-Nitroaniline		<20	<20	<20	<20	<20	<20
4-Nitrophenol		<20	<20	<20	<20	<20	<20
Acenaphthene		<10	<10	<10	<10	<10	<10
Acenaphthylene		<10	<10	<10	<10	<10	<10
Aniline		<10	<10	<10	<10	<10	<10
Anthracene[1]		<10	<10	<10	<10	<10	<10
Benzidine		<20	<20	<20	<20	<20	<20
Benzo(a)anthracene		<10	<10	<10	<10	<10	<10
Benzo(a)pyrene		<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene		<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene		<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene		<10	<10	<10	<10	<10	<10
Benzoic acid		<20	<20	<20	<20	<20	<20
Benzyl alcohol		<20	<20	<20	<20	<20	<20

TABLE 8
SEMI-VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
Bis(2-chloroethoxy)methane	ANALYTICAL RESULTS (µg/L)	<10	<10	<10	<10	<10	<10
Bis(2-chloroethyl)ether		<10	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl)ether		<10	<10	<10	<10	<10	<10
Bis(2-ethylhexyl)phthalate		<50	<50	<50	<50	<50	<50
Butyl benzyl phthalate		<20	<20	<20	<20	<20	<20
Chrysene		<10	<10	<10	<10	<10	<10
Di-n-butyl phthalate[1]		<20	<20	<20	<20	<20	<20
Di-n-octyl phthalate		<20	<20	<20	<20	<20	<20
Dibenz(a,h)anthracene		<20	<20	<20	<20	<20	<20
Dibenzofuran		<10	<10	<10	<10	<10	<10
Diethyl phthalate		<10	<10	<10	<10	<10	<10
Dimethyl phthalate		<10	<10	<10	<10	<10	<10
Fluoranthene		<10	<10	<10	<10	<10	<10
Fluorene[1]		<10	<10	<10	<10	<10	<10
Hexachlorobenzene		<10	<10	<10	<10	<10	<10
Hexachlorobutadiene		<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene		<20	<20	<20	<20	<20	<20
Hexachloroethane		<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene		<20	<20	<20	<20	<20	<20
Isophorone		<10	<10	<10	<10	<10	<10
n-Nitroso-di-n-propylamine		<10	<10	<10	<10	<10	<10
n-Nitrosodiphenylamine		<10	<10	<10	<10	<10	<10
Naphthalene		<10	<10	<10	<10	<10	<10
Nitrobenzene		<20	<20	<20	<20	<20	<20
Pentachlorophenol		<20	<20	<20	<20	<20	<20
Phenanthrene[1]		<10	<10	<10	<10	<10	<10
Phenol		<10	<10	<10	<10	<10	<10
Pyrene		<10	<10	<10	<10	<10	<10

Notes:
Samples analyzed using EPA Method 8270C.
1= Laboratory control sample recovery was above the method control limits. Analyte not detected, data not impacted.
µg/L = micrograms per liter.

TABLE 9
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER							
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1	TB-1*	TB-2
1,1,1,2-Tetrachloroethane	ANALYTICAL RESULTS (µg/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene		<1.0	<1.0	7.4	8.8	<1.0	7.5	<1.0	<1.0
1,2-Dibromo-3-chloropropane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene		<1.0	<1.0	2.3	3.7	<1.0	2.2	<1.0	<1.0
1,3-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-Dichloropropane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Chlorotoluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chlorobenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform		<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0
Chloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Ethylbenzene		<0.50	<0.50	2.5	0.56	<0.50	2.4	<0.50	<0.50
Hexachlorobutadiene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes		<1.0	<1.0	12	7.4	<1.0	12	<1.0	<1.0

TABLE 9
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER							
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1	TB-1*	TB-2
Methyl-tert-butyl Ether (MTBE)	ANALYTICAL RESULTS (µg/L)	1.3	<1.0	40	60	<1.0	38	<1.0	<1.0
Methylene chloride		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene		<1.0	<1.0	1.2	<1.0	<1.0	1.0	<1.0	<1.0
o-Xylene		<0.50	<0.50	6.4	3.6	<0.50	6.2	<0.50	<0.50
p-Isopropyltoluene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sec-Butylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Styrene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene		<0.50	0.54	8.7	1.6	<0.50	8.3	<0.50	<0.50
trans-1,2-Dichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethene		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Notes:
Samples analyzed using EPA Method 8260B.
* Headspace in sample container.

TABLE 10
TITLE 22 METALS
GROUNDWATER SAMPLE ANALYTICAL DATA
1800 AND 1802 BAY ROAD
EAST PALO ALTO

ANALYTE		SAMPLE NUMBER					
		B1-GW-1	B2-GW-1	B3-GW-1	B4-GW-1	B5-GW-1	B6-GW-1
Antimony	ANALYTICAL RESULTS (mg/L)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Barium		**0.074**	**0.062**	**0.075**	**0.12**	<0.010	**0.075**
Beryllium		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Cadmium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chromium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Cobalt		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Copper		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Mercury		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Molybdenum		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Nickel		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Selenium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Silver		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Thallium		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Vanadium		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Zinc		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:
Samples analyzed using EPA Method 6010B and EPA Method 7470A for Mercury.
mg/L = milligrams per liter.

TABLE 11
ESL AND PRG COMPARISION TO CONSTITUENTS REPORTED IN ON-SITE SOIL SAMPLES
1800 AND 1802 BAY ROAD
EAST PALO ALTO

SOIL SAMPLES							
Sample Location	Contaminant	Depth					
		1 foot	5 feet	ESL-res (mg/kg)	ESL-com (mg/kg)	PRG-res (mg/kg)	PRG-com (mg/kg)
Lozano's							
B1	Petroleum Hydrocarbons						
	TPH-D (mg/kg)	47	6.8	100	100	NA	NA
	TPH-MO (mg/kg)	180	8.1	500	1000	NA	NA
	Pesticides (µg/kg)						
	4,4'DDE	5.3	<5.0	1.7	4	1.7	7
	4,4'DDT	5.7	<5.0	1.7	4	1.7	7
Lee's Backhoe							
B2	Petroleum Hydrocarbons (mg/kg)						
	TPH-D	8.7	4.4	100	100	NA	NA
	TPH-MO	11	<2.5	500	1000	NA	NA
B & S Towing and Dismantling							
B3	Petroleum Hydrocarbons (mg/kg)						
	TPH-D	1800	7.7	100	100	NA	NA
	TPH-MO	2800	17	500	1000	NA	NA
	SVOCs (µg/kg)						
	2-Methylnaphthalene	5300	<330	0.25	0.25	NA	NA
	4-Methylphenol	2100	<330	NA	NA	310	3100
	Bis(2-ethylhexyl)phthalate	7600	<330	66	66	35	120
	Naphthalene	6600	<330	4.2	4.2	56	190
	VOCs (µg/kg)						
	Benzene	8.9	<1.7	0.044	0.044	0.6	1.3
	Ethylbenzene	20	<1.7	3.3	3.3	8.9	20
	m,p-Xylenes	100	1.8	1.5	1.5	270	420
	Methyl-tert-butyl Ether (MTBE)	310	130	0.023	0.023	62	160
	n-Propylbenzene	7.2	<1.7	NA	NA	240	240
	Naphthalene	13	<4.2	4.2	4.2	56	190
	o-Xylene	53	<1.7	1.5	1.5	270	420
	Toluene	76	1.7	2.9	2.9	520	520
	1,2,4-Trimethylbenzene	91	<1.7	NA	NA	52	170
	1,3,5-Trimethylbenzene	35	<1.7	NA	NA	21	70

TABLE 11
ESL AND PRG COMPARISION TO CONSTITUENTS REPORTED IN ON-SITE SOIL SAMPLES
1800 AND 1802 BAY ROAD
EAST PALO ALTO

SOIL SAMPLES							
Sample Location	Contaminant	Depth					
		1 foot	5 feet	ESL-res (mg/kg)	ESL-com (mg/kg)	PRG-res (mg/kg)	PRG-com (mg/kg)
B6 (Duplicate sample of B3)	Petroleum Hydrocarbons (mg/kg)						
	TPH-D	1300	NS	100	100	NA	NA
	TPH-MO	1800	NS	500	1000	NA	NA
	SVOCs (µg/kg)						
	2-Methylnaphthalene	4800	NS	0.25	0.25	NA	NA
	4-Methylphenol	2100	NS	NA	NA	310	3100
	Bis(2-ethylhexyl)phthalate	12000	NS	66	66	35	120
	Naphthalene	4100	NS	4.2	4.2	56	190
	Butyl benzyl phthalate	2700	NS	NA	NA	12000	100000
	VOCs (µg/kg)						
	Benzene	2.8	NS	0.044	0.044	0.6	1.3
	Ethylbenzene	14	NS	3.3	3.3	8.9	20
	m,p-Xylenes	70	NS	1.5	1.5	270	420
	Methyl-tert-butyl Ether (MTBE)	150	NS	0.023	0.023	62	160
	n-Propylbenzene	6.9	NS	NA	NA	240	240
	Naphthalene	10	NS	4.2	4.2	56	190
	o-Xylene	34	NS	1.5	1.5	270	420
	Toluene	40	NS	2.9	2.9	520	520
	1,2,4-Trimethylbenzene	81	NS	NA	NA	52	170
	1,3,5-Trimethylbenzene	32	NS	NA	NA	21	70
	4-Chlorotoluene	2.8	NS	NA	NA	160	560
B4	Petroleum Hydrocarbons (mg/kg)						
	TPH-D	2800	6.3	100	100	NA	NA
	TPH-MO	4100	15	500	1000	NA	NA
	Pesticides (µg/kg)						
	4,4'DDE	12	<5.0	1.7	4	1.7	7
	VOCs (µg/kg)						
	m,p-Xylenes	<2.0	7.8	1.5	1.5	270	420
	Methyl-tert-butyl Ether (MTBE)	29	35	0.023	0.023	62	160

TABLE 11
ESL AND PRG COMPARISION TO CONSTITUENTS REPORTED IN ON-SITE SOIL SAMPLES
1800 AND 1802 BAY ROAD
EAST PALO ALTO

SOIL SAMPLES							
Sample Location	Contaminant	Depth					
		1 foot	5 feet	ESL-res (mg/kg)	ESL-com (mg/kg)	PRG-res (mg/kg)	PRG-com (mg/kg)
B4	o-Xylene	<2.0	3.5	1.5	1.5	270	420
	1,2,4-Trimethylbenzene	<2.0	9.7	NA	NA	52	170
	1,3,5-Trimethylbenzene	<2.0	3.4	NA	NA	21	70

Notes:
µg/kg = micrograms per kilograms.
mg/kg = milligrams per kilograms.
ESL = Environmental Screening levels from RWQCB San Francisco Bay Region Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Volume 1: Summary Lookup Tables.
PRGs = Preliminary Remediation Goals from USEPA Region 9 (10/2002).
NA = Not available.
NS = Not sampled.

TABLE 12
ESL AND PRG COMPARISION TO CONSTITUENTS REPORTED IN ON-SITE GROUNDWATER SAMPLES
1800 AND 1802 BAY ROAD
EAST PALO ALTO

Sample Location	Contaminant	Concentration	ESL (µg/L)	Primary MCLs (µg/L)
Lozano's				
B1	VOCs (µg/L)			
	MTBE	1.3	5	13
	Metals (mg/L)			
	Barium	0.074	1000	1000
Lee's Backhoe				
B2	VOCs (µg/L)			
	Toluene	0.54	40	150
	Metals (mg/L)			
	Barium	0.062	1000	1000
B & S Auto Towing and Dismantling				
B3	Petroleum Hydrocarbons (µg/L)			
	TPH-G	80	100	NA
	Metals (mg/L)			
	Barium	0.075	1000	1000
	VOCs (µg/L)			
	Ethylbenzene	2.5	30	300
	Methyl-tert-butyl Ether (MTBE)	40	5	13
	o-Xylene	6.4	13	1750
	Toluene	8.7	40	150
	1,2,4-Trimethylbenzene	7.4	NA	NA
	1,3,5-Trimethylbenzene	2.3	NA	15*
	Naphthalene	1.2	21	21*
	m,p-Xylenes	12	13	1750
B6 (Duplicate sample of B3)	Metals (mg/L)			
	Barium	0.075	1000	1000
	VOCs (µg/L)			
	Ethylbenzene	2.4	30	300
	Methyl-tert-butyl Ether (MTBE)	38	5	13
	o-Xylene	6.2	13	1750
	Toluene	8.3	40	150
	1,2,4-Trimethylbenzene	7.5	NA	NA
	1,3,5-Trimethylbenzene	2.2	NA	15*
	m,p-Xylenes	12	13	1750
	Naphthalene	1	21	21*
B4	Petroleum Hydrocarbons (µg/L)			
	TPH-G	82	100	NA
	Metals (mg/L)			
	Barium	0.12	1000	
	Organochlorine Pesticides (µg/L)			
	Endrin aldehyde	0.14	0.002)**	2**
	VOCs (µg/L)			
	Ethylbenzene	0.56	30	300
	Methyl-tert-butyl Ether (MTBE)	60	5	13
	o-Xylene	3.6	13	1750
	Toluene	1.6	40	150
	1,2,4-Trimethylbenzene	8.8	NA	NA
	1,3,5-Trimethylbenzene	3.7	NA	15*
	m,p-Xylenes	7.4	13	1750

Notes:
µg/L = micrograms per liter.
µg/kg = milligrams per kilograms.
MCL = Maximum contaminant levels.

ESL = Environmental Screening levels from RWQCB San Francisco Bay Region Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Volume 1: Summary Lookup Tables.
Primary MCLs = Maximum Contaminant Levels, California Code of Regulations, Title 22, Chapter 15, Sections 64443 and 64444.
NA = Not available.
* Taste and odor threshold.
** Endrin was the listed compound used for comparison.

3 – 1990 Bay Road & South – 2014 Groundwater Sampling

S.S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

January 30, 2015

Mr. Bruce H. Wolfe
Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject: **2014 Annual Summary and Groundwater Monitoring Report**
1990 Bay Road Site
East Palo Alto, California

Dear Mr. Wolfe:

This Annual Summary and Groundwater Monitoring Report presents a summary of investigation and remediation activities conducted in 2014 by StarLink Logistics, Inc. (SLLI) at the 1990 Bay Road site in East Palo Alto, California (the site, Figure 1). This report has been prepared by S.S. Papadopulos & Associates, Inc. (SSP&A) on behalf of SLLI to satisfy the requirements of Provisions 2.b and 2.f of California Regional Water Quality Control Board (RWQCB) Order No. SCR 91–016 and subsequent amendments.

Technical Activities

Technical activities performed at the site in 2014 include preparation of comprehensive site documents, site maintenance and inspections, soil sample collection south of Runnymede and on the former Bain's property, repair of sanitary sewer manholes, and sewer and groundwater monitoring activities. These activities are described in more detail below.

Preparation of Comprehensive Site Documents

In 2013 SLLI submitted three comprehensive site documents for RWQCB review. The documents included a draft Comprehensive Tentative Order for Final Site Cleanup Requirements (draft Comprehensive Order), a draft Comprehensive Site Management Plan (SMP), and a draft Revised Aquifer Characterization and Contingency Plan (ACCP). Currently the requirements for managing the site are found in several different RWQCB Orders, and in separate deed restrictions and site management plans. The submitted documents are intended to consolidate the information and requirements to allow for more efficient and reliable management of the site. On April 7, 2014, SLLI representatives met with RWQCB to discuss the documents submitted. RWQCB comments were subsequently incorporated in the documents and revised versions were

submitted to the RWQCB in late April. SLLI hopes to finalize these documents as soon as possible, and has offered technical support to facilitate RWQCB review and approval.

Site Maintenance and Inspections

- Monthly site inspections were conducted throughout the year. These site inspections included checking the conditions of the site caps and paved areas, warehouse, trailer, fencing, gates, signs and storm drain system. Monitoring wells were inspected quarterly.
- On January 24, SLLI performed an annual inspection to evaluate the condition of existing caps and levees at the 1990 Bay Road site in East Palo Alto, California. Asphalt crack-filling and sealing maintenance work that was conducted in 2013 remained in good condition on the caps over the 1990 Bay Road property, the PG&E poleyard, the former Bains property, and the former Curtaccio property. Some cracks and weed growth were observed on the Torres south cap, and along the eastern edge of the north cap. Some minor diesel spills were noted on the Torres north cap as well, however, the condition of the asphalt cap did not appear to be compromised. Following the inspection, coyote brush was removed from the non-tidal marsh soil cap and debris was cleared from storm drain catch basins. Mr. Jess Torres was notified about repairs needed in the fencing along the levee and for cracks in the south cap of his property.

- The Bayshore levee which runs along the eastern edge of the 1990 Bay Road Site from Bay Road to Runnymede Street was inspected on January 24 for general stability, evidence of erosion, and changes since the previous annual inspection. In general, the levees appeared to be in reasonable condition with minor deterioration caused by rodent burrowing and some tidal erosion along the banks of the major slough that runs parallel with the levee south of Weeks Street. These conditions will be further monitored during future inspections, but no additional preventative measures were recommended.

- On June 10, a PG&E subcontractor (Osmosis Utilities Services, Inc.) performed utility pole reinforcement work at three of the power poles in the former non-tidal marsh area. Two of the poles are in the geosynthetic clay liner (GCL) capped area, and the third is in the phytoremediation area. For each of the poles, a support post was driven to a depth of approximately 6.5 feet and then strapped to the pole. During onsite coordination with SLLI, the subcontractor concluded that soil excavation would not be needed prior to driving the posts at these locations.

- In June, the new owners of the former Bains property planned to repave the property and install new storm drain elements. In preparation for the planned paving work, SLLI collected soil samples (discussed below) and raised two well boxes on the property. SLLI installed new well boxes for wells W-118 and W-119 at the elevation of the new pavement. The property owner re-paved the property and inadvertently paved over wells W-108 and W-109,

also located on the former Bains property. Neither W-108 nor W-109 are monitored and they will be located, uncovered, and properly abandoned in 2015.

- On October 28 and 29, sections of the warehouse exterior walls were painted to cover graffiti.

- On October 28 a National Fire Protection Association (NFPA) five-year fire system inspection was performed at the warehouse on the 1990 Bay Road property. The fire sprinklers were inspected and confirmed to be functional and alarm switches were repaired. Some maintenance recommendations were made and are under consideration.

Soil Sampling for Planned Construction Activities

- On June 6, SLLI conducted a soil investigation related to planned storm drain installation and paving work at the former Bains property located at 2470 Pulgas Avenue. A total of 13 soil samples were collected from the deed-restricted portions of the property at the locations shown on the attached Figure 2. The samples were collected in areas where the property owner had removed pavement and indicated that some soil excavation may be needed. Samples were collected using a hand-auger to bore to depths of 0.5 to 2.5 feet, as indicated on Figure 2. At each location, the soil from the boring were placed into a stainless steel bowl, composited, and a sample was collected in an 8-oz glass jar.

  Samples were analyzed for total arsenic by EPA Method 6010A at the TestAmerica laboratory in Pleasanton, CA. The analytical report is included in Appendix A and the results are shown on Figure 2 and summarized in Table 1. All samples except one contained arsenic concentrations less than 14 milligram per kilogram (mg/kg). One sample (BA7-11) containing 210 mg/kg was collected in an area to the south of the small concrete pad on the south side of the building. The concrete pad and a small section of surrounding asphalt were removed to allow for the planned asphalt overlay to drain away from the building. The property owner's contractor agreed to place the asphalt overlay without any excavation in this area. As an interim measure until the area was re-paved, the contractor placed an inch of clean fill over the section of exposed soil where BA7-11 was collected. The results of soil sampling and analysis were submitted to Mr. Mark Johnson of the RWQCB on June 16. Trenching and paving work was completed at 2470 Pulgas Avenue on June 21.

- In September, the owner of the former Bains property indicated that they were intending to pave an unpaved section of the property approximately 50 feet by 5 feet in area on the northwest edge of the property. The paving activities would require removing the top 12 to 18 inches of soil. This area of the property is deed restricted, and limited samples had been collected from the area during previous investigations. Accordingly, it was determined that the soil should be characterized for arsenic prior to soil excavation.

  One 3-point composite soil sample was collected by SLLI on September 25. The composite sample was comprised of individual samples collected at the locations shown on Figure 2.

Samples were collected using a hand auger to retrieve soil to a depth 18 inches at each location, and then composited in a stainless steel bowl. The composite sample was analyzed for total arsenic analysis by EPA Method 6010 at the TestAmerica laboratory in Pleasanton, CA. The result, shown on Figure 2 and included in Table 1, indicates an arsenic concentration of 15 mg/kg. Based on this result, no engineering controls were imposed for removal of the top 18 inches of soil. The analytical report is included in Appendix A.

- In September, SLLI conducted soil sampling to determine arsenic concentrations in the areas to be excavated for Phase II of the City of East Palo Alto's Runnymede Storm Drain improvements project. The soil samples were collected on September 12 from areas within the planned extent of excavation based on the design documents for the project. Results of the sampling were submitted to the City in a letter report dated September 18, 2014, which is included as Appendix B. The results are summarized in Table 2. The arsenic concentrations in the soil samples ranged from 1.8 to 24 mg/kg. These concentrations are below levels that would impact worker health and safety or limit soil disposal options for the Runnymede Phase II project. These results are similar to the results of the soil investigations performed in this area between 1996 and 1998. The data was reviewed by the RWQCB prior to the City initiating construction.

Sanitary Sewer Routine Monitoring

- Twenty-four hour composite samples were collected from two EPASD sanitary sewer manhole locations, manholes A22 and T23, during the year (Figure 3). The monitoring plan submitted to EPASD and Palo Alto Regional Water Quality Control Plant (PARWQCP) on May 22, 1996 specifies that samples will be collected monthly during the winter season and bimonthly during the summer season. These samples have been collected since October 1996. In 2014, samples were collected in January, February, March, April, June, August, October, November, and December by Field Solutions, Inc. of San Jose, California according to the procedures outlined in the 1996 monitoring plan. The EPASD was notified in advance of the dates and times the sampling was conducted.

  Composite samples were collected using ISCO samplers. Every 15 minutes, 20 milliliter (ml) aliquots were collected into a single container. After 24 hours of collection, samples were poured unfiltered into 500 ml bottles preserved with nitric acid. Samples were analyzed by TestAmerica of Pleasanton, California according to U.S. EPA Method 200.8 (ICP/mass spectroscopy).

  Sewer sample analytical results for 2014 are included in Table 3 and analytical reports are attached as Appendix C. The results show a significant decrease in the concentration of arsenic in downstream manhole T23 starting in August. This decrease is the result of sewer repair work that was implemented based on investigations conducted by SLLI in 2013 and 2014. The investigation and repair work is explained in more detail below.

- The 1996 monitoring plan also calls for annual leak testing of the sewer lateral from the 1990 Bay Road property warehouse to the main sewer line (Figure 3). On December 26 the annual leak test was conducted and no leak was detected.

Sanitary Sewer Investigation

- In 2013, an investigation was initiated to attempt to identify the cause of the increasing trend in arsenic concentrations noted in downstream manhole T23. Results from an extra sampling event in November 2013 indicated the source of the concentrations was likely located near manhole T27

  Based on the results of the November 2013 sampling, on January 24, 2014, SLLI conducted a video inspection from manhole A29 located on Bay Road where the sanitary sewer line enters the 1990 Bay Road property to past manhole T27 located on the Torres property at the bend in the levee (where the elevated concentration of arsenic was detected). The inspection was conducted by Subdynamic Locating Services (Subdynamic) of San Jose, California with personnel from the East Palo Alto Sanitary District (EPASD), and Freyer & Laureta (Engineers for EPASD) present on site.

  The results of the inspection indicated the laterals previously sealed on the 1990 Bay Road property and a pipe patch downstream of T27 did not show any signs of leakage. However, high effluent flows did not allow for full inspection of the pipe and manhole. A memo summarizing the inspection is included as Appendix D. This memo and copies of the inspection videos were sent to the EPASD on February 4.

  As a result of the inspection, SLLI proposed that additional samples be collected from manholes T28 and T27, which were collected in February 2014. Analytical results for these samples, included in Table 3, indicated an arsenic concentration of 17 micrograms per liter in manhole T27 and 1.6 micrograms per liter in T28 (immediately upstream from T27), indicating that infiltration was occurring at T27 or in the section of pipe between T28 and T27. Based on this result, SLLI recommended a new video inspection be implemented for this segment of pipe and manhole T27.

- Video inspections of the sanitary sewer between manholes A29 and T23 were conducted by the EPASD in April 2014. The EPASD provided the results of the video inspections to SLLI, which identified groundwater infiltration into two manholes, T23 and T27. Based on this finding, SLLI implemented a plan to repair the sewer manholes as described below.

Sanitary Sewer Manhole Repair

- SLLI contracted with Michels Corporation (Michels) of Salem, Oregon to repair the leaks observed in manholes T23 and T27 and conduct a thorough inspection of all of the manholes on the 1990 Bay Road site. Michels provided the labor, equipment and materials to seal the active leaks and apply epoxy coating in pre-cast concrete manholes T23 and T27, and to inspect manholes T24, T25, T26, T28, and T29. Between August 4 and 7, Michels completed the manhole repairs and inspections. A letter report describing the implementation

of the manhole repair was submitted to the EPASD on September 9, and is included in Appendix E. On August 12, approximately one week after the completion of the repair work, routine sewer sampling was conducted in manholes A22 and T23. The arsenic concentration detected in manhole T23 was 1.5 micrograms per liter (µg/L) compared to a high of 14 µg/L prior to repair. This August result, along with subsequent test results presented in Table 3, indicate that the repair work successfully mitigated the groundwater intrusion issues at the site.

- In January, the EPASD notified SLLI that sewer manhole T-26 on the Torres property was inaccessible. During paving work completed in 2002 by the property owner on the southern portion of the 1175 Weeks Street property, the contractor had paved over EPASD sanitary sewer manhole T-26. During the spring of 2014, the manhole was located and the overlying pavement was removed by Torres to allow access to the manhole. Following discussions with EPASD and Torres, SLLI agreed to raise the manhole lid to grade and repair the adjacent asphalt cap.

  On August 22, 2014, Casey Construction (Redwood City, CA) completed the manhole modification. The existing steel rim and lid were lifted off and two 3.5 inch by 30 inch diameter concrete rings were installed. Additional concrete spacers were placed to reset the top of the rim slightly above flush with the surrounding asphalt. Concrete was hand-packed between the top-ring and the rim. Cement grout was placed on the inside of the manhole to seal the interior, and concrete was poured to a depth of 2 inches below grade around the exterior of the rings to provide structural support. Hot asphalt was placed and compacted to restore the surface around the manhole.

Groundwater Monitoring

Site groundwater control using a subsurface barrier wall and phytoremediation continued in 2014. The groundwater monitoring program consists of biennial chemical performance monitoring and hydraulic performance monitoring with annual site-wide water-level measurements in April and quarterly water-level measurement at nine specified monitoring locations. Phytoremediation monitoring consists of inspections to monitor the health and growth of the site trees as well as biennial tissue sampling. Groundwater monitoring results are submitted to the RWQCB Geotracker database system annually. Results of annual and biennial groundwater and phytoremediation monitoring in 2014 are presented below.

- The most recent biennial groundwater sampling and monitoring event for the site occurred on April 17 and 18, 2014 and the results are included in Table 4 and shown on Figure 4. Arsenic concentrations in all perimeter monitoring wells remained below the 0.04 milligrams per liter (mg/L) contingency action level. The laboratory analytical reports are included in Appendix F and the plots of historic arsenic concentration in monitoring wells are presented in Appendix G. As approved by the RWQCB on October 7, 2013, monitoring well M-9 was sampled as a perimeter monitoring well and well W-114 was sampled as an interior well.

- During the quarterly monitoring events, which occurred on January 24, July 16, and October 28, 2014, water levels in nine wells,W-139 (A), W-140 (B), W-141 (C), P-8U, P-9L, P-10U, P-11L, P-12U, and P-13L, were measured. During the annual hydraulic monitoring event on April 17, water levels in 17 perimeter wells, 6 interior wells, 8 utility backfill monitoring points, 11 piezometers, 12 water level monitoring wells, 3 containment performance wells and 1 deep well were measured. This list uses the latest well nomenclature presented in the draft Revised ACCP, which was submitted to the RWQCB in April 2014. Water level monitoring results are presented in Table 5. Potentiometric surface maps for the upper and lower shallow groundwater zones are shown on Figures 5 and 6. The conversion of the field measurements to equivalent fresh-water groundwater elevations for wells with elevated salinity is presented in Table 6. Groundwater levels in the tidal marsh are influenced by the location of the tidal channels, which are groundwater discharge locations, and fluctuations in water levels in the tidal channels during the tidal cycle. As a result, in some locations groundwater flow patterns in the tidal marsh are complex. The water level in well W-127, which is located adjacent to a tidal channel, has consistently been higher than water levels in nearby wells. The water level elevation at this well was excluded from contouring.
- Inspections of the tamarisk and eucalyptus trees on the former non-tidal marsh and Torres properties were performed in April and October and growth measurements were collected in April. Tissue samples were collected on September 25. Tissue sample results were below levels of concern. No significant health issues were noted in the established trees during inspections. In general, the trees continue to thrive. However, the majority of the new eucalyptus trees planted in 2012 have been lost due to rodents (gophers and squirrels) chewing through their roots. Replacement trees are planned for installation in spring of 2015. Because the rodent activity appears to coincide with excessively moist soil, it is under consideration to eliminate watering of the replacement trees.
- The performance criterion for the barrier wall requires that the water levels at monitoring well W-141(C), within the barrier wall on the Torres property, must be lower than the water levels at monitoring wells W-139(A) and W-140(B), located at the ends of the barrier wall, on an average-annual basis. During 2014, the average of the water levels measured quarterly (Table 5) were 1.62, 1.82 and 1.52 feet above mean sea level in monitoring wells W-139(A), W-140(B) and W-141(C), respectively, which indicate that the performance criterion continues to be met.

Community Relations

The following community relations activities occurred in 2014:

- In January, the CD containing important site documents that is maintained in the site document binder in the Information Repository in the East Palo Alto public library was updated.
- In January, during the site inspection it was noted that the City's contractors had tied into the storm drain system in the manhole at the end of Bay Road, near the storm drain outfall. An

approximately 12-inch plastic corrugated pipe was installed through a crudely cut hole about 5 to 7 feet below grade in the manhole, which had not been properly sealed.

SLLI contacted the City's Deputy Director of Community Development, Sharon Jones, to discuss issues with the construction including the fact that it appeared that they had tied into SLLI's storm drain without any notification or discussion. On February 3, 2014, a letter was sent to Sharon Jones expressing concerns. In October it was confirmed that the City had sealed around the pipe connection to the manhole.

- On February 11, an SLLI representative attended a meeting of the City's General Plan Advisory Committee.
- On several occasions during 2014, SLLI met with or communicated with representatives of the EPASD and City Engineering and Planning staff regarding the potential realignment of the segment of the sanitary sewer that runs through the 1990 Bay Road site.
- On several occasions in 2014, SLLI met with or communicated with the City of East Palo Alto regarding various issues including the Bay Road Phase II project, the undergrounding of utilities on Bay Road, the Runnymede Storm Drain Phase II project, and the Groundwater Management Plan. Some of these meetings are described in more detail below.
    - On April 3, SLLI representatives met with City Engineer, Kamal Fallaha and Associate Engineer, Vivian Ma, and Greg Armendariz of Swinerton Management & Consulting to discuss the status and plans for the Bay Road Phase II project.
    - On May 22, SLLI representatives attended a project kickoff meeting for the undergrounding of utilities on Bay Road.
    - On June 25 SLLI representatives attended a site walk with the City's contractors and the utility representatives regarding undergrounding utilities on Bay Road.
    - On October 15, SLLI provided comments to the City on the City's 65% design package for the Bay Road Phase II project.
    - On October 21, SLLI representatives met with Acting City Manager Carlos Martinez and Kamal Fallaha to discuss various issues including the status of the Bay Road Phase II project, the comments on the design package, and the planned uses for SLLI properties and other properties on the 1990 Bay Road site.
    - On September 29 and December 4, SLLI representatives attended meetings on the City's groundwater management plan.
    - On December 17, SLLI representatives attended a meeting of the Public Works and Transportation Commission.
- In December, SLLI contracted with the County of San Mateo to allow the County to lease the 1990 Bay Road property for use as a temporary parking facility while the parking lot at 2415 University Avenue is unavailable due to construction. On December 12, an SLLI

representative met with Mark Hahn, a project manager for the County of San Mateo Public Works Department, regarding the logistics for the temporary parking at the 1990 Bay Road property. The County is providing lighting, shuttle service to 2415 University Avenue, and security guards on site during hours of lot operation, 6am-12pm, Monday through Friday and 8am-6pm on Saturday. The County's use of the property as parking commenced on December 15th.

- During 2014, SLLI and the U.S. EPA contacted the U.S. Army Corps of Engineers to request formal close-out of the Army Corps file for the Cooley Landing Salt Pond restoration project. No formal close-out has been received to date.

Technical Documents

The following technical documents were submitted in 2014:

• 2013 Annual Summary and Groundwater Monitoring Report	January 31, 2014
• Five-Year Status Report	March 31, 2014
• Draft Comprehensive Tentative Order of Final Site Cleanup Requirements	April 14, 2014
• Comprehensive Site Management Plan	April 16, 2014
• Revised Aquifer Characterization and Contingency Plan	April 16, 2014
• Letter Report to EPASD- Manhole Repair and Inspection Memo	September 9, 2014
• Letter Report to City of East Palo Alto - Arsenic Analytical Results for Soil, Runnymede Storm Drain Improvement Project	September 18, 2014

Please contact the undersigned or Robert Ferguson at (919) 678-6086 if you have any questions or require additional information.

Sincerely,
S.S. PAPADOPULOS & ASSOCIATES, INC.

Michael T. Rafferty, P.E.
Project Manager
MTR/kmb

Enclosures:

Table 1 – 2014 Soil Sampling Results- Former Bains Property
Table 2 – 2014 Soil Sampling Results- South of Runnymede
Table 3 – 2014 Sanitary Sewer Monitoring Results
Table 4 – Groundwater Chemistry Monitoring Results
Table 5 – Groundwater Elevations, 2014 Monitoring Program
Table 6 – Groundwater and Equivalent Fresh-Water Heads-April 2014
Figure 1 – Site Location Map
Figure 2 – Soil Sample Locations – Former Bains Property
Figure 3 – Sanitary Sewer Monitoring Locations
Figure 4 – Groundwater Chemistry Monitoring Results
Figure 5 – Upper Shallow Groundwater Zone Water Levels, April 17, 2014
Figure 6 – Lower Shallow Groundwater Zone Water Levels, April 17, 2014
Appendix A – Analytical Reports for 2014 Soil Sampling on the Former Bains Property
Appendix B – Letter Report to City of East Palo Alto- Arsenic Analytical Results for Soil, Runnymede Storm Drain Improvement Project
Appendix C – Sewer Sampling Analytical Reports
Appendix D – Sanitary Sewer Video Inspection Memo
Appendix E – Letter Report to the East Palo Alto Sanitary District- Manhole Repair and Inspection Memo
Appendix F – Field and Analytical Reports for Groundwater Chemistry Monitoring
Appendix G – Arsenic Concentrations in Monitoring Wells

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TABLES

TABLE 1

2014 SOIL SAMPLING RESULTS
FORMER BAINS PROPERTY
ARSENIC CONCENTRATION
1990 Bay Road Site
East Palo Alto, California

Sample ID[1]	Sample Date	Analytical Result[2] (mg/kg)[3]
BA7-1	6/6/2014	5.7
BA7-2	6/6/2014	6.5
BA7-3	6/6/2014	6.0
BA7-4	6/6/2014	14
BA7-5	6/6/2014	4.9
BA7-6	6/6/2014	<2.7
BA7-7	6/6/2014	<3.0
BA7-8	6/6/2014	<3.6
BA7-9	6/6/2014	7.7
BA7-10	6/6/2014	6.4
BA7-11	6/6/2014	210
BA7-12	6/6/2014	6.4
BA7-13	6/6/2014	6.2
B-COMP-1[4]	9/25/2014	15

Notes:
1. Sample locations for the former Bains property are shown on Figure 2.
2. Samples analyzed for arsenic by TestAmerica Laboratories of Pleasanton, California by EPA Method 6010B.
3. Results are shown in milligrams per kilogram (mg/kg)
4. B-COMP-1 is a composite sample of three sub-samples.

TABLE 2

2014 SOIL SAMPLING RESULTS
SOUTH OF RUNNYMEDE
ARSENIC CONCENTRATION
1990 Bay Road Site
East Palo Alto, California

Sample ID[1]	Sample Date	Analytical Result[2] (mg/kg)[3]
Run-SD-1	9/12/2014	24
Run-SD-2	9/12/2014	21
Run-SD-3	9/12/2014	21
Run-SD-4	9/12/2014	4.9
Run-SD-5	9/12/2014	2.2
Run-SD-6	9/12/2014	4.2
Run-SD-7	9/12/2014	3.3
Run-SD-8	9/12/2014	2.1
Run-SD-9	9/12/2014	1.9
Run-SD-10	9/12/2014	1.8

Notes:
1. Each Runnymede Storm Drain sample is a composite of four sub-samples collected within an area of planned excavation.
2. Samples analyzed for arsenic by TestAmerica Laboratories of Pleasanton, California by EPA Method 6010B.
3. Results are shown in milligrams per kilogram (mg/kg)

TABLE 3

2014 SANITARY SEWER MONITORING RESULTS

1990 Bay Road Site
East Palo Alto, California

Date Sampled	Arsenic Concentration (ug/l)[1]			
	A22[2]	T23[2]	T27[2]	T28[2]
1/31/2014	<2	13		
2/27/2014	1.2	14		
2/28/2014			17	1.6
3/28/2014	2	8.8		
4/24/2014	1.3	10		
6/18/2014[3]	<1	8.7		
8/12/2014[3]	1	1.5		
10/10/2014	1.2	1.6		
11/7/2014	1.2	1.5		
12/30/2014	1.3	1.2		

Notes:

1. 24-hour composite samples collected by Field Solutions, Inc. and analyzed for arsenic by TestAmerica according to U.S. EPA Method 200.8. Results are shown in micrograms per liter (ug/l).
2. Sample locations are shown on Figure 3.
3. Repairs to manholes T27 and T23 were completed on August 5 and 6, 2014, respectively.

TABLE 4

ANALYTICAL RESULTS
BIENNIAL GROUNDWATER MONITORING PROGRAM
APRIL 2014
1990 Bay Road Site
East Palo Alto, California

WELL NO.[1]	ZONE[2]	ARSENIC CONCENTRATION [3] milligrams per liter (mg/l)
DEEP WELL		
W-101	D	0.0006
PERIMETER WELLS		
M-9	U	0.013
W-102	L	<0.0002
W-105	U	0.0006
W-107	U	0.0004
W-110	L	0.0006
W-112	L	0.0007
W-121	U	0.0012
W-122	L	<0.0002
W-123	U	0.008
W-125	U	0.0006
W-126	L	0.0006
W-127	U	<0.0002
W-128	U	0.0009
W-129	U	0.013
W-137	UB	0.0047
W-142	L	<0.0002
W-143	UB	0.0008
INTERIOR WELLS		
W-114	U	0.045
W-115	U	0.028
W-115 DUP	U	0.045
WCC-09	L	0.95
WCC-09 DUP	L	0.92
WCC-10	U	4.3
WCC-11	L	0.0053
WCC-11 DUP	L	0.0053
M-4	U	0.19
UTILITY BACKFILL MONITORING POINTS		
W-130	UB	0.0017
W-130 DUP	UB	0.0013
W-131	UB	0.0019
W-132	UB	0.0019
W-133	UB	0.0027
W-134	UB	6.7
W-135A	UB	3.9
W-136	UB	0.04
W-138	UB	4.8
W-138 DUP	UB	5

Notes:
1. Location of wells shown on Figure 4.
2. Hydrostratigraphic units are as follows: D-deep zone; U-upper shallow zone; L-lower shallow zone; UB-utility backfill.
3**.** Samples collected by Blaine Tech Services on April 17 and 18, 2014 and analyzed by Exova of Santa Fe Springs, California by EPA Method 200.8 SOP7040, Rev 12

TABLE 5

GROUNDWATER ELEVATIONS
2014 MONITORING PROGRAM
1990 Bay Road Site
East Palo Alto, California

WELL NO.[1]	ZONE[2]	DATE	TIME	MEASURING POINT ELEVATION[3]	DEPTH BELOW MEASURING POINT[4]	WATER LEVEL ELEVATION
W-101	D	4/17/2014	9:56	6.62	3.52	3.10
PERIMETER WELLS						
M-9	U	4/17/2014	9:20	6.47	4.51	1.96
W-102	L	4/17/2014	2:09	8.22	6.57	1.65
W-105	U	4/17/2014	10:33	9.24	7.16	2.08
W-107	U	4/17/2014	9:44	10.19	8.09	2.10
W-110	L	4/17/2014	9:26	7.68	5.23	2.45
W-112	L	4/17/2014	9:36	6.88	4.45	2.43
W-121	U	4/17/2014	9:14	6.45	4.02	2.43
W-122	L	4/17/2014	9:55	5.78	3.68	2.10
W-123	U	4/17/2014	9:03	6.08	4.35	1.73
W-125	U	4/17/2014	10:18	6.93	4.58	2.35
W-126	L	4/17/2014	10:19	7.03	4.72	2.31
W-127	U	4/17/2014	10:00	6.99	4.59	2.40
W-128	U	4/17/2014	9:09	5.95	4.49	1.46
W-129	U	4/17/2014	8:58	6.57	5.34	1.23
W-137	UB	4/17/2014	9:29	4.46	3.69	0.77
W-142	L	4/17/2014	9:12	7.37	5.46	1.91
W-143	UB	4/17/2014	9:42	3.7	2.35	1.35
INTERIOR WELLS						
M-4	U	4/17/2014	9:15	6.24	4.24	2.00
W-114	U	4/17/2014	9:22	6.15	4.05	2.10
W-115	U	4/17/2014	8:55	6.32	4.54	1.78
WCC-09	L	4/17/2014	10:05	8.76	6.67	2.09
WCC-10	U	4/17/2014	10:07	8.6	6.4	2.20
WCC-11	L	4/17/2014	10:00	8.35	6.05	2.30
WATER LEVEL MONITORING WELLS						
C-26	U	4/17/2014	9:16	6.56	4.12	2.44
W-103	U	4/17/2014	10:11	8.04	6.12	1.92
W-104	L	4/17/2014	10:29	9.52	7.67	1.85
W-106	L	4/17/2014	9:50	10.52	8.4	2.12
W-111	U	4/17/2014	9:28	7.62	5.09	2.53
W-113	U	4/17/2014	9:33	6.86	4.52	2.34
W-118	U	4/17/2014	10:14	6.71	4.45	2.26
W-119	L	4/17/2014	10:16	6.81	4.48	2.33
W-120	L	4/17/2014	9:12	6.58	4.12	2.46
W-124	L	4/17/2014	9:06	5.84	4.05	1.79
WCC-06	U	4/17/2014	9:44	6.70	4.41	2.29
WCC-12	U	4/17/2014	9:58	8.48	6.45	2.03
UTILITY BACKFILL MONITORING POINT						
W-130	UB	4/17/2014	9:31	6.78	4.41	2.37
W-131	UB	4/17/2014	9:27	6.76	4.51	2.25
W-132	UB	4/17/2014	9:20	5.72	3.3	2.42
W-133	UB	4/17/2014	9:20	3.08	1.31	1.77
W-134	UB	4/17/2014	8:50	4.16	2.79	1.37
W-135A	UB	4/17/2014	8:44	6.42	5.03	1.39
W-136	UB	4/17/2014	9:39	2.70	1.68	1.02
W-138	UB	4/17/2014	9:14	6.80	5.28	1.52

TABLE 5

GROUNDWATER ELEVATIONS
2014 MONITORING PROGRAM
1990 Bay Road Site
East Palo Alto, California

WELL NO.[1]	ZONE[2]	DATE	TIME	MEASURING POINT ELEVATION[3]	DEPTH BELOW MEASURING POINT[4]	WATER LEVEL ELEVATION
CONTAINMENT/PERFORMANCE WELLS						
W-139(A)	U	1/24/2014	12:55	8.19	6.5	1.69
W-139(A)	U	4/17/2014	10:30	8.19	6.02	2.17
W-139(A)	U	7/16/2014	10:03	8.19	6.70	1.49
W-139(A)	U	10/28/2014	10:35	8.19	7.07	1.12
W-140(B)	U	1/24/2014	12:42	5.48	3.7	1.78
W-140(B)	U	4/17/2014	8:20	5.48	3.1	2.38
W-140(B)	U	7/16/2014	9:33	5.48	3.75	1.73
W-140(B)	U	10/28/2014	10:15	5.48	4.10	1.38
W-141(C)	U	1/24/2014	13:11	8.66	7.1	1.56
W-141(C)	U	4/17/2014	10:27	8.66	6.67	1.99
W-141(C)	U	7/16/2014	10:42	8.66	7.23	1.43
W-141(C)	U	10/28/2014	10:54	8.66	7.56	1.10
PIEZOMETERS						
P1	U	4/17/2014	8:32	9.97	7.65	2.32
P3	U	4/17/2014	8:34	9.73	7.49	2.24
P4	U	4/17/2014	8:46	9.71	7.54	2.17
P6	U	4/17/2014	8:32	9.98	7.81	2.17
P7	U	4/17/2014	9:40	6.29	3.91	2.38
P8	U	1/24/2014	13:16	8.19	6.69	1.50
P8	U	4/17/2014	10:16	8.19	6.16	2.03
P8	U	7/16/2014	10:32	8.19	6.80	1.39
P8	U	10/28/2014	10:58	8.19	7.13	1.06
P9	L	1/24/2014	13:20	8.2	6.82	1.38
P9	L	4/17/2014	10:20	8.2	6.32	1.88
P9	L	7/16/2014	10:37	8.20	6.94	1.26
P9	L	10/28/2014	11:02	8.20	7.23	0.97
P10	U	1/24/2014	13:01	7.77	6.01	1.76
P10	U	4/17/2014	10:30	7.77	5.55	2.22
P10	U	7/16/2014	10:11	7.77	6.12	1.65
P10	U	10/28/2014	10:44	7.77	6.47	1.30
P11	L	1/24/2014	13:02	7.77	6.07	1.70
P11	L	4/17/2014	10:28	7.77	5.63	2.14
P11	L	7/16/2014	14:35	7.77	6.18	1.59
P11	L	10/28/2014	12:55	7.77	6.39	1.38
P12	U	1/24/2014	12:49	7.34	5.53	1.81
P12	U	4/17/2014	10:19	7.34	4.94	2.40
P12	U	7/16/2014	9:44	7.34	5.62	1.72
P12	U	10/28/2014	10:23	7.34	6.02	1.32
P13	L	1/24/2014	12:47	7.22	5.41	1.81
P13	L	4/17/2014	10:22	7.22	4.84	2.38
P13	L	7/16/2014	9:54	7.22	5.50	1.72
P13	L	10/28/2014	10:29	7.22	5.90	1.32

Notes:
1. Location of wells shown in Figures 5 and 6
2. Hydrostratigraphic units are as follows: D-deep zone; U-upper shallow zone; L-lower, shallow zone; UB-utility backfill.
3. Measuring point (MP) in feet NGVD. Elevations of wells were surveyed in September 2009 relative to site datum.
4. Water levels were measured on:
- January 24,2014 by SSP&A between 12:42 hours and 13:20. On that date, low tide near the Dumbarton Bridge occurred at approximately 10:03 hours reaching a height of approximately 2.37 feet above MLLW (-1.59 feet above NGVD).
-April 17, 2014 by SSP&A between8:20 hours and 10:30. On that date, low tide near the Dumbarton Bridge occurred at approximately 9:12 hours reaching a height of approximately -0.57 feet above MLLW (-4.53 feet above NGVD).
- July 16, 2014 by SSP&A between 9:33 hours and 14:35. On that date, low tide near the Dumbarton Bridge occurred at approximately 10:40 hours reaching a height of approximately -0.62 feet above MLLW (-4.58 feet above NGVD).
-October 28, 2014 by SSP&A between 10:15 hours and 12:55. On that date, low tide near the Dumbarton Bridge occurred at approximately 10:34 hours reaching a height of approximately 3.05 feet above MLLW (-0.91 feet above NGVD)
5. On April 17, 2014 depths to groundwater were remeasured by SSP&A in wells W-137 (3.69 instead of 3.63), WCC-09 (6.67 instead of 6.56) P11 (5.63 instead of 5.75). On July 16, depth to groundwater was remeasured in well P11 (6.18 instead of 5.93 at 10:15). On October 28, depth to groundwater was remeasured in well P-11 (6.39 at 12:55 instead of 6.18 at 10:41)

TABLE 6

GROUNDWATER AND EQUIVALENT FRESH-WATER HEADS - APRIL 2014

1990 Bay Road Site

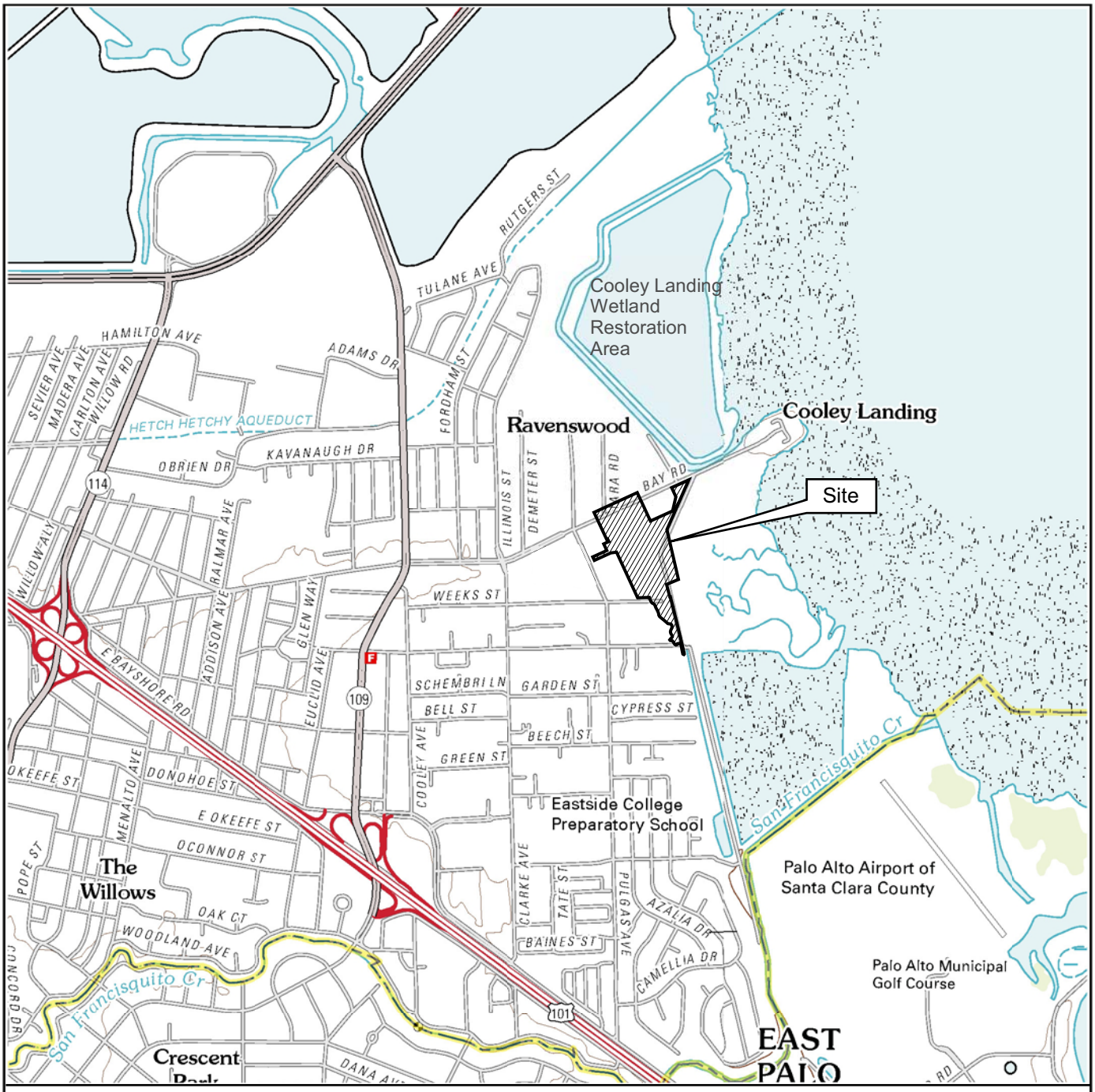
East Palo Alto, California

Aquifer Zone	Well No.	Groundwater Elevation (feet NGVD)	Parameters Used in Calculating Equivalent Fresh-Water Heads					Equivalent Fresh- Water Heads[4] (feet NGVD)
			Specific Conductance[2] (uS/cm)	TDS Concentration[3] (mg/L)	Groundwater Density[4] (g/ml)	Groundwater Specific Gravity (unitless)	Top of Well Screen Elevation (feet NGVD)	
Upper Shallow Zone	M-4	2.00	26750	18190	1.0110	1.0110	-1.78	2.04
	M-9	1.96	42080	28614	1.0182	1.0182	-4.07	2.07
	W-103	1.92	14650	9962	1.0053	1.0053	-1.30	1.94
	W-114	2.10	40710	27683	1.0175	1.0175	-2.40	2.18
	W-115	1.78	40720	27690	1.0175	1.0175	-3.20	1.87
	W-123	1.73	47900	29145	1.0186	1.0186	-3.80	1.83
	W-127	2.40	47900	32572	1.0209	1.0209	0.47	2.44
	W-129	1.23	38200	25976	1.0164	1.0164	-3.26	1.30
Lower Shallow Zone	P-9L	1.88	NA	22025	1.0136	1.0136	-18.80	2.16
	P-11L	2.14	NA	24789	1.0155	1.0155	-19.73	2.48
	P-13L	2.38	NA	8363	1.0042	1.0042	-17.78	2.47
	W-102	1.65	33041	22468	1.0139	1.0139	-17.79	1.92
	W-104	1.85	29500	20060	1.0123	1.0123	-24.49	2.17
	W-106	2.12	9330	6344	1.0028	1.0028	-17.97	2.18
	W-110	2.45	24666	16773	1.0100	1.0100	-13.02	2.60
	W-112	2.43	22712	15444	1.0091	1.0091	-19.20	2.63
	W-119	2.33	9100	6188	1.0027	1.0027	-13.21	2.37
	W-120	2.46	8300	5644	1.0023	1.0023	-12.93	2.50
	W-122	2.10	38080	25894	1.0163	1.0163	-23.30	2.51
	W-124	1.79	35400	24072	1.0151	1.0151	-20.30	2.12
	W-126	2.31	17835	12128	1.0068	1.0068	-19.49	2.46
	W-142	1.91	37100	25228	1.0158	1.0158	-20.63	2.27
	WCC-09	2.09	23539	16007	1.0095	1.0095	-17.24	2.27
	WCC-11	2.30	10654	7245	1.0034	1.0034	-15.65	2.36

Notes:

1. This table contains the Equivalent Fresh-Water Heads for wells with elevated salinity.
2. Specific Conductance obtained from most recent well sampling records (2014 or earlier).
3. TDS (mg/L) = 0.68 Specific Conductance (uS/cm) (Hem, 1985. Study and Interpretation of the Chemical Characteristics of Natural Waters, USGS Water Supply Paper no. 2254) or measured values in piezometers P-9L, P-11L, and P-13L.
4. Groundwater Density (g/mL) = 6.89798×10^{-7} x (TDS mg/L)+ 0.99844 (relationship obtained for a 0.1 to 3.2% solution of Sodium Chloride, Weast, R.C. ed. 1978. Handbook of Chemistry and Physics (59th ed.). West Palm Beach, FL: CRC Press. p. D-299)
5. Equivalent Fresh-Water Head: $h^* = [(sg \times h) + (1-sg.)z]$; where h = measured water level elevation (feet NGVD), sg = specific gravity, z =elevation of top of well screen (feet NGVD).

FIGURES



Basemap from USGS National Map
Palo Alto and Mountain View, California
Quadrangle 2012

S.S. Papadopulos & Associates, Inc.

SITE LOCATION MAP

1990 Bay Road Site
East Palo Alto, California

Figure 1

Deed Restricted Area

Section of pavement removed by property owner

Section to be paved by property owner

Soil sample location for samples collected on June 6, 2014

Location of grab samples collected on September 25, 2014. 3 grab samples were composited for analysis.

BA7-1 (0.5')
5.7 mg/kg

B-COMP-1 (1.0')
15 mg/kg

Sample ID (depth of boring)
Total arsenic concentration in milligrams per kilorgram

SCALE: 1" = 20'

ANUARY 3, 2014.

1950 BAY ROAD, EAST PALO ALTO, CALIFORNIA
136-MAPS-79 TO 80

PULGAS AVENUE

B-COMP-1 (1.0')
15 mg/kg

BA7-1 (0.5')
5.7 mg/kg

NAIL & BRASS TAG IN CONC.

NAIL & BRASS TAG ON CONC. CURB

S63°00'W 200.00'

MONITORING WELLS

BA7-3 (2.5')
6.0 mg/kg

BA7-2 (2.5')
6.5 mg/kg

BA7-4 (2.0')
14 mg/kg

BA7-5 (2.5')
4.9 mg/kg

ELECTRICAL PULL BOX

HOSE BIBB

Property Line

BA7-6 (0.5')
< 2.7 mg/kg

GAS RISER

Deed Restricted Area

(PARCEL I OF PRELIM.)
PTN. PARCEL A (51-PM-15 & 16)

BA7-7 (0.5')
<3.0 mg/kg

Concrete Pads (removed)

Warehouse Building

24' TEMP. INGRESS-EGRESS EASEMENT & PERMANENT UTILITY EASEMENT DOC. 2006-076921 AND AMENDED BY DOC. 2006-127036 (PARCEL II OF PRELIM.)

BA7-8 (2.0')
<3.6 mg/kg

BA7-10 (1.0')
6.4 mg/kg

BA7-13 (0.5')
6.2 mg/kg

BA7-9 (2.5')
7.7 mg/kg

BA7-11 (1.0')
210 mg/kg

BA7-12 (0.5')
6.4 mg/kg

3/4" IRON PIPE WITH WOOD PLUG AND BRASS TAG

NAIL & BRASS TAG

S63°11'00"W 185.64'

S63°11'00"W 400.64'

S63°11'00"W 215.00'

(PARCEL III OF PRELIM.)

S24°49'00"E 253.44'

N24°49'00"W 253.44'

32.0'

6.0'

30.00'

0 20 40 60 80 feet

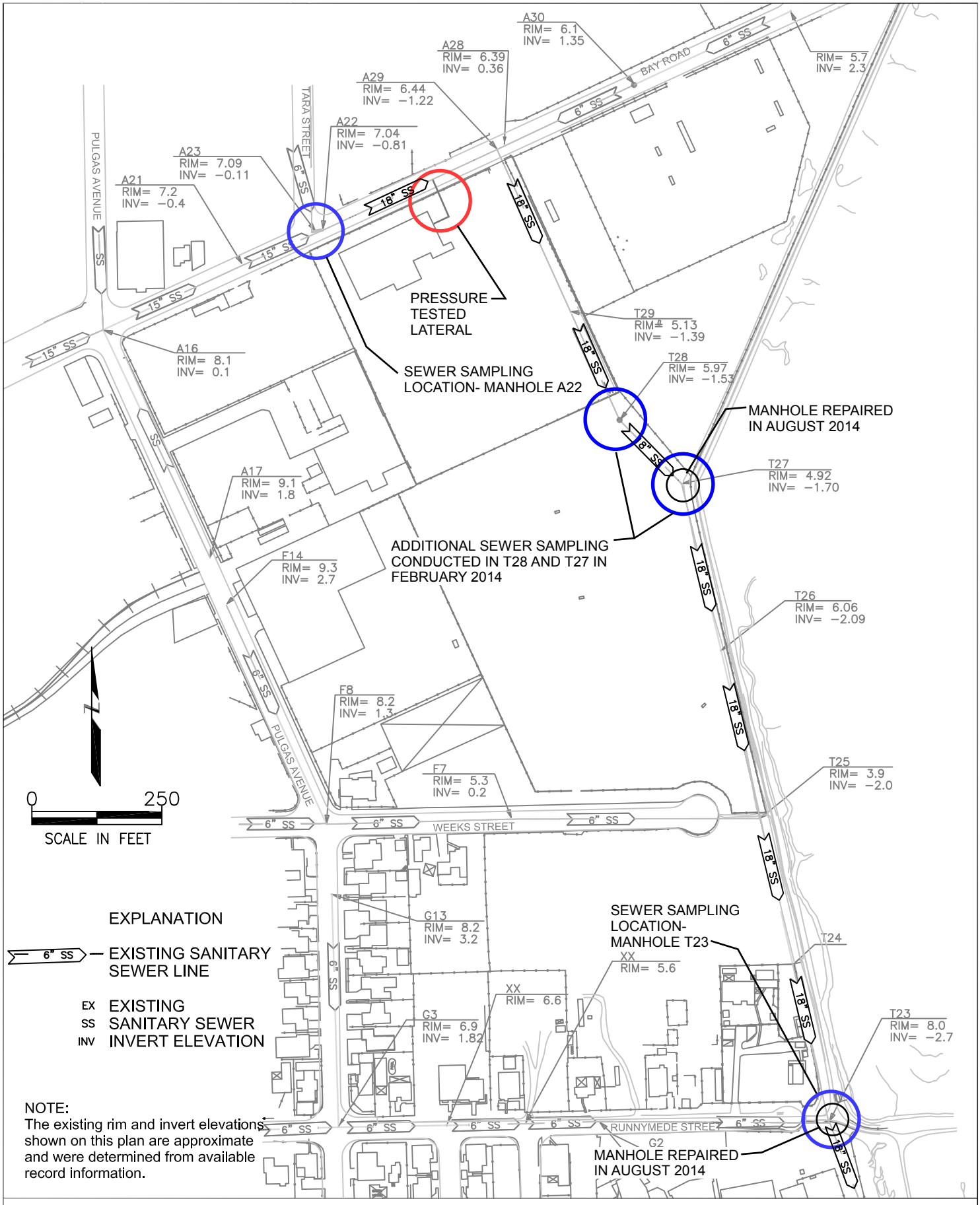
S.S. Papadopulos & Associates, Inc.

SOIL INVESTIGATION RESULTS- FORMER BAINS PROPERTY

2470 Pulgas Avenue
East Palo Alto, California

Figure
2

Project No.
SSP-082-508



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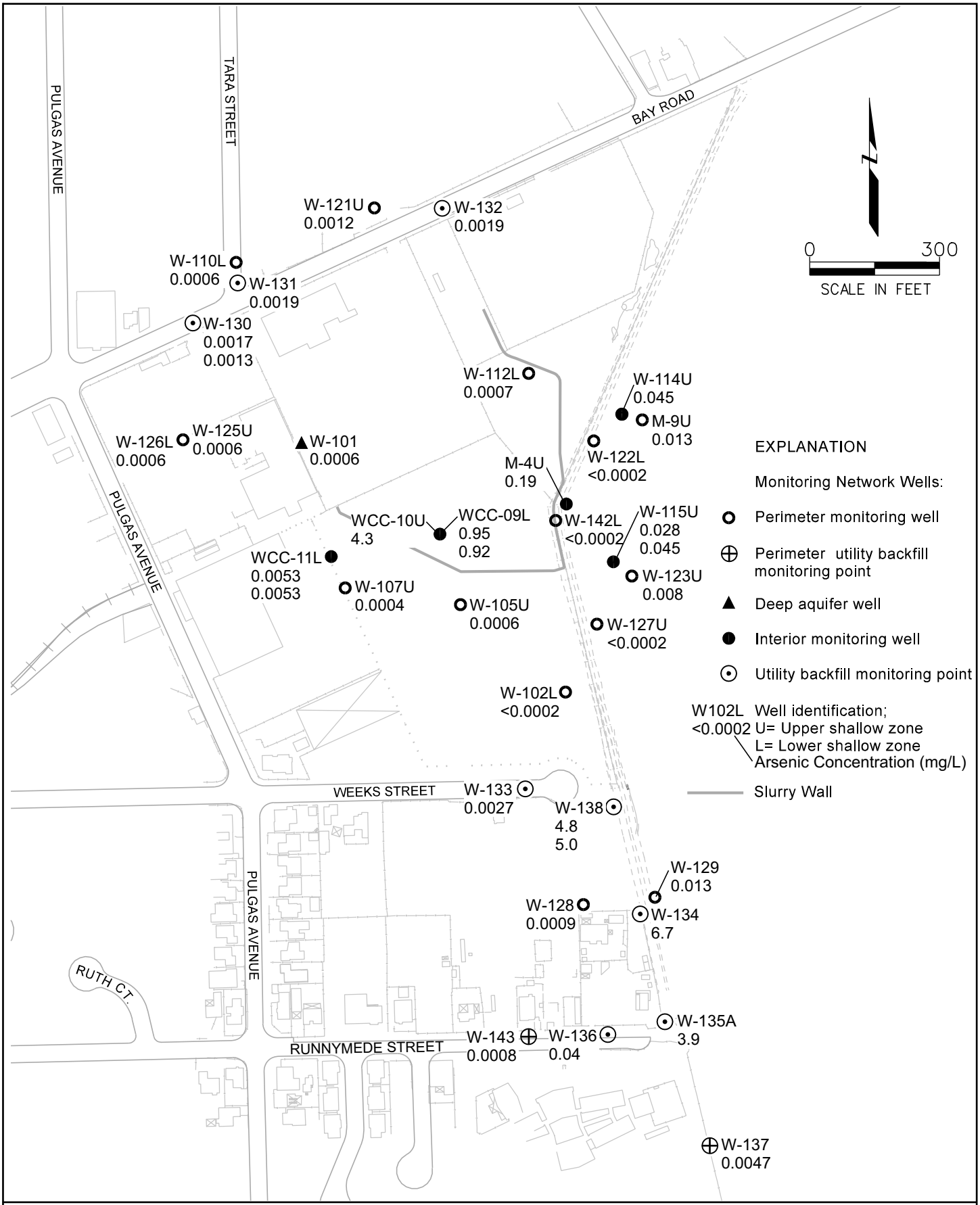
SANITARY SEWER MONITORING LOCATIONS

1990 Bay Road Site Vicinity
East Palo Alto, California

Figure 3



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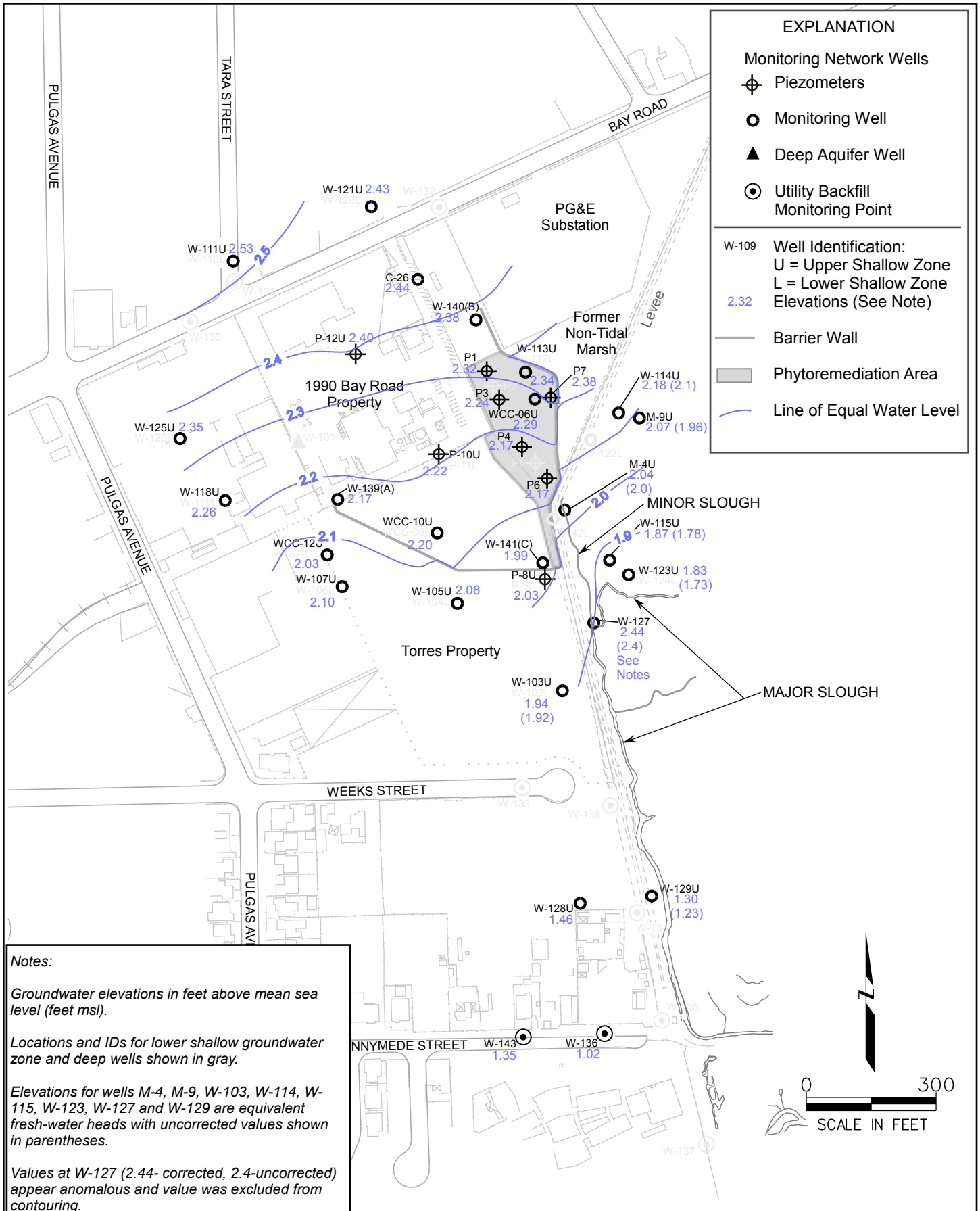
GROUNDWATER MONITORING NETWORK
ARSENIC MONITORING RESULTS APRIL 2014
1990 Bay Road Site
East Palo Alto, California

Figure 4



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Locations and IDs for lower shallow groundwater zone and deep wells shown in gray.

Elevations for wells M-4, M-9, W-103, W-114, W-115, W-123, W-127 and W-129 are equivalent fresh-water heads with uncorrected values shown in parentheses.

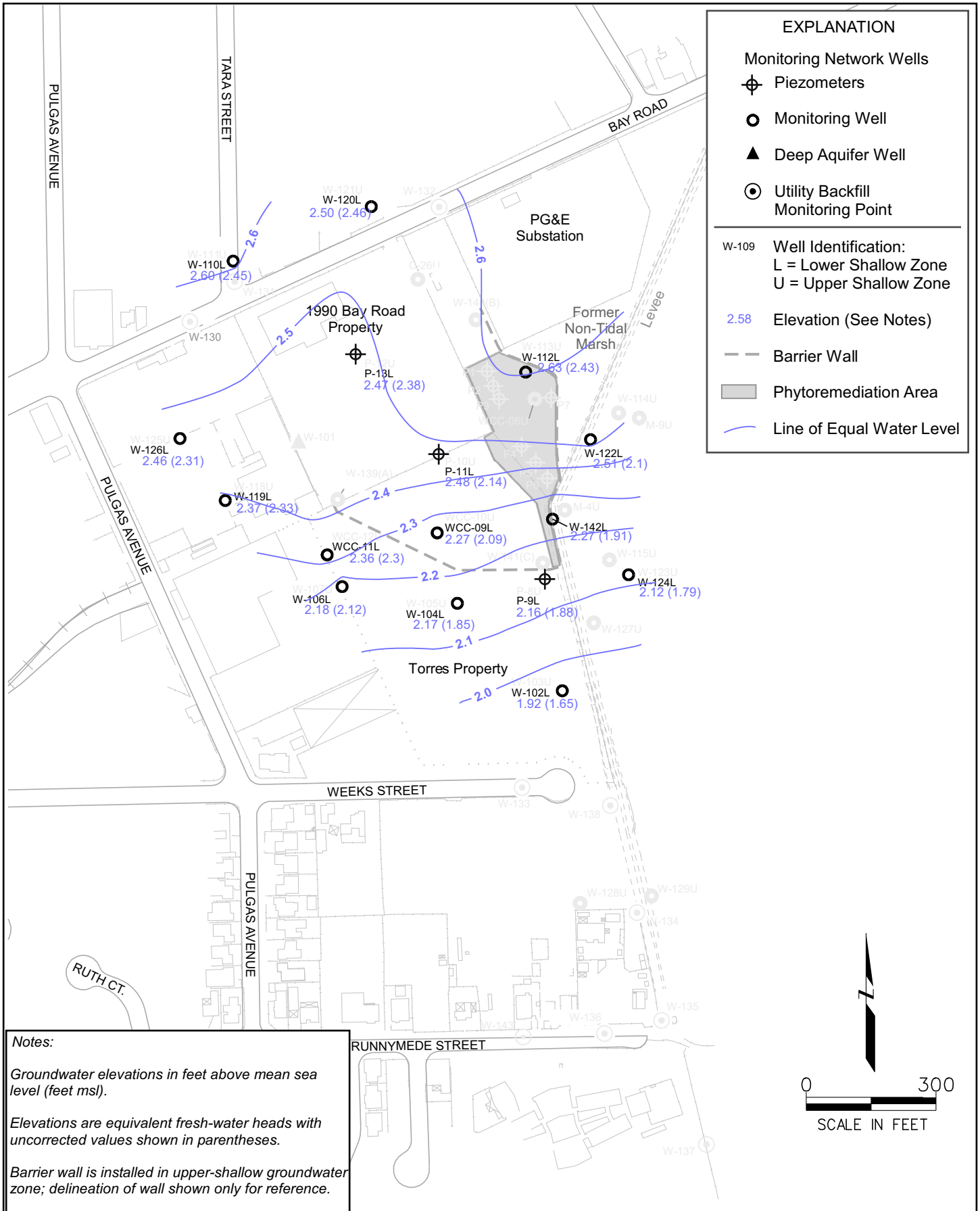
Values at W-127 (2.44- corrected, 2.4-uncorrected) appear anomalous and value was excluded from contouring.

UPPER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 17, 2014

1990 Bay Road Site Vicinity
East Palo Alto, California

S.S. Papadopulos & Associates, Inc.

Figure 5



Notes:

Groundwater elevations in feet above mean sea level (feet msl).

Elevations are equivalent fresh-water heads with uncorrected values shown in parentheses.

Barrier wall is installed in upper-shallow groundwater zone; delineation of wall shown only for reference.

S.S. Papadopulos & Associates, Inc.

LOWER SHALLOW GROUNDWATER ZONE WATER LEVELS
APRIL 17, 2014

1990 Bay Road Site Vicinity
East Palo Alto, California

Figure 6

4 – 1990 Bay Road & South – 2012 Groundwater Sampling Results

TABLE 1

ANALYTICAL RESULTS
BIENNIAL GROUNDWATER MONITORING PROGRAM
APRIL 2012
1990 Bay Road Site
East Palo Alto, California

Concentrations reported in milligrams per liter (mg/l)

WELL NO.[1]	ZONE[2]	2012 ARSENIC[3]
DEEP WELL		
W-101[4]	D	<0.001
PERIMETER WELLS		
W-102	L	<0.001
W-105	U	<0.001
W-107	U	<0.001
W-110	L	<0.001
W-112	L	<0.001
W-114	U	0.04
W-121	U	<0.001
W-122	L	<0.001
W-123	U	0.011
W-125	U	<0.001
W-126	L	<0.001
W-127	U	<0.001
W-128	U	<0.001
W-129	U	0.009
W-137	UB	0.045
W-142	L	<0.001
W-143	UB	<0.001
INTERIOR WELLS		
W-115	U	0.03
W-115 DUP	U	0.031
WCC-09	L	1.7
WCC-09 DUP	L	1.71
WCC-10	U	5.61
WCC-11	L	0.011
WCC-11 DUP	L	0.023
M-4	U	0.204
UTILITY BACKFILL MONITORING POINT		
W-130	UB	<0.001
W-130 DUP	UB	<0.001
W-131	UB	<0.001
W-132	UB	<0.001
W-133	UB	<0.001
W-134	UB	6.65
W-135	UB	
W-135A		5.28
W-135A DUP		
W-136	UB	0.003
W-138	UB	4.73
W-138 DUP	UB	5.24
OTHER WELL		
M-9	U	0.013

Note:

1. Location of wells shown on Figure 1.
2. Hydrostratigraphic units are as follows: D-deep zone; U-upper shallow zone; L-lower shallow zone; UB-utility backfill.
3. Samples collected by Blaine Tech Services on April 24 and 25, 2012 and analyzed by Exova (West Coast Analytical Services) of Santa Fe Springs, California by EPA Method 200.8 with helium collision gas (SOP 7040 rev12).
4. Deep monitoring well W-101 was under flowing artesian condition at the time of sampling.

5 – Runnymede Street – 2015 Soil Sampling

S.S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

September 18, 2014

Mr. Kamal Fallaha
City Engineer
City of East Palo Alto
1960 Tate Street
East Palo Alto, CA 94303

Subject: **Arsenic Analytical Results for Soil**
Runnymede Storm Drain Improvement Project

Dear Mr. Fallaha:

On behalf of StarLink Logistics, Inc. (SLLI), S.S. Papadopulos & Associates (SSP&A) is writing to present the results of recent soil sampling that was conducted to determine arsenic concentrations in the areas to be excavated for Phase II of the City of East Palo Alto's Runnymede Storm Drain improvements project.

The soil samples were collected on Friday, September 12, 2014 after the City drained the pond at O'Connor Street sufficiently to allow access for sampling. Ten samples (Run-SD-1 to -10) were collected for analysis in the areas shown on Figure 1. Each sample analyzed was a composite of four sub-samples collected within the area. Samples were collected to a depth of approximately 2 feet below ground surface, except in areas Run-SD-6 and Run-SD-10, which were collected to approximately 1.5 feet below ground surface. The sample areas approximate the extent of planned excavation based on design documents for the project.

The samples were analyzed for arsenic at the TestAmerica Laboratories, Inc. in Pleasanton, California. The lab reports are attached and the results, summarized in Table 1, show a range of arsenic concentrations in the soil samples from 1.8 to 24 mg/kg. These results are similar to the results of the soil investigations performed in this area between 1996 and 1998. These new data have been reviewed with Mark Johnson of the California Regional Water Quality Control Board, San Francisco Region, and Mr. Johnson agrees that the low arsenic levels detected will not impact worker health and safety or limit soil disposal options for this project.

45 BELDEN PLACE, 4TH FLOOR, SAN FRANCISCO, CALIFORNIA 94104 • TEL: (415)773-0400 • FAX: (415) 773-0401
www.sspa.com • e-mail: sanfrancisco@sspa.com

Please call if you have any questions or concerns.

Sincerely,

S.S. PAPADOPULOS & ASSOCIATES, INC.

Michael T. Rafferty
Project Manager

MR/kb

Enclosures:
Table 1 – Sampling Results Summary
Figure 1 – Soil Sample Areas and Results
Analytical Laboratory Report

CC: Robert Ferguson, SLLI
Mark Johnson, RWQCB
Maziar Bozorginia, City of East Palo Alto

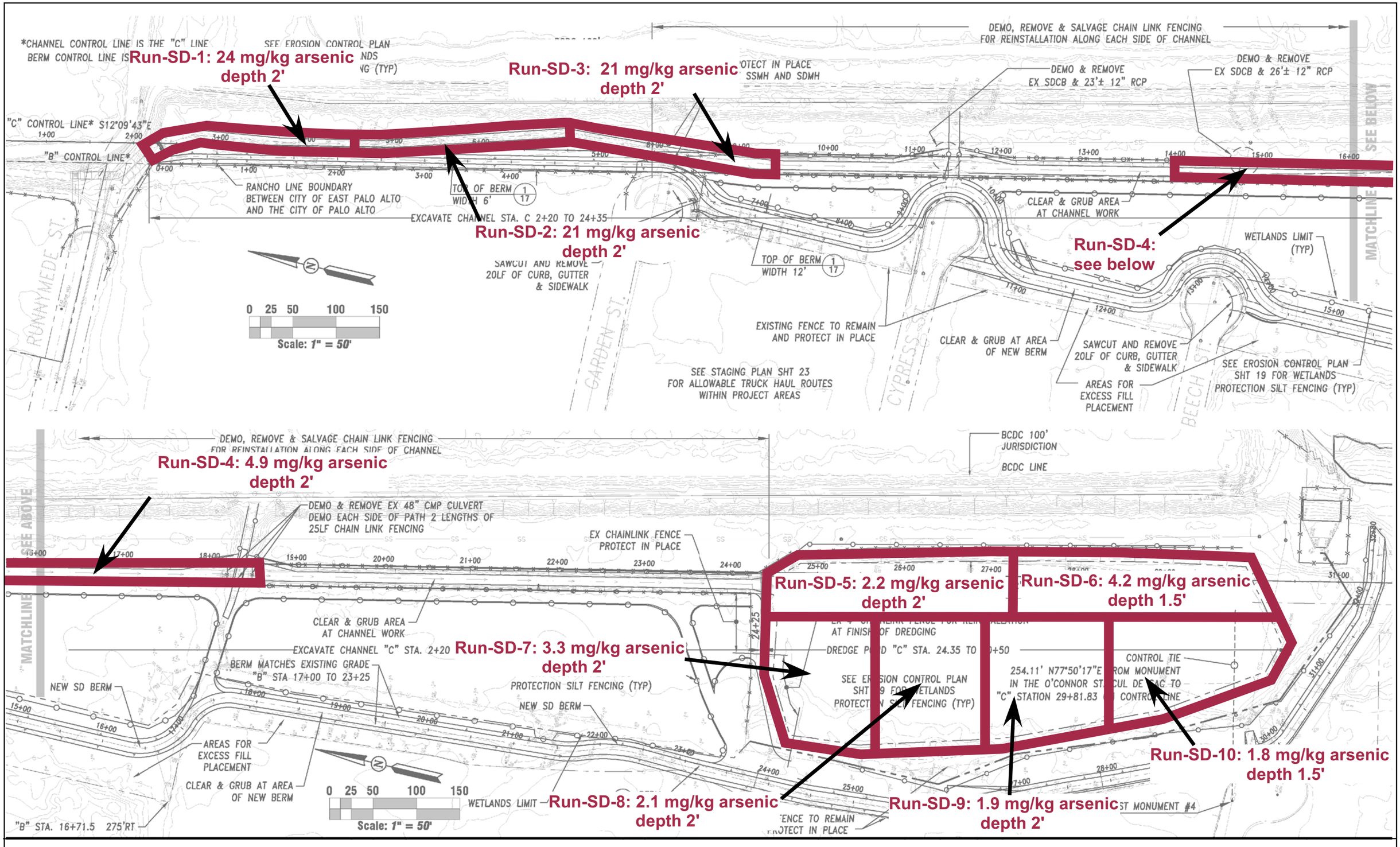
TABLE 1

RUNNYMEDE STORM DRAIN COMPOSITE SAMPLING RESULTS
ARSENIC CONCENTRATION

1990 Bay Road Site
East Palo Alto, California

Sample ID[1]	Sample Date	Analytical Result[2] (mg/kg)[3]
Run-SD-1	9/12/2014	24
Run-SD-2	9/12/2014	21
Run-SD-3	9/12/2014	21
Run-SD-4	9/12/2014	4.9
Run-SD-5	9/12/2014	2.2
Run-SD-6	9/12/2014	4.2
Run-SD-7	9/12/2014	3.3
Run-SD-8	9/12/2014	2.1
Run-SD-9	9/12/2014	1.9
Run-SD-10	9/12/2014	1.8

Notes
1. Each sample is a composite of four sub-samples collected within an area to be excavated. Sample areas shown on Figure 1.
2. Samples analyzed for arsenic by TestAmerica Laboratories of Pleasanton, California by EPA Method 6010B.
3. mg/kg- milligrams per kilogram



2014 COMPOSITE SOIL SAMPLE AREAS AND RESULTS

S.S. Papadopulos & Associates, Inc.

1990 Bay Road Site
East Palo Alto, California

Figure 1

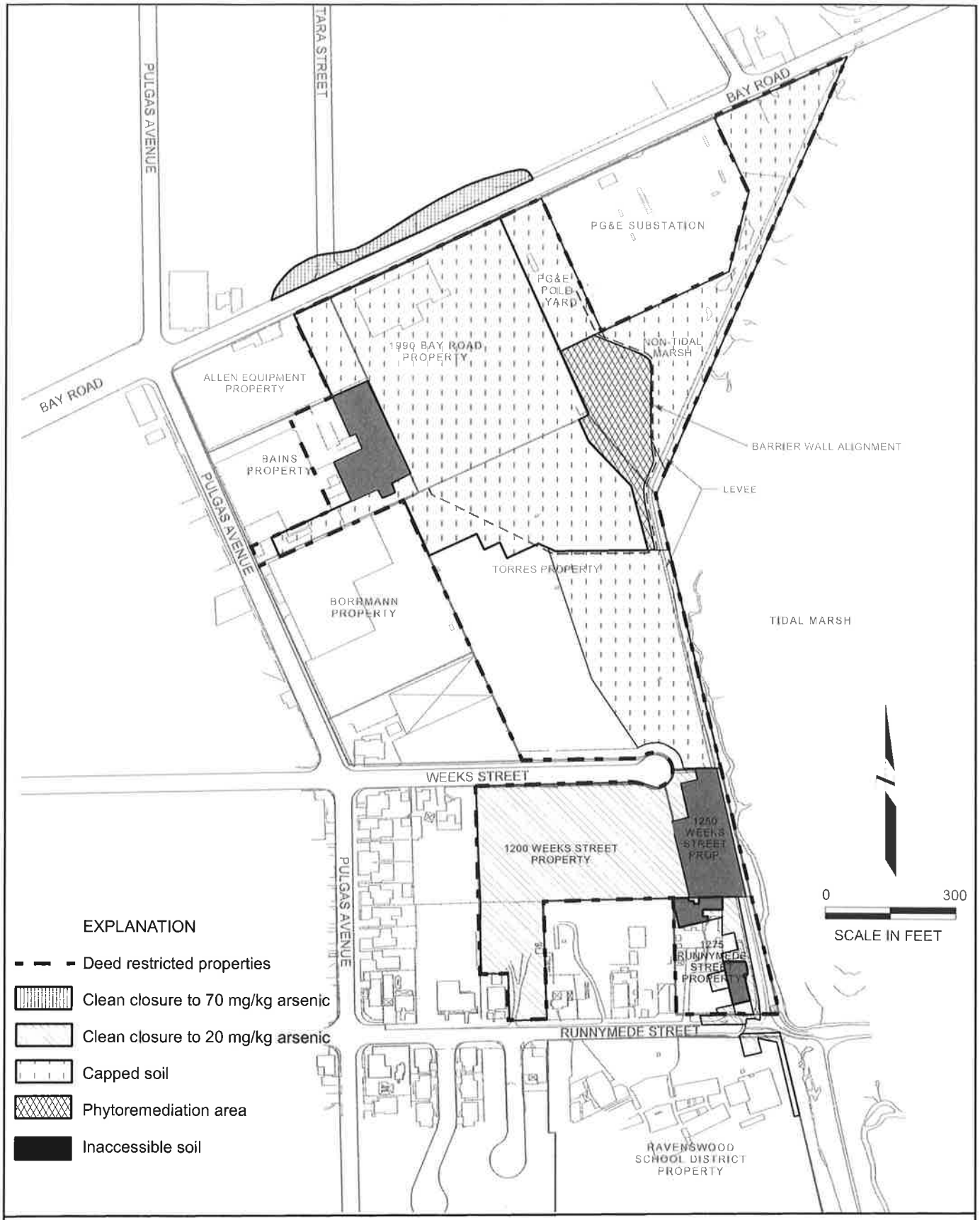
6 – Table 1 – Cleanup Goals (RWQCB Nos. 92-037 & -086)

Table 1 – Cleanup Goals

Chemicals of Concern	Soil ESL – Direct Exposure Human Health Risk Levels (Commercial/Industrial Shallow Soil Exposure-Table S-1) (mg/kg)	Soil ESL – Direct Exposure Human Health Risk Levels (Any Land Use/ Any Depth Soil Exposure: Construction Worker - Table S-1) (mg/kg)	Groundwater ESL-Direct Exposure Human Health Risk Levels (Table GW-1) MCL Priority (µg/L)	Subslab/Soil Gas Vapor Intrusion ESL Human Health Risk Level (Table SG-1) Commercial/Industrial (µg/m³)
Arsenic	11*	11*	10	NL
Cadmium	580	43	5	NL
Chromium (total)	NL	NL established	50	NL
Chromium VI	6.2	2.8	10	NL
Copper	47,000	14,000	1,000	NL
Lead	320	160	15	NL
Nickel	11,000	86	100	NL
Dieldren	0.17	1.1	0.00071	NL
TPHg	3,900	7,400	220	2,500,000
TPHd	1,100	8,800	150	570,000
TPHmo	140,000	32,000	150**	NL
Benzene	1.0	24	1.0	420
1,1-DCA	17	390	5.0	7,700
PCE	2.7	33	5.0	2,100
TCE	8.0	22	5.0	3,000
Cis-1-2DCE	90	82	6.0	35,000
Vinyl chloride	0.15	3.4	0.5	160
Toluene	4,600	4,100	40	1,300,000
Ethylbenzene	22	480	30	4,900
Total xylenes	2,400	2,400	20	440,000
MTBE	180	3,700	5.0	47,000
PCB	1	5.6	5.0	NL

Notes:
*Duverge-Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region (Duverge, 2011)
**If detections are degradates (not NAPL), add TPHmo and TPHd results and compare to TPHd criterion (150 µ/L)(RWQCB, 2016)
mg/kg = milligrams per kilograms
µg/L = micrograms per liter
DCA = dichloroethane
DCE = dichloroethene
PCE = tetrachloroethylene
TCE = trichloroethylene
TPHg = Total petroleum hydrocarbons as gasoline
TPHd = Total petroleum hydrocarbons as diesel
TPHmo = Total petroleum hydrocarbons as motor oil
PCB = Polychlorinated biphenyls
MTBE = Methyl tert-butyl ether
NL = Not listed (not established)
ESLs-San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels, February 2016

7 – RWQCB Order No. R2-2016-0037 – Arsenic Map



CURRENT STATUS OF REMEDIATION

1990 Bay Road Site
East Palo Alto, California

Figure 5

S.S. Papadopulos & Associates, Inc.

APPENDIX B

Soil and Groundwater Sample Locations and Data for the Site

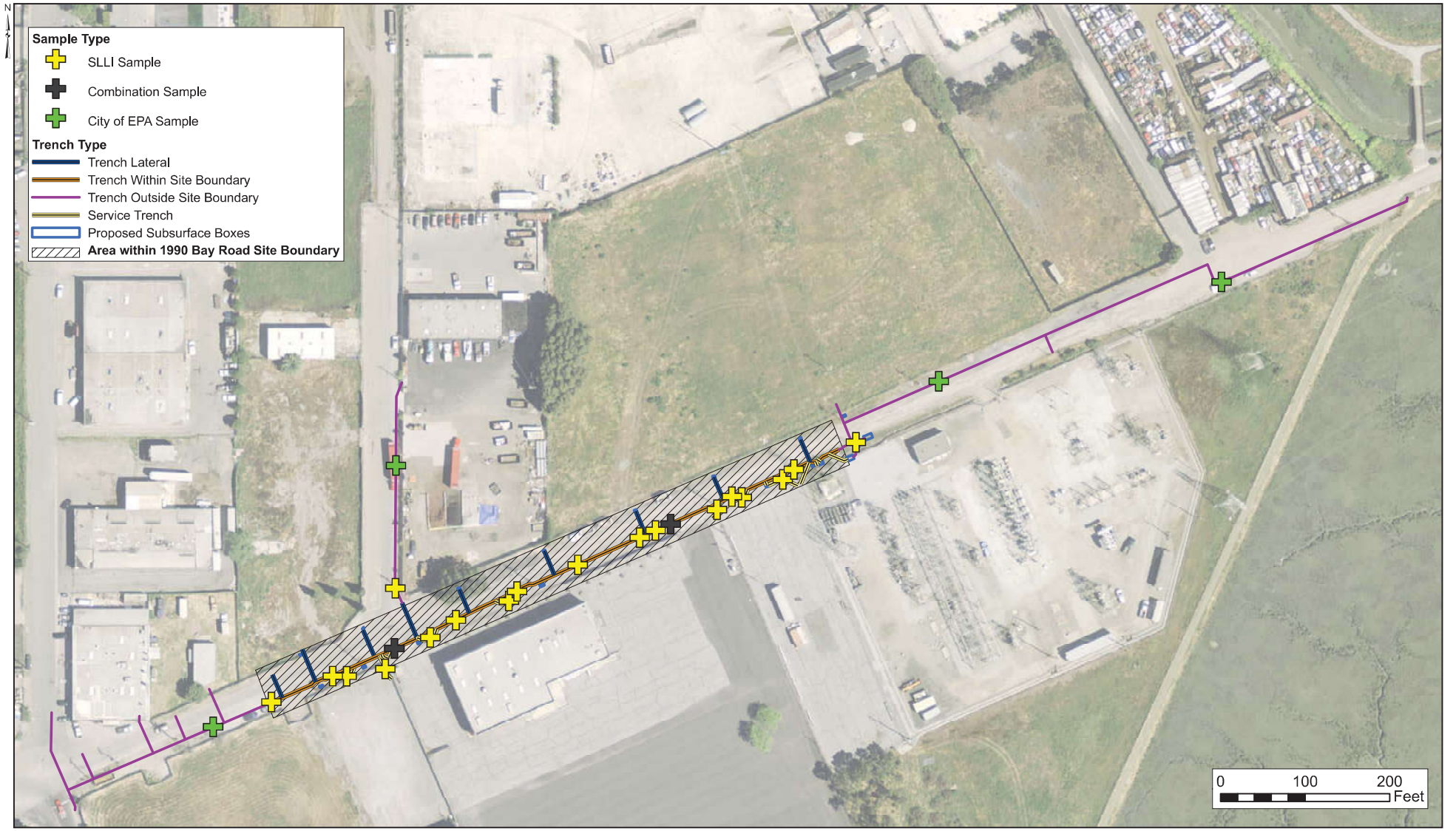


Figure 1 Proposed Pre-Characterization Sample Locations

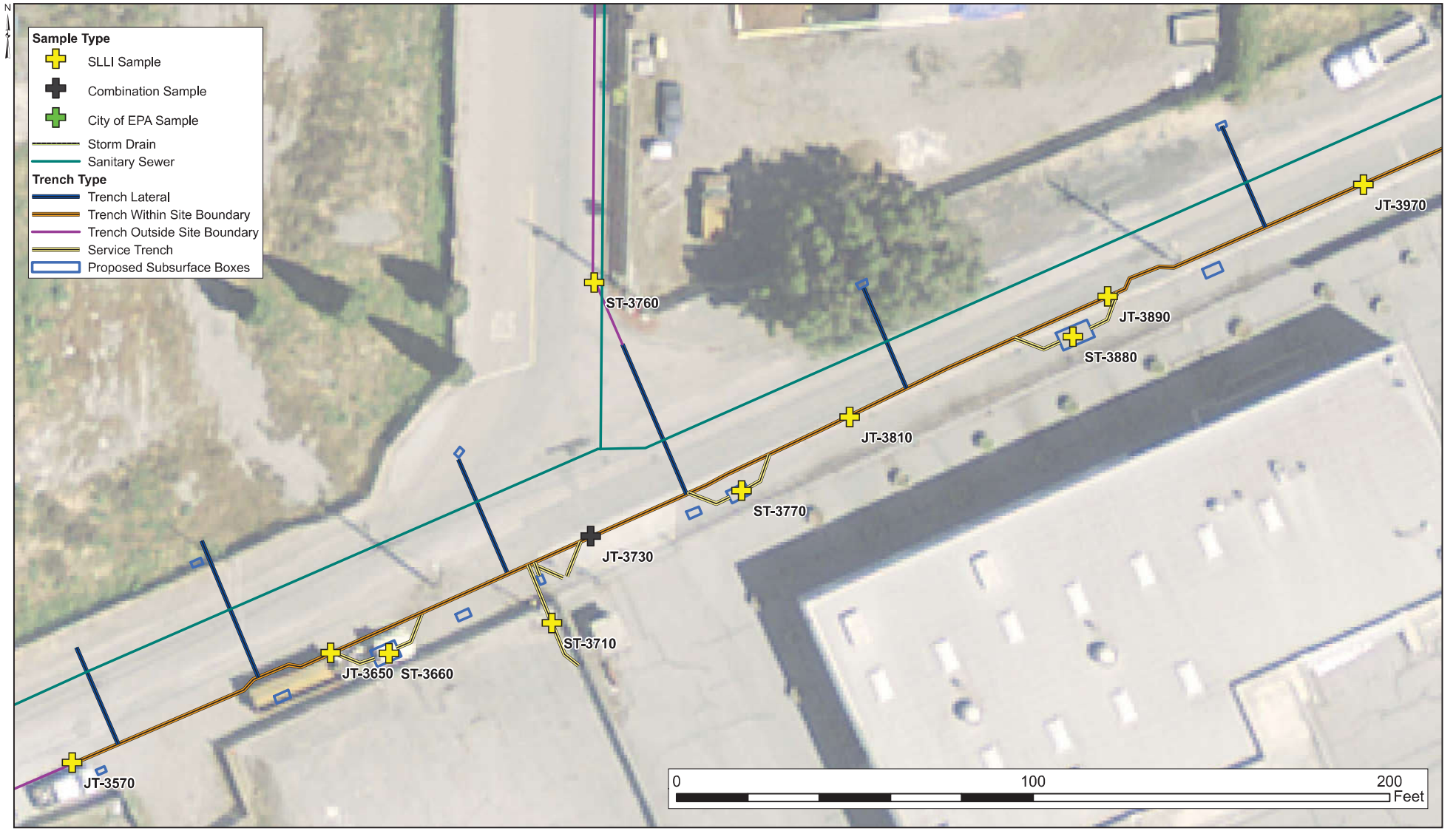


Figure 2 Proposed Pre-Characterization Sample Locations- Western Extent of Samples within 1990 Bay Road Site Boundaries

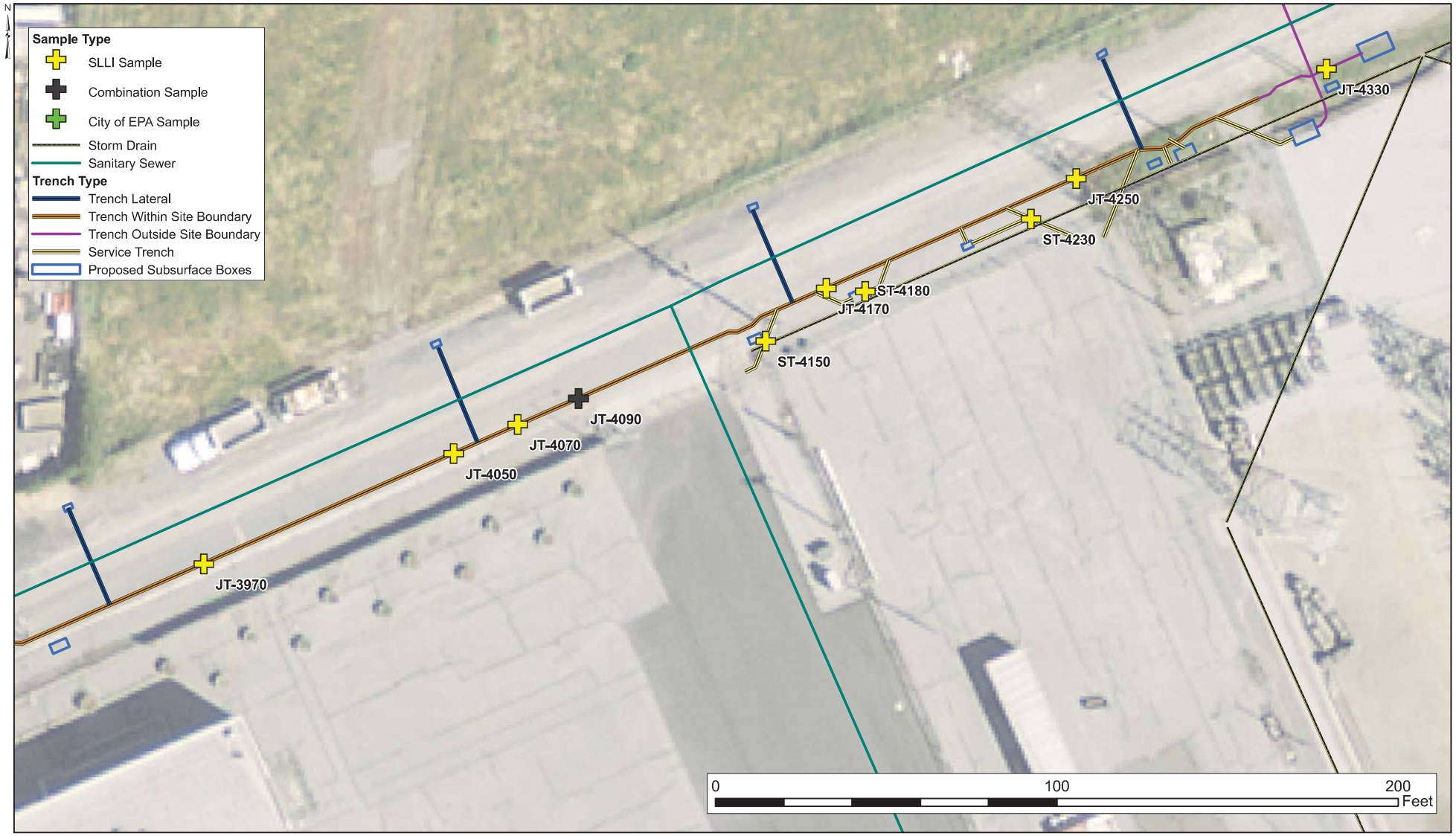


Figure 3 Proposed Pre-Characterization Sample Locations- Eastern Extent of Samples within 1990 Bay Road Site Boundaries

Table 1 - Total Petroleum Hydrocarbons as Diesel, Motor Oil and Gasoline and Volatile Organic Compounds Soil Sample Analytical Results

Sample Identification	Sample Date	mg/kg		µg/kg		
		TPHd	TPHmo	TPHg	Tetrachloroethene	All other VOCs
JT-3730	9/21/2016	14	ND<50	ND<180	42	ND
JT-4090	9/21/2016	250	890	ND<190	ND<3.8	ND
JT-3490	9/21/2016	9.1	23	ND<190	120	ND
ST-3780	9/21/2016	200	700	ND<190	ND<3.8	ND
JT-4450	9/21/2016	58	200	ND<210	ND<4.1	ND
JT-4800	9/21/2016	100	380	ND<200	ND<4.0	ND
Construction Worker Direct Exposure ESL[a]		880	32,000	2,800	33,000	ND
Ten (10) Times the STLC[b]		NE	NE	NE	NE	ND
Twenty (20) Times the TCLP[c]		NE	NE	NE	14,000	ND

Notes:

[a]San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB), Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, December 2013, revised February 2016 (rev3).

[b] STLC - Soluble Threshold Limit Concentration, Official California Code of Regulations (CCR), Title 22, Division 4.5, Ch. 11, Characteristics of Hazardous Waste, established in milligrams per liter (mg/l).

[c] TCLP - Toxicity Characteristic Leaching Procedure, Resource Conservation and Recovery Act (RCRA), established in milligrams per liter (mg/l).

Total petroleum hydrocarbons as gasoline (TPHg) and volatile organic compounds (VOCs) analyzed using USEPA Method 8260B; only detected VOCs listed in table above, please refer to analytical laboratory report for complete list of VOCs analyzed.

Total petroleum hydrocarbons as diesel (TPHd) and as motor oil (TPHmo) analyzed using USEPA Method 8015B.

A **BOLD** concentration indicates exceedance of site-specific reuse goals or Tier 1 ESLs.

µg/kg-micrograms per kilograms

Analytical results reported on a dry-weight basis

ND<X - not detected at a concentration greater than the laboratory reporting limit of X

NE - Not established

Table 2 - California Title 22 Metals, Herbicides & Asbestos Soil Sample Analytical Results

Sample Identification	Sample Date	ANALYTICAL RESULTS													
		Metals (mg/kg)												Herbicides (µg/kg)	Asbestos (percent)
		Arsenic[a]	Barium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Vanadium	Zinc	Mercury	All Other Metals		
JT-3570	9/21/2016	ND<3.7	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3650	9/21/2016	**13**	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3660	9/21/2016	**20**	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3710	9/21/2016	**100**	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3720	9/21/2016	**4.6**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3730	9/21/2016	**44/31***	140	1.0	31	7.4	19	16	37	30	53	0.089	ND	ND	ND<0.25
ST-3770	9/22/2016	**26**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3810	9/23/2016	**19**	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-3880	9/21/2016	**16**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3890	9/21/2016	**38**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-3970	9/21/2016	**52**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4050	9/21/2016	**79**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4070	9/21/2016	**11**	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-4150	9/21/2016	**37**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4170	9/21/2016	**12**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4180	9/21/2016	**13**	---	---	---	---	---	---	---	---	---	---	---	---	---
ST-4230	9/21/2016	**7.8**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4250	9/21/2016	**12**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4330	9/21/2016	**10**	---	---	---	---	---	---	---	---	---	---	---	---	---
JT-4090	9/21/2016	**5.7/7.5***	120	ND<0.32	30	7.0	22	7.3	34	34	45	0.083	ND	ND	ND<0.25
JT-3490	9/21/2016	**6.9**	120	0.53	35	11	33	25	37	44	60	0.11	ND	---	ND<0.25
ST-3780	9/21/2016	**3.4**	110	1.2	40	7.6	25	23	35	31	47	0.075	ND	---	ND<0.25
JT-4450	9/21/2016	**13**	140	1.1	32	7.1	24	33	37	31	65	0.22	ND	---	ND<0.25
JT-4800	9/21/2016	**5.2**	110	ND<0.34	**57**	8.8	26	16	46	37	47	0.12	ND	---	ND<0.25
Construction Worker Direct Exposure ESL[d]		0.98	3,000	43	NE	28	14,000	160	86	470	110,000	44	NE	NE	NE
Ten (10) Times the STLC[b]		50	1,000	10	50	800	250	50	200	240	2,500	2.0	NE	NE	NE
Twenty (20) Times the TCLP[c]		100	2,000	20	100	NE	NE	100	NE	NE	NE	4.0	NE	NE	NE

Notes:

[a] Cleanup goal for arsenic in soil outside of the 1990 Bay Road site limits was established at 20 mg/kg by Regional Water Control Board Order No. R2-2016-0037.

[b] STLC - Soluble Threshold Limit Concentration, Official California Code of Regulations (CCR), Title 22, Division 4.5, Ch. 11, Characteristics of Hazardous Waste, established in milligrams per liter (mg/l).

[c] TCLP - Toxicity Characteristic Leaching Procedure, Resource Conservation and Recovery Act (RCRA), established in milligrams per liter (mg/l).

[d] San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB), Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, November 2007, revised February 2016 (rev3).

A **BOLD** concentration indicates exceedance of regulatory screening levels (10 times the STLC, STLC itself if compared to "Lead WET" result), or site-specific reuse goals or Tier 1 ESLs.

An UNDERLINED concentrations indicates exceedance of 20 times the TCLP.

Gray shading indicates the concentration is greater than the cleanup goal of 20 mg/kg.

California Title 22 Metals analyzed using USEPA Method 6010B/7471A

mg/kg - milligrams per kilogram; analytical results reported on a dry-weigh basis

µg/kg-micrograms per kilograms

ND<X - not detected at a concentration greater than the laboratory reporting limit of X

NE - Not Established

--- Not analyzed

F1 - MS and/or MSD recovery outside accpetable limits. The results were validated because the laboratory control sample (LCS) was within the control limits.

F2 - MS/MSD RPD exceeds control limits. The results were validated because the laboratory control sample (LCS) was within the control limits.

* - First result listed was analyzed at request of Ninyo & Moore and the second result listed was analyzed at request of S.S. Papadopulos & Associates

Table 3 - Organochlorine Pesticides, Polychlorinated Biphenyls, and Semivolatile Organic Compounds Soil Sample Analytical Results

Sample Identification	Sample Date	Organochlorine Presticides (µg/kg)									Polychlorinated Biphenyls		SVOCs (mg/kg)
		Dieldrin	Heptachlor epoxide	4,4'-DDT	4,4'-DDE	4,4'-DDD	Chlordane (technical)	alpha-Chlordane	gamma-Chlordane	All Other OCPs	PCB-1260	All Other PCBs	
JT-3730	9/21/2016	3.9	ND<1.9	6.8	3.6	ND<1.9	ND<39	ND<1.9	2.4	ND	56	ND	ND
JT-4090	9/21/2016	3.9	ND<3.9	ND<3.9	ND<3.9	ND<3.9	ND<78	ND<3.9	4.1	ND	ND<49	ND	ND
JT-3490	9/21/2016	2.1	ND<2.0	4.5	2.6	ND<2.0	ND<40	ND<2.0	2.5	ND	ND<50	ND	ND
ST-3780	9/21/2016	3.7	64	8.6	6.2	ND<2.0	620	120	95	ND	ND<49	ND	ND
JT-4450	9/21/2016	2.4	ND<2.0	9.9	6.4	ND<2.0	ND<39	2.0	8.6	ND	ND<49	ND	ND
JT-4800	9/21/2016	ND<2.0	ND<2.0	ND<2.0	3.3	5.9	ND<40	ND<2.0	ND<2.0	ND	ND<50	ND	ND
Construction Worker Direct Exposure ESL[b]		1,100	1,900	57,000	57,000	81,000	14,000	NE	NE	NE	5,600	5,600	NE
Ten (10) Times the STLC[e]		8,000	4,700	1,000	1,000	1,000	2,500	NE	NE	NE	50,000	50,000	NE
Twenty (20) Times the TCLP[e]		NE	160	NE	NE	NE	600	NE	NE	NE	NE	NE	NE

Notes:

[a]Soil Management Plan (SMP), MacArthur Transit Village, Iris Environmental, July 2013, revised December 2013.

[b]San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB), Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, December 2013, revised February 2016 (rev3).

Total petroleum hydrocarbons as gasoline (TPHg) and volatile organic compounds (VOCs) analyzed using USEPA Method 8260B; only detected VOCs listed in table above, please refer to analytical laboratory report for complete list of VOCs analyzed.

Total petroleum hydrocarbons as diesel (TPHd) and as motor oil (TPHmo) analyzed using USEPA Method 8015B.

[b] STLC - Soluble Threshold Limit Concentration,Official California Code of Regulations (CCR), Title 22, Division 4.5, Ch. 11, Characteristics of Hazardous Waste, established in milligrams per liter (mg/l).

[c] TCLP - Toxicity Characteristic Leaching Procedure, Resource Conservation and Recovery Act (RCRA), established in milligrams per liter (mg/l).

[d] San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB), Environmental Screen Levels (ESLs), Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, November 2007, revised February 2016 (rev3).

[e] Waste extraction test (WET) and Toxicity Characteristic Leaching Procedure (TCLP) results reported in milligrams per liter (mg/l).

A **BOLD** concentration indicates exceedance of regulatory screening levels (10 times the STLC, STLC itself if compared to "Lead WET" result), or site-specific reuse goals or Tier 1 ESLs.

An UNDERLINED concentrations indicates exceedance of 20 times the TCLP.

mg/kg-milligrams per kilograms

µg/kg-micrograms per kilograms

Analytical results reported on a dry-weight basis

ND<X - not detected at a concentration greater than the laboratory reporting limit of X

NE - Not established

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-74605-1
Client Project/Site: BAY ROAD

For:
S S Papadopulos & Associates, Inc.
45 Belden Place, 4th Floor
San Francisco, California 94104

Attn: Mr. Ken Chiang

Authorized for release by:
10/3/2016 11:07:35 AM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-74605-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-74605-1

Comments
No additional comments.

Receipt
The samples were received on 9/21/2016 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

GC Semi VOA
Method(s) 8151A: The continuing calibration verification (CCV) associated with batch 354185 recovered outsider control limit for 2,4-DB. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: JT-3730 (720-74605-6) and JT-4090 (720-74605-14).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6010B: The following sample was diluted due to the abundance of non-target analytes: JT-4170 (720-74605-16). Elevated reporting limits (RLs) are provided.

Method(s) 6010B: The following sample was diluted due to the abundance of non-target analyte: JT-3570 (720-74605-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3570 — Lab Sample ID: 720-74605-1

No Detections.

Client Sample ID: JT-3650 — Lab Sample ID: 720-74605-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13		3.0		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-3660 — Lab Sample ID: 720-74605-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	20		3.4		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-3710 — Lab Sample ID: 720-74605-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	100		3.3		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-3720 — Lab Sample ID: 720-74605-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.6		3.1		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-3730 — Lab Sample ID: 720-74605-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	31		3.3		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-3770 — Lab Sample ID: 720-74605-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	26		2.6		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-3810 — Lab Sample ID: 720-74605-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19		3.9		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-3880 — Lab Sample ID: 720-74605-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16		3.4		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-3890 — Lab Sample ID: 720-74605-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	38		3.5		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-3970 — Lab Sample ID: 720-74605-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	52		3.9		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-4050 — Lab Sample ID: 720-74605-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	79		3.0		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-4070 — Lab Sample ID: 720-74605-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11		2.6		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-4090 — Lab Sample ID: 720-74605-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.5		3.5		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-4150 — Lab Sample ID: 720-74605-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	37		3.1		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-4170 — Lab Sample ID: 720-74605-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12		3.3		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-4180 — Lab Sample ID: 720-74605-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13		3.5		mg/Kg	4		6010B	Total/NA

Client Sample ID: ST-4230 — Lab Sample ID: 720-74605-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.8		2.9		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT-4250 — Lab Sample ID: 720-74605-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12		3.7		mg/Kg	4		6010B	Total/NA

Client Sample ID: JT4330 — Lab Sample ID: 720-74605-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10		4.0		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3570
Date Collected: 09/21/16 09:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-1
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.7		mg/Kg		09/22/16 14:45	09/29/16 00:02	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3650
Date Collected: 09/21/16 09:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-2
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		3.0		mg/Kg		09/22/16 14:45	09/29/16 00:07	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-3660
Date Collected: 09/21/16 09:32
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-3
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20		3.4		mg/Kg		09/22/16 14:45	09/29/16 00:12	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-3710
Date Collected: 09/15/16 09:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-4
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	100		3.3		mg/Kg		09/22/16 14:45	09/29/16 00:18	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-3720
Date Collected: 09/21/16 09:54
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-5
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.6		3.1		mg/Kg		09/22/16 14:45	09/29/16 00:23	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3730
Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-6
Matrix: Solid

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dicamba	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
Dichlorprop	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
2,4-D	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
Silvex (2,4,5-TP)	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
2,4,5-T	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10
2,4-DB	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:11	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCAA	*67*		*31 - 120*	*09/29/16 20:51*	*10/01/16 15:11*	*10*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	31		3.3		mg/Kg		09/22/16 14:45	09/29/16 00:28	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-3770
Date Collected: 09/21/16 10:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-7
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26		2.6		mg/Kg		09/22/16 14:45	09/29/16 00:34	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3810
Date Collected: 09/21/16 10:28
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-8
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		3.9		mg/Kg		09/22/16 14:45	09/29/16 00:39	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-3880
Date Collected: 09/21/16 11:35
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-9
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		3.4		mg/Kg		09/22/16 14:45	09/29/16 00:55	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3890
Date Collected: 09/21/16 10:38
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-10
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	38		3.5		mg/Kg		09/22/16 14:45	09/29/16 01:01	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3970
Date Collected: 09/21/16 10:48
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-11
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	52		3.9		mg/Kg		09/22/16 14:45	09/29/16 01:06	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-4050
Date Collected: 09/21/16 11:00
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-12
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	79		3.0		mg/Kg		09/22/16 14:45	09/29/16 01:11	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-4070
Date Collected: 09/21/16 11:10
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-13
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		2.6		mg/Kg		09/22/16 14:45	09/29/16 01:17	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-4090
Date Collected: 09/21/16 11:25
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-14
Matrix: Solid

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dicamba	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
Dichlorprop	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
2,4-D	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
Silvex (2,4,5-TP)	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
2,4,5-T	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10
2,4-DB	ND		320		ug/Kg		09/29/16 20:51	10/01/16 15:36	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCAA	*67*		*31 - 120*	*09/29/16 20:51*	*10/01/16 15:36*	*10*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.5		3.5		mg/Kg		09/22/16 14:45	09/29/16 01:22	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-4150
Date Collected: 09/13/16 11:20
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-15
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37		3.1		mg/Kg		09/22/16 14:45	09/29/16 01:28	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-4170
Date Collected: 09/21/16 12:30
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-16
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		3.3		mg/Kg		09/22/16 16:03	09/28/16 20:39	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-4180
Date Collected: 09/21/16 12:38
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-17
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		3.5		mg/Kg		09/22/16 16:03	09/28/16 20:44	4

Client Sample Results

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-4230
Date Collected: 09/21/16 12:47
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-18
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.8		2.9		mg/Kg		09/22/16 16:03	09/28/16 20:50	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-4250
Date Collected: 09/21/16 12:55
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-19
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		3.7		mg/Kg		09/22/16 16:03	09/28/16 20:55	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT4330
Date Collected: 09/21/16 13:02
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-20
Matrix: Solid

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		4.0		mg/Kg		09/22/16 16:03	09/28/16 21:00	4

Surrogate Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Method: 8151A - Herbicides (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DCPA2 (31-120)
720-74605-6	JT-3730	67
720-74605-14	JT-4090	67
LCS 500-354004/2-A	Lab Control Sample	68
LCSD 500-354004/3-A	Lab Control Sample Dup	63
MB 500-354004/1-A	Method Blank	63

Surrogate Legend

DCPA = DCAA

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 500-354004/1-A
Matrix: Solid
Analysis Batch: 354185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 354004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dicamba	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
Dichlorprop	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
2,4-D	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
Silvex (2,4,5-TP)	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
2,4,5-T	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10
2,4-DB	ND		330		ug/Kg		09/29/16 20:51	10/01/16 13:58	10

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCAA	*63*		*31 - 120*	*09/29/16 20:51*	*10/01/16 13:58*	*10*

Lab Sample ID: LCS 500-354004/2-A
Matrix: Solid
Analysis Batch: 354185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 354004

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dicamba			1330	925		ug/Kg		69	40 - 110		
Dichlorprop			1330	822		ug/Kg		62	32 - 110		
2,4-D			1340	786		ug/Kg		59	20 - 110		
Silvex (2,4,5-TP)			1330	980		ug/Kg		74	37 - 110		
2,4,5-T			1340	1040		ug/Kg		77	30 - 110		
2,4-DB			1340	831		ug/Kg		62	30 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCAA	*68*		*31 - 120*

Lab Sample ID: LCSD 500-354004/3-A
Matrix: Solid
Analysis Batch: 354185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 354004

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dicamba			1330	889		ug/Kg		67	40 - 110	4	30
Dichlorprop			1330	782		ug/Kg		59	32 - 110	15	30
2,4-D			1340	741		ug/Kg		55	20 - 110	2	30
Silvex (2,4,5-TP)			1330	920		ug/Kg		69	37 - 110	4	30
2,4,5-T			1340	991		ug/Kg		74	30 - 110	11	30
2,4-DB			1340	797		ug/Kg		59	30 - 122	14	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCAA	*63*		*31 - 120*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-209796/1-A
Matrix: Solid
Analysis Batch: 210223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209796

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0		mg/Kg		09/22/16 14:32	09/28/16 18:21	1

Lab Sample ID: LCS 720-209796/2-A
Matrix: Solid
Analysis Batch: 210223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209796

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	48.4		mg/Kg		97	80 - 120

Lab Sample ID: LCSSRM 720-209796/3-A
Matrix: Solid
Analysis Batch: 210223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209796

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	45.5	41.0		mg/Kg		90	69 - 119

Lab Sample ID: MB 720-209800/1-A
Matrix: Solid
Analysis Batch: 210225

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0		mg/Kg		09/22/16 14:45	09/28/16 22:46	1

Lab Sample ID: LCS 720-209800/2-A
Matrix: Solid
Analysis Batch: 210225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	47.3		mg/Kg		95	80 - 120

Lab Sample ID: LCSSRM 720-209800/3-A
Matrix: Solid
Analysis Batch: 210225

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	45.5	37.8		mg/Kg		83	69 - 119

GC Semi VOA

Prep Batch: 354004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-6	JT-3730	Total/NA	Solid	8151A	
720-74605-14	JT-4090	Total/NA	Solid	8151A	
MB 500-354004/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 500-354004/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 500-354004/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Analysis Batch: 354185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-6	JT-3730	Total/NA	Solid	8151A	354004
720-74605-14	JT-4090	Total/NA	Solid	8151A	354004
MB 500-354004/1-A	Method Blank	Total/NA	Solid	8151A	354004
LCS 500-354004/2-A	Lab Control Sample	Total/NA	Solid	8151A	354004
LCSD 500-354004/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	354004

Metals

Prep Batch: 209796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-16	JT-4170	Total/NA	Solid	3050B	
720-74605-17	ST-4180	Total/NA	Solid	3050B	
720-74605-18	ST-4230	Total/NA	Solid	3050B	
720-74605-19	JT-4250	Total/NA	Solid	3050B	
720-74605-20	JT4330	Total/NA	Solid	3050B	
MB 720-209796/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-209796/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSSRM 720-209796/3-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 209800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-1	JT-3570	Total/NA	Solid	3050B	
720-74605-2	JT-3650	Total/NA	Solid	3050B	
720-74605-3	ST-3660	Total/NA	Solid	3050B	
720-74605-4	ST-3710	Total/NA	Solid	3050B	
720-74605-5	ST-3720	Total/NA	Solid	3050B	
720-74605-6	JT-3730	Total/NA	Solid	3050B	
720-74605-7	ST-3770	Total/NA	Solid	3050B	
720-74605-8	JT-3810	Total/NA	Solid	3050B	
720-74605-9	ST-3880	Total/NA	Solid	3050B	
720-74605-10	JT-3890	Total/NA	Solid	3050B	
720-74605-11	JT-3970	Total/NA	Solid	3050B	
720-74605-12	JT-4050	Total/NA	Solid	3050B	
720-74605-13	JT-4070	Total/NA	Solid	3050B	
720-74605-14	JT-4090	Total/NA	Solid	3050B	
720-74605-15	ST-4150	Total/NA	Solid	3050B	
MB 720-209800/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-209800/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSSRM 720-209800/3-A	Lab Control Sample	Total/NA	Solid	3050B	

Metals (Continued)

Analysis Batch: 210223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-16	JT-4170	Total/NA	Solid	6010B	209796
720-74605-17	ST-4180	Total/NA	Solid	6010B	209796
720-74605-18	ST-4230	Total/NA	Solid	6010B	209796
720-74605-19	JT-4250	Total/NA	Solid	6010B	209796
720-74605-20	JT4330	Total/NA	Solid	6010B	209796
MB 720-209796/1-A	Method Blank	Total/NA	Solid	6010B	209796
LCS 720-209796/2-A	Lab Control Sample	Total/NA	Solid	6010B	209796
LCSSRM 720-209796/3-A	Lab Control Sample	Total/NA	Solid	6010B	209796

Analysis Batch: 210225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74605-1	JT-3570	Total/NA	Solid	6010B	209800
720-74605-2	JT-3650	Total/NA	Solid	6010B	209800
720-74605-3	ST-3660	Total/NA	Solid	6010B	209800
720-74605-4	ST-3710	Total/NA	Solid	6010B	209800
720-74605-5	ST-3720	Total/NA	Solid	6010B	209800
720-74605-6	JT-3730	Total/NA	Solid	6010B	209800
720-74605-7	ST-3770	Total/NA	Solid	6010B	209800
720-74605-8	JT-3810	Total/NA	Solid	6010B	209800
720-74605-9	ST-3880	Total/NA	Solid	6010B	209800
720-74605-10	JT-3890	Total/NA	Solid	6010B	209800
720-74605-11	JT-3970	Total/NA	Solid	6010B	209800
720-74605-12	JT-4050	Total/NA	Solid	6010B	209800
720-74605-13	JT-4070	Total/NA	Solid	6010B	209800
720-74605-14	JT-4090	Total/NA	Solid	6010B	209800
720-74605-15	ST-4150	Total/NA	Solid	6010B	209800
MB 720-209800/1-A	Method Blank	Total/NA	Solid	6010B	209800
LCS 720-209800/2-A	Lab Control Sample	Total/NA	Solid	6010B	209800
LCSSRM 720-209800/3-A	Lab Control Sample	Total/NA	Solid	6010B	209800

Lab Chronicle

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3570
Date Collected: 09/21/16 09:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:02	ASB	TAL PLS

Client Sample ID: JT-3650
Date Collected: 09/21/16 09:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:07	ASB	TAL PLS

Client Sample ID: ST-3660
Date Collected: 09/21/16 09:32
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:12	ASB	TAL PLS

Client Sample ID: ST-3710
Date Collected: 09/15/16 09:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:18	ASB	TAL PLS

Client Sample ID: ST-3720
Date Collected: 09/21/16 09:54
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:23	ASB	TAL PLS

Client Sample ID: JT-3730
Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			354004	09/29/16 20:51	LLH	TAL CHI
Total/NA	Analysis	8151A		10	354185	10/01/16 15:11	SAW	TAL CHI

Lab Chronicle

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-3730
Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:28	ASB	TAL PLS

Client Sample ID: ST-3770
Date Collected: 09/21/16 10:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:34	ASB	TAL PLS

Client Sample ID: JT-3810
Date Collected: 09/21/16 10:28
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:39	ASB	TAL PLS

Client Sample ID: ST-3880
Date Collected: 09/21/16 11:35
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 00:55	ASB	TAL PLS

Client Sample ID: JT-3890
Date Collected: 09/21/16 10:38
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:01	ASB	TAL PLS

Client Sample ID: JT-3970
Date Collected: 09/21/16 10:48
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:06	ASB	TAL PLS

Lab Chronicle

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: JT-4050
Date Collected: 09/21/16 11:00
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:11	ASB	TAL PLS

Client Sample ID: JT-4070
Date Collected: 09/21/16 11:10
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:17	ASB	TAL PLS

Client Sample ID: JT-4090
Date Collected: 09/21/16 11:25
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8151A			354004	09/29/16 20:51	LLH	TAL CHI
Total/NA	Analysis	8151A		10	354185	10/01/16 15:36	SAW	TAL CHI
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:22	ASB	TAL PLS

Client Sample ID: ST-4150
Date Collected: 09/13/16 11:20
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209800	09/22/16 14:45	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210225	09/29/16 01:28	ASB	TAL PLS

Client Sample ID: JT-4170
Date Collected: 09/21/16 12:30
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 20:39	ASB	TAL PLS

Client Sample ID: ST-4180
Date Collected: 09/21/16 12:38
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS

Lab Chronicle

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Client Sample ID: ST-4180
Date Collected: 09/21/16 12:38
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010B		4	210223	09/28/16 20:44	ASB	TAL PLS

Client Sample ID: ST-4230
Date Collected: 09/21/16 12:47
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 20:50	ASB	TAL PLS

Client Sample ID: JT-4250
Date Collected: 09/21/16 12:55
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 20:55	ASB	TAL PLS

Client Sample ID: JT4330
Date Collected: 09/21/16 13:02
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74605-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			209796	09/22/16 16:03	JNG	TAL PLS
Total/NA	Analysis	6010B		4	210223	09/28/16 21:00	ASB	TAL PLS

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-18

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2903	04-30-18
Georgia	State Program	4	N/A	04-30-17
Georgia	State Program	4	939	04-30-17
Hawaii	State Program	9	N/A	04-30-17
Illinois	NELAP	5	100201	04-30-17
Indiana	State Program	5	C-IL-02	04-30-17
Iowa	State Program	7	82	05-01-18
Kansas	NELAP	7	E-10161	10-31-16 *
Kentucky (UST)	State Program	4	66	04-30-17
Kentucky (WW)	State Program	4	KY90023	12-31-16 *
Mississippi	State Program	4	N/A	04-30-17
New York	NELAP	2	12019	04-01-17
North Carolina (WW/SW)	State Program	4	291	12-31-16 *
North Dakota	State Program	8	R-194	04-30-17
Oklahoma	State Program	6	8908	08-31-17 *
South Carolina	State Program	4	77001	04-30-17
USDA	Federal		P330-15-00038	02-11-18
Wisconsin	State Program	5	999580010	08-31-17
Wyoming	State Program	8	8TMS-Q	04-30-17

* Certification renewal pending - certification considered valid.

Method Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Method	Method Description	Protocol	Laboratory
8151A	Herbicides (GC)	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: BAY ROAD

TestAmerica Job ID: 720-74605-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-74605-1	JT-3570	Solid	09/21/16 09:05	09/21/16 17:00
720-74605-2	JT-3650	Solid	09/21/16 09:12	09/21/16 17:00
720-74605-3	ST-3660	Solid	09/21/16 09:32	09/21/16 17:00
720-74605-4	ST-3710	Solid	09/15/16 09:05	09/21/16 17:00
720-74605-5	ST-3720	Solid	09/21/16 09:54	09/21/16 17:00
720-74605-6	JT-3730	Solid	09/21/16 09:46	09/21/16 17:00
720-74605-7	ST-3770	Solid	09/21/16 10:12	09/21/16 17:00
720-74605-8	JT-3810	Solid	09/21/16 10:28	09/21/16 17:00
720-74605-9	ST-3880	Solid	09/21/16 11:35	09/21/16 17:00
720-74605-10	JT-3890	Solid	09/21/16 10:38	09/21/16 17:00
720-74605-11	JT-3970	Solid	09/21/16 10:48	09/21/16 17:00
720-74605-12	JT-4050	Solid	09/21/16 11:00	09/21/16 17:00
720-74605-13	JT-4070	Solid	09/21/16 11:10	09/21/16 17:00
720-74605-14	JT-4090	Solid	09/21/16 11:25	09/21/16 17:00
720-74605-15	ST-4150	Solid	09/13/16 11:20	09/21/16 17:00
720-74605-16	JT-4170	Solid	09/21/16 12:30	09/21/16 17:00
720-74605-17	ST-4180	Solid	09/21/16 12:38	09/21/16 17:00
720-74605-18	ST-4230	Solid	09/21/16 12:47	09/21/16 17:00
720-74605-19	JT-4250	Solid	09/21/16 12:55	09/21/16 17:00
720-74605-20	JT4330	Solid	09/21/16 13:02	09/21/16 17:00

720-74605

17105

Chain of Custody Record

TestAmerica Pleasanton
1220 Quarry Lane

Pleasanton, CA 94566-4756
phone 925.484.1919 fax 925.600.3002

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other RWQCB

Client Contact	**Project Manager:** Kinsley Binard	**Site Contact:** Ken Chiang	**Date:**	COC No:
S.S. Papadopulos & Associates	**Tel/Fax:** 415-637-0444	**Lab Contact:** Afsaneh Salimpour	**Carrier:** TestAmerica Courier	1 of 2 COCs
45 Belden Place, 4th Floor	**Analysis Turnaround Time**			Sampler: Ken Chiang and Mark de Wit
San Francisco, CA 94303	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
415-773-0400	TAT if different from Below _____			Walk-in Client:
	☐ 2 weeks			Lab Sampling:
Project Name. Joint Trench Soil Pre-Characterization	☑ 1 week			
Site: 1990 Bay Road Site	☐ 2 days			Job /SDG No..
P O # 0082-315	☐ 1 day			

720-74605 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	arsenic by 6010B (8 oz Glass Jar)	herbicides by 8151 (8 oz Glass Ja	Sample Specific Notes
JT-3570	9/21/16	0905	C	S	1	N		X		
JT-3650		0912	C	S	1	N		X		
ST-3660		0932	C	S	1	N		X		
ST-3710	9/15/16 0905	~~0954~~	C	S	1	N		X		
ST-3720		0954	C	S	1	N		X		
JT-3730		0946	C	S	2	N		X	X	
ST-3770		1012	C	S	1	N		X		
JT-3810		1028	C	S	1	N		X		
ST-3880		1135	C	S	1	N		X		
JT-3890		1038	C	S	1	N		X		
JT-3970		1048	C	S	1	N		X		
JT-4050		1100	C	S	1	N		X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: Email results to Kinsley Binard at Kbinard@sspa.com Do not dispose of sample without contacting Kinsley Binard. Waste disposal requirements will depend on results of arsenic analysis.

2.9°C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp (°C) Obs'd: _____	Corr'd: _____	Therm ID No.: _____	
Relinquished by:	Company: SSPA	Date/Time: 9/21/16 1345	Received by:	Company: TA	Date/Time: 9.21.16 1345	
Relinquished by:	Company: TA	Date/Time: 9.21.16 1700	Received by:	Company: TA	Date/Time: 9/21/16 1700	
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:	

Form No. CA-C-WI-002, Rev. 4.7, dated 11/02/2015

17 11 05

TestAmerica Pleasanton
1220 Quarry Lane

Pleasanton, CA 94566-4756
phone 925.484.1919 fax 925.600.3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **RWQCB**

TestAmerica Laboratories, Inc.

10/3/2016

Client Contact	**Project Manager:** Kinsley Binard	**Site Contact:** Ken Chiang	**Date:**	COC No:
S.S. Papadopulos & Associates	**Tel/Fax:** 415-637-0444	**Lab Contact:** Afsaneh Salimpour	**Carrier:** TestAmerica Courier	2 of 2 COCs
45 Belden Place, 4th Floor	**Analysis Turnaround Time**			Sampler: Ken Chiang and Mark de Wit
San Francisco, CA 94303	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
415-773-0400	TAT if different from Below _____			Walk-in Client:
	☐ 2 weeks			Lab Sampling
Project Name: Joint Trench Soil Pre-Characterization	☑ 1 week			
Site: 1990 Bay Road Site	☐ 2 days			Job / SDG No.:
P O # 0082-315	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	arsenic by 6010B (8 oz Glass Jar	herbicides by 8151 (8 oz Glass J	Sample Specific Notes:
JT-4070	4/21/16	1110	C	S	1	N		X		
JT-4090	↓	1125	C	S	2	N		X	X	
ST-4150	4/13/16	1120	C	S	1	N		X		
JT-4170	4/21/16	1230	C	S	1	N		X		
ST-4180		1238	C	S	1	N		X		
ST-4230		1247	C	S	1	N		X		
JT-4250		1255	C	S	1	N		X		
JT-4330	↓	1302	C	S	1	N		X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: Email results to Kinsley Binard at Kbinard@sspa.com Do not dispose of sample without contacting Kinsley Binard. Waste disposal requirements will depend on results of arsenic analysis.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by:	Company: SSPA	Date/Time: 4/21/16 1345	Received by:	Company: TA	Date/Time: 4-21-16 1345
Relinquished by:	Company: TA	Date/Time: 4-21-16 1700	Received by:	Company: TA	Date/Time: 4-21-16 1700
Relinquished by:	Company: TA	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.7, dated 11/02/2015

TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh	Carrier Tracking No(s):	COC No: 720-30458.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 720-74605-1
Address: 2417 Bond Street, ,	Due Date Requested: 9/27/2016			Preservation Codes:
City: University Park	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: IL, 60484	PO #:			
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	WO #: 720-74605 COC			Other:
Email:				
Project Name: BAY ROAD	Project #: 72005893			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/8151A_SP 8151	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
JT-3730 (720-74605-6)	9/21/16	09:46 Pacific		Solid			X	1	
JT-4090 (720-74605-14)	9/21/16	11:25 Pacific		Solid			X	1	

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	9/22/16 1500	[illegible]	[signature]	09/23/16 08:45	TA LMI
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6

Login Sample Receipt Checklist

Client: S S Papadopulos & Associates, Inc.

Job Number: 720-74605-1

Login Number: 74605
List Number: 1
Creator: Arauz, Dennis

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: S S Papadopulos & Associates, Inc.

Job Number: 720-74605-1

Login Number: 74605
List Number: 2
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago
List Creation: 09/23/16 11:04 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-74613-1
Client Project/Site: Bay Road Improvement Project

For:
S S Papadopulos & Associates, Inc.
45 Belden Place, 4th Floor
San Francisco, California 94104

Attn: Kinsley Binard

Authorized for release by:
9/29/2016 2:00:03 PM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
*	LCS or LCSD is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-74613-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-74613-1

Comments
No additional comments.

Receipt
The samples were received on 9/21/2016 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): ST-3780. The Terra Core DI vial container labels list JT-3780, while the COC lists ST-3780. We logged the sample in per COC.

GC/MS VOA
Method(s) 8260B: Internal standard (ISTD) response for the following samples was outside control limits: JT-3730 (720-74613-1), JT-3490 (720-74613-3) and JT-4450 (720-74613-5). The samples were re-analyzed with concurring results, and the second set of data has been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 720-209835 recovered outside control limits for the following analytes: 2-Butanone (MEK). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C: The following samples was diluted due to the abundance of non-target analytes: JT-3730 (720-74613-1), JT-4090 (720-74613-2), JT-3490 (720-74613-3), ST-3780 (720-74613-4), JT-4450 (720-74613-5) and JT-4800 (720-74613-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 720-209972 and analytical batch 720-210023 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8015B: The following samples required a dilution due to the nature of the sample matrix: JT-4090 (720-74613-2), ST-3780 (720-74613-4) and JT-4800 (720-74613-6). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8081A: The following sample was diluted due to the abundance of non-target analytes: JT-4090 (720-74613-2). Elevated reporting limits (RLs) are provided.

Method(s) 8081A: The continuing calibration verification (CCV) associated with batch 720-210110 recovered above the upper control limit from the front channel. The CCV from the back channel was in control ; therefore, the data have been reported from the back channel The following samples are impacted: JT-4090 (720-74613-2), JT-3490 (720-74613-3), ST-3780 (720-74613-4), JT-4450 (720-74613-5), JT-4800 (720-74613-6), (STD200 720-210110/21), (LCS 720-209959/2-A) and (MB 720-209959/1-A).

Method(s) 8081A: The %RPD between the primary and confirmation column exceeded 40% for 4,4'-DDT and gamma-Chlordane for the following samples: JT-3730 (720-74613-1). The lower value(s) has been reported and qualified in accordance with the laboratory's SOP.

Method(s) 8082: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by

Job ID: 720-74613-1 (Continued)

Laboratory: TestAmerica Pleasanton (Continued)

sulfur: JT-3730 (720-74613-1), JT-4090 (720-74613-2), JT-3490 (720-74613-3), ST-3780 (720-74613-4), JT-4450 (720-74613-5), JT-4800 (720-74613-6), (LCS 720-209967/2-A) and (MB 720-209967/1-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-3730 — Lab Sample ID: 720-74613-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	42		3.7		ug/Kg	1		8260B/CA_LUFT MS	Total/NA
Diesel Range Organics [C10-C28]	14		0.99		mg/Kg	1		8015B	Total/NA
Dieldrin	3.9		1.9		ug/Kg	1		8081A	Total/NA
4,4'-DDT	6.8	p	1.9		ug/Kg	1		8081A	Total/NA
4,4'-DDE	3.6		1.9		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	2.4	p	1.9		ug/Kg	1		8081A	Total/NA
PCB-1260	56		48		ug/Kg	1		8082	Total/NA
Arsenic	44		3.2		mg/Kg	4		6010B	Total/NA
Barium	140		1.6		mg/Kg	4		6010B	Total/NA
Cadmium	1.0		0.40		mg/Kg	4		6010B	Total/NA
Chromium	31		1.6		mg/Kg	4		6010B	Total/NA
Cobalt	7.4		0.65		mg/Kg	4		6010B	Total/NA
Copper	19		4.8		mg/Kg	4		6010B	Total/NA
Lead	16		1.6		mg/Kg	4		6010B	Total/NA
Nickel	37		1.6		mg/Kg	4		6010B	Total/NA
Vanadium	30		1.6		mg/Kg	4		6010B	Total/NA
Zinc	53		4.8		mg/Kg	4		6010B	Total/NA
Mercury	0.089		0.0091		mg/Kg	1		7471A	Total/NA

Client Sample ID: JT-4090 — Lab Sample ID: 720-74613-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	250		12		mg/Kg	5		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	890		620		mg/Kg	5		8015B	Total/NA
gamma-Chlordane	4.1		3.9		ug/Kg	2		8081A	Total/NA
Arsenic	5.7		2.6		mg/Kg	4		6010B	Total/NA
Barium	120		1.3		mg/Kg	4		6010B	Total/NA
Chromium	30		1.3		mg/Kg	4		6010B	Total/NA
Cobalt	7.0		0.52		mg/Kg	4		6010B	Total/NA
Copper	22		3.9		mg/Kg	4		6010B	Total/NA
Lead	7.3		1.3		mg/Kg	4		6010B	Total/NA
Nickel	34		1.3		mg/Kg	4		6010B	Total/NA
Vanadium	34		1.3		mg/Kg	4		6010B	Total/NA
Zinc	45		3.9		mg/Kg	4		6010B	Total/NA
Mercury	0.083		0.0090		mg/Kg	1		7471A	Total/NA

Client Sample ID: JT-3490 — Lab Sample ID: 720-74613-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	120		3.8		ug/Kg	1		8260B/CA_LUFT MS	Total/NA
Diesel Range Organics [C10-C28]	9.1	F1	0.30		mg/Kg	3		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	23		15		mg/Kg	3		8015B	Total/NA
Dieldrin	2.1		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDT	4.5		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDE	2.6		2.0		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	2.5		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	6.9		3.2		mg/Kg	4		6010B	Total/NA
Barium	120		1.6		mg/Kg	4		6010B	Total/NA
Cadmium	0.53		0.40		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: JT-3490 (Continued) — Lab Sample ID: 720-74613-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	35		1.6		mg/Kg	4		6010B	Total/NA
Cobalt	11		0.64		mg/Kg	4		6010B	Total/NA
Copper	33		4.8		mg/Kg	4		6010B	Total/NA
Lead	25		1.6		mg/Kg	4		6010B	Total/NA
Nickel	37		1.6		mg/Kg	4		6010B	Total/NA
Vanadium	44		1.6		mg/Kg	4		6010B	Total/NA
Zinc	60		4.8		mg/Kg	4		6010B	Total/NA
Mercury	0.11		0.0092		mg/Kg	1		7471A	Total/NA

Client Sample ID: ST-3780 — Lab Sample ID: 720-74613-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	200		10		mg/Kg	10		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	700		500		mg/Kg	10		8015B	Total/NA
Dieldrin	3.7		2.0		ug/Kg	1		8081A	Total/NA
Heptachlor epoxide	64		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDT	8.6		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDE	6.2		2.0		ug/Kg	1		8081A	Total/NA
Chlordane (technical)	620		40		ug/Kg	1		8081A	Total/NA
alpha-Chlordane	120		2.0		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	95		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	3.4		3.4		mg/Kg	4		6010B	Total/NA
Barium	110		1.7		mg/Kg	4		6010B	Total/NA
Cadmium	1.2		0.43		mg/Kg	4		6010B	Total/NA
Chromium	40		1.7		mg/Kg	4		6010B	Total/NA
Cobalt	7.6		0.69		mg/Kg	4		6010B	Total/NA
Copper	25		5.2		mg/Kg	4		6010B	Total/NA
Lead	23		1.7		mg/Kg	4		6010B	Total/NA
Nickel	35		1.7		mg/Kg	4		6010B	Total/NA
Vanadium	31		1.7		mg/Kg	4		6010B	Total/NA
Zinc	47		5.2		mg/Kg	4		6010B	Total/NA
Mercury	0.075		0.0097		mg/Kg	1		7471A	Total/NA

Client Sample ID: JT-4450 — Lab Sample ID: 720-74613-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	58		3.0		mg/Kg	3		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	200		150		mg/Kg	3		8015B	Total/NA
Dieldrin	2.4		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDT	9.9		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDE	6.4		2.0		ug/Kg	1		8081A	Total/NA
alpha-Chlordane	2.0		2.0		ug/Kg	1		8081A	Total/NA
gamma-Chlordane	8.6		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	13		2.8		mg/Kg	4		6010B	Total/NA
Barium	140		1.4		mg/Kg	4		6010B	Total/NA
Cadmium	1.1		0.35		mg/Kg	4		6010B	Total/NA
Chromium	32		1.4		mg/Kg	4		6010B	Total/NA
Cobalt	7.1		0.56		mg/Kg	4		6010B	Total/NA
Copper	24		4.2		mg/Kg	4		6010B	Total/NA
Lead	33		1.4		mg/Kg	4		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: JT-4450 (Continued) — Lab Sample ID: 720-74613-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	37		1.4		mg/Kg	4		6010B	Total/NA
Vanadium	31		1.4		mg/Kg	4		6010B	Total/NA
Zinc	65		4.2		mg/Kg	4		6010B	Total/NA
Mercury	0.22		0.0094		mg/Kg	1		7471A	Total/NA

Client Sample ID: JT-4800 — Lab Sample ID: 720-74613-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	100		5.0		mg/Kg	5		8015B	Total/NA
Motor Oil Range Organics [C24-C36]	380		250		mg/Kg	5		8015B	Total/NA
4,4'-DDE	3.3		2.0		ug/Kg	1		8081A	Total/NA
4,4'-DDD	5.9		2.0		ug/Kg	1		8081A	Total/NA
Arsenic	5.2		2.7		mg/Kg	4		6010B	Total/NA
Barium	110		1.4		mg/Kg	4		6010B	Total/NA
Chromium	57		1.4		mg/Kg	4		6010B	Total/NA
Cobalt	8.8		0.55		mg/Kg	4		6010B	Total/NA
Copper	26		4.1		mg/Kg	4		6010B	Total/NA
Lead	16		1.4		mg/Kg	4		6010B	Total/NA
Nickel	46		1.4		mg/Kg	4		6010B	Total/NA
Vanadium	37		1.4		mg/Kg	4		6010B	Total/NA
Zinc	47		4.1		mg/Kg	4		6010B	Total/NA
Mercury	0.12		0.0095		mg/Kg	1		7471A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: JT-3730
Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-1
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Acetone	ND		37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Benzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Dichlorobromomethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Bromobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Bromoform	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Bromomethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2-Butanone (MEK)	ND	*	37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
n-Butylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
sec-Butylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
tert-Butylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Carbon disulfide	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Carbon tetrachloride	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chlorobenzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chloroethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chloroform	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chloromethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2-Chlorotoluene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
4-Chlorotoluene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Chlorodibromomethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,3-Dichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,4-Dichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,3-Dichloropropane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1-Dichloropropene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dibromo-3-Chloropropane	ND	*	7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Ethylene Dibromide	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Dibromomethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Dichlorodifluoromethane	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1-Dichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1-Dichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
cis-1,2-Dichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
trans-1,2-Dichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2-Dichloropropane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
cis-1,3-Dichloropropene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
trans-1,3-Dichloropropene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Ethylbenzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Hexachlorobutadiene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2-Hexanone	ND		37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Isopropylbenzene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
4-Isopropyltoluene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Methylene Chloride	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
4-Methyl-2-pentanone (MIBK)	ND		37		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Naphthalene	ND	*	7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
N-Propylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Styrene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,1,2-Tetrachloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1

Client Sample ID: JT-3730
Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-1
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Tetrachloroethene	**42**		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Toluene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,3-Trichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,4-Trichlorobenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,1-Trichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,2-Trichloroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Trichloroethene	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Trichlorofluoromethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,3-Trichloropropane	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,2,4-Trimethylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
1,3,5-Trimethylbenzene	ND	*	3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Vinyl chloride	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Xylenes, Total	ND		7.3		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
2,2-Dichloropropane	ND		3.7		ug/Kg		09/21/16 20:40	09/23/16 15:10	1
Gasoline Range Organics (GRO) -C5-C12	ND		180		ug/Kg		09/21/16 20:40	09/23/16 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*73*		*45 - 131*	*09/21/16 20:40*	*09/23/16 15:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*	*09/21/16 20:40*	*09/23/16 15:10*	*1*
Toluene-d8 (Surr)	*98*		*58 - 140*	*09/21/16 20:40*	*09/23/16 15:10*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Bis(2-chloroethyl)ether	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Chlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,3-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,4-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzyl alcohol	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,2-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Methylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Methylphenol, 3 & 4	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
N-Nitrosodi-n-propylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Hexachloroethane	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Nitrobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Isophorone	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Nitrophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dimethylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Bis(2-chloroethoxy)methane	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
1,2,4-Trichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Naphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Chloroaniline	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Hexachlorobutadiene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Chloro-3-methylphenol	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Methylnaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-3730
Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-1
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4,6-Trichlorophenol	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4,5-Trichlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Chloronaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Dimethyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Acenaphthylene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
3-Nitroaniline	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Acenaphthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Dibenzofuran	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,4-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2,6-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Diethyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Chlorophenyl phenyl ether	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Fluorene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
2-Methyl-4,6-dinitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
N-Nitrosodiphenylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
4-Bromophenyl phenyl ether	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Hexachlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Pentachlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Phenanthrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Di-n-butyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Butyl benzyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
3,3'-Dichlorobenzidine	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[a]anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Bis(2-ethylhexyl) phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Chrysene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Di-n-octyl phthalate	ND		0.68		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[b]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[a]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[k]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Indeno[1,2,3-cd]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzo[g,h,i]perylene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Benzoic acid	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Azobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2
Dibenz(a,h)anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/27/16 23:10	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*62*		*21 - 98*	*09/26/16 10:36*	*09/27/16 23:10*	*2*
2-Fluorobiphenyl	*81*		*30 - 112*	*09/26/16 10:36*	*09/27/16 23:10*	*2*
Terphenyl-d14	*78*		*59 - 134*	*09/26/16 10:36*	*09/27/16 23:10*	*2*
2-Fluorophenol	*68*		*28 - 98*	*09/26/16 10:36*	*09/27/16 23:10*	*2*
Phenol-d5	*71*		*23 - 101*	*09/26/16 10:36*	*09/27/16 23:10*	*2*
2,4,6-Tribromophenol	*69*		*37 - 114*	*09/26/16 10:36*	*09/27/16 23:10*	*2*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**14**		0.99		mg/Kg		09/26/16 11:32	09/27/16 20:24	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		09/26/16 11:32	09/27/16 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*73*		*40 - 130*	*09/26/16 11:32*	*09/27/16 20:24*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Dieldrin	**3.9**		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endrin aldehyde	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endrin	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endrin ketone	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Heptachlor	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Heptachlor epoxide	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
4,4'-DDT	**6.8**	**p**	1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
4,4'-DDE	**3.6**		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
4,4'-DDD	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endosulfan I	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endosulfan II	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
alpha-BHC	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
beta-BHC	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
gamma-BHC (Lindane)	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
delta-BHC	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Endosulfan sulfate	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Methoxychlor	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Toxaphene	ND		39		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
Chlordane (technical)	ND		39		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
alpha-Chlordane	ND		1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1
gamma-Chlordane	**2.4**	**p**	1.9		ug/Kg		09/26/16 10:20	09/27/16 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*91*		*57 - 122*	*09/26/16 10:20*	*09/27/16 14:52*	*1*
DCB Decachlorobiphenyl	*99*		*21 - 136*	*09/26/16 10:20*	*09/27/16 14:52*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1221	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1232	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1242	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1248	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1254	ND		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1
PCB-1260	**56**		48		ug/Kg		09/26/16 11:02	09/27/16 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*75*		*45 - 132*	*09/26/16 11:02*	*09/27/16 19:26*	*1*
DCB Decachlorobiphenyl	*80*		*42 - 146*	*09/26/16 11:02*	*09/27/16 19:26*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Arsenic	**44**		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Barium	**140**		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Beryllium	ND		0.32		mg/Kg		09/23/16 16:18	09/26/16 22:01	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-3730
Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-1
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.0		0.40		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Chromium	31		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Cobalt	7.4		0.65		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Copper	19		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Lead	16		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Molybdenum	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Nickel	37		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Selenium	ND		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Silver	ND		0.81		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Thallium	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Vanadium	30		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:01	4
Zinc	53		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:01	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.089		0.0091		mg/Kg		09/23/16 11:45	09/26/16 16:13	1

Client Sample ID: JT-4090
Date Collected: 09/21/16 11:25
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-2
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Acetone	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Benzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Dichlorobromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Bromobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Bromoform	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Bromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2-Butanone (MEK)	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
n-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
sec-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
tert-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Carbon disulfide	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Carbon tetrachloride	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chloroethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chloroform	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chloromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
4-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Chlorodibromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,3-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,4-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,3-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dibromo-3-Chloropropane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Ethylene Dibromide	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Dibromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Dichlorodifluoromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
cis-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
trans-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
cis-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
trans-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Ethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Hexachlorobutadiene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2-Hexanone	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Isopropylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
4-Isopropyltoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Methylene Chloride	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
4-Methyl-2-pentanone (MIBK)	ND		38		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Naphthalene	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
N-Propylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Styrene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,1,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1

Client Sample ID: JT-4090
Date Collected: 09/21/16 11:25
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-2
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Tetrachloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Toluene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,3-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,4-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,1-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,2-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Trichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Trichlorofluoromethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,3-Trichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,2,4-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
1,3,5-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Vinyl chloride	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Xylenes, Total	ND		7.5		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
2,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/22/16 23:14	1
Gasoline Range Organics (GRO) -C5-C12	ND		190		ug/Kg		09/21/16 20:40	09/22/16 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*45 - 131*	*09/21/16 20:40*	*09/22/16 23:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*60 - 140*	*09/21/16 20:40*	*09/22/16 23:14*	*1*
Toluene-d8 (Surr)	*92*		*58 - 140*	*09/21/16 20:40*	*09/22/16 23:14*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Bis(2-chloroethyl)ether	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Chlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,3-Dichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,4-Dichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzyl alcohol	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,2-Dichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Methylphenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Methylphenol, 3 & 4	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
N-Nitrosodi-n-propylamine	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Hexachloroethane	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Nitrobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Isophorone	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dimethylphenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Bis(2-chloroethoxy)methane	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dichlorophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
1,2,4-Trichlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Naphthalene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Chloroaniline	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Hexachlorobutadiene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Chloro-3-methylphenol	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Methylnaphthalene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-4090
Date Collected: 09/21/16 11:25
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-2
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4,6-Trichlorophenol	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4,5-Trichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Chloronaphthalene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Nitroaniline	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Dimethyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Acenaphthylene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
3-Nitroaniline	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Acenaphthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dinitrophenol	ND		13		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Nitrophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Dibenzofuran	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,4-Dinitrotoluene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2,6-Dinitrotoluene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Diethyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Chlorophenyl phenyl ether	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Fluorene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Nitroaniline	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
2-Methyl-4,6-dinitrophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
N-Nitrosodiphenylamine	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
4-Bromophenyl phenyl ether	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Hexachlorobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Pentachlorophenol	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Phenanthrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Di-n-butyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Fluoranthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Pyrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Butyl benzyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
3,3'-Dichlorobenzidine	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[a]anthracene	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Bis(2-ethylhexyl) phthalate	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Chrysene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Di-n-octyl phthalate	ND		3.4		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[b]fluoranthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[a]pyrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[k]fluoranthene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Indeno[1,2,3-cd]pyrene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzo[g,h,i]perylene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Benzoic acid	ND		6.6		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Azobenzene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10
Dibenz(a,h)anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/27/16 23:36	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*66*		*21 - 98*	*09/26/16 10:36*	*09/27/16 23:36*	*10*
2-Fluorobiphenyl	*92*		*30 - 112*	*09/26/16 10:36*	*09/27/16 23:36*	*10*
Terphenyl-d14	*94*		*59 - 134*	*09/26/16 10:36*	*09/27/16 23:36*	*10*
2-Fluorophenol	*69*		*28 - 98*	*09/26/16 10:36*	*09/27/16 23:36*	*10*
Phenol-d5	*79*		*23 - 101*	*09/26/16 10:36*	*09/27/16 23:36*	*10*
2,4,6-Tribromophenol	*43*		*37 - 114*	*09/26/16 10:36*	*09/27/16 23:36*	*10*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**250**		12		mg/Kg		09/26/16 11:32	09/27/16 20:54	5
Motor Oil Range Organics [C24-C36]	**890**		620		mg/Kg		09/26/16 11:32	09/27/16 20:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*0*	*X D*	*40 - 130*	*09/26/16 11:32*	*09/27/16 20:54*	*5*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Dieldrin	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endrin aldehyde	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endrin	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endrin ketone	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Heptachlor	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Heptachlor epoxide	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
4,4'-DDT	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
4,4'-DDE	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
4,4'-DDD	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endosulfan I	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endosulfan II	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
alpha-BHC	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
beta-BHC	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
gamma-BHC (Lindane)	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
delta-BHC	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Endosulfan sulfate	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Methoxychlor	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Toxaphene	ND		78		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
Chlordane (technical)	ND		78		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
alpha-Chlordane	ND		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2
gamma-Chlordane	**4.1**		3.9		ug/Kg		09/26/16 10:20	09/28/16 08:36	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*94*	*p*	*57 - 122*	*09/26/16 10:20*	*09/28/16 08:36*	*2*
DCB Decachlorobiphenyl	*102*		*21 - 136*	*09/26/16 10:20*	*09/28/16 08:36*	*2*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1221	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1232	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1242	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1248	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1254	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1
PCB-1260	ND		49		ug/Kg		09/26/16 11:02	09/27/16 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*45 - 132*	*09/26/16 11:02*	*09/27/16 19:42*	*1*
DCB Decachlorobiphenyl	*75*		*42 - 146*	*09/26/16 11:02*	*09/27/16 19:42*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Arsenic	**5.7**		2.6		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Barium	**120**		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-4090
Date Collected: 09/21/16 11:25
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-2
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.26		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Cadmium	ND		0.32		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Chromium	**30**		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Cobalt	**7.0**		0.52		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Copper	**22**		3.9		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Lead	**7.3**		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Molybdenum	ND		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Nickel	**34**		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Selenium	ND		2.6		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Silver	ND		0.65		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Thallium	ND		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Vanadium	**34**		1.3		mg/Kg		09/23/16 16:18	09/26/16 22:06	4
Zinc	**45**		3.9		mg/Kg		09/23/16 16:18	09/26/16 22:06	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.083**		0.0090		mg/Kg		09/23/16 11:45	09/26/16 16:16	1

Client Sample ID: JT-3490
Date Collected: 09/21/16 08:50
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-3
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Acetone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Benzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Dichlorobromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Bromobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Bromoform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Bromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2-Butanone (MEK)	ND	*	38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
n-Butylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
sec-Butylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
tert-Butylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Carbon disulfide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Carbon tetrachloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chloroethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chloroform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chloromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2-Chlorotoluene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
4-Chlorotoluene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Chlorodibromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,3-Dichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,4-Dichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,3-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dibromo-3-Chloropropane	ND	*	7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Ethylene Dibromide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Dibromomethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Dichlorodifluoromethane	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
cis-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
trans-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
cis-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
trans-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Ethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Hexachlorobutadiene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2-Hexanone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Isopropylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
4-Isopropyltoluene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Methylene Chloride	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
4-Methyl-2-pentanone (MIBK)	ND		38		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Naphthalene	ND	*	7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
N-Propylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Styrene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,1,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1

Client Sample ID: JT-3490
Date Collected: 09/21/16 08:50
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-3
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Tetrachloroethene	**120**		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Toluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,3-Trichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,4-Trichlorobenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,1-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,2-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Trichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Trichlorofluoromethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,3-Trichloropropane	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,2,4-Trimethylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
1,3,5-Trimethylbenzene	ND	*	3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Vinyl chloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Xylenes, Total	ND		7.5		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
2,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 15:40	1
Gasoline Range Organics (GRO) -C5-C12	ND		190		ug/Kg		09/21/16 20:40	09/23/16 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*72*		*45 - 131*	*09/21/16 20:40*	*09/23/16 15:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 140*	*09/21/16 20:40*	*09/23/16 15:40*	*1*
Toluene-d8 (Surr)	*97*		*58 - 140*	*09/21/16 20:40*	*09/23/16 15:40*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Bis(2-chloroethyl)ether	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Chlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,3-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,4-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzyl alcohol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,2-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Methylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Methylphenol, 3 & 4	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
N-Nitrosodi-n-propylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Hexachloroethane	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Nitrobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Isophorone	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Nitrophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dimethylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Bis(2-chloroethoxy)methane	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
1,2,4-Trichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Naphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Chloroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Hexachlorobutadiene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Chloro-3-methylphenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Methylnaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-3490
Date Collected: 09/21/16 08:50
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-3
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4,6-Trichlorophenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4,5-Trichlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Chloronaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Dimethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Acenaphthylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
3-Nitroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Acenaphthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Dibenzofuran	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,4-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2,6-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Diethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Chlorophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Fluorene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
2-Methyl-4,6-dinitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
N-Nitrosodiphenylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
4-Bromophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Hexachlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Pentachlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Phenanthrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Di-n-butyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Butyl benzyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
3,3'-Dichlorobenzidine	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[a]anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Bis(2-ethylhexyl) phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Chrysene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Di-n-octyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[b]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[a]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[k]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Indeno[1,2,3-cd]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzo[g,h,i]perylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Benzoic acid	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Azobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2
Dibenz(a,h)anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:02	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*66*		*21 - 98*	*09/26/16 10:36*	*09/28/16 00:02*	*2*
2-Fluorobiphenyl	*86*		*30 - 112*	*09/26/16 10:36*	*09/28/16 00:02*	*2*
Terphenyl-d14	*87*		*59 - 134*	*09/26/16 10:36*	*09/28/16 00:02*	*2*
2-Fluorophenol	*71*		*28 - 98*	*09/26/16 10:36*	*09/28/16 00:02*	*2*
Phenol-d5	*75*		*23 - 101*	*09/26/16 10:36*	*09/28/16 00:02*	*2*
2,4,6-Tribromophenol	*74*		*37 - 114*	*09/26/16 10:36*	*09/28/16 00:02*	*2*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**9.1**	**F1**	0.30		mg/Kg		09/26/16 11:32	09/27/16 12:05	3
Motor Oil Range Organics [C24-C36]	**23**		15		mg/Kg		09/26/16 11:32	09/27/16 12:05	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*108*		*40 - 130*	*09/26/16 11:32*	*09/27/16 12:05*	*3*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Dieldrin	**2.1**		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
4,4'-DDT	**4.5**		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
4,4'-DDE	**2.6**		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
Chlordane (technical)	ND		40		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
alpha-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1
gamma-Chlordane	**2.5**		2.0		ug/Kg		09/26/16 10:20	09/28/16 08:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*88*		*57 - 122*	*09/26/16 10:20*	*09/28/16 08:53*	*1*
DCB Decachlorobiphenyl	*80*		*21 - 136*	*09/26/16 10:20*	*09/28/16 08:53*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1221	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1232	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1242	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1248	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1254	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1
PCB-1260	ND		50		ug/Kg		09/26/16 11:02	09/27/16 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*78*		*45 - 132*	*09/26/16 11:02*	*09/27/16 19:59*	*1*
DCB Decachlorobiphenyl	*75*		*42 - 146*	*09/26/16 11:02*	*09/27/16 19:59*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Arsenic	**6.9**		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Barium	**120**		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-3490
Date Collected: 09/21/16 08:50
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-3
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.32		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Cadmium	**0.53**		0.40		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Chromium	**35**		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Cobalt	**11**		0.64		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Copper	**33**		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Lead	**25**		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Molybdenum	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Nickel	**37**		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Selenium	ND		3.2		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Silver	ND		0.80		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Thallium	ND		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Vanadium	**44**		1.6		mg/Kg		09/23/16 16:18	09/26/16 22:11	4
Zinc	**60**		4.8		mg/Kg		09/23/16 16:18	09/26/16 22:11	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**		0.0092		mg/Kg		09/23/16 13:01	09/28/16 16:49	1

Client Sample ID: ST-3780
Date Collected: 09/21/16 10:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-4
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Acetone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Benzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Dichlorobromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Bromobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chlorobromomethane	ND		15		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Bromoform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Bromomethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2-Butanone (MEK)	ND	*	38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
n-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
sec-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
tert-Butylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Carbon disulfide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Carbon tetrachloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chloroethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chloroform	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chloromethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
4-Chlorotoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Chlorodibromomethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,3-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,4-Dichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,3-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dibromo-3-Chloropropane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Ethylene Dibromide	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Dibromomethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Dichlorodifluoromethane	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
cis-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
trans-1,2-Dichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
cis-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
trans-1,3-Dichloropropene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Ethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Hexachlorobutadiene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2-Hexanone	ND		38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Isopropylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
4-Isopropyltoluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Methylene Chloride	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
4-Methyl-2-pentanone (MIBK)	ND		38		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Naphthalene	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
N-Propylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Styrene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,1,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1

Client Sample ID: ST-3780
Date Collected: 09/21/16 10:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-4
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Tetrachloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Toluene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,3-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,4-Trichlorobenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,1-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,2-Trichloroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Trichloroethene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Trichlorofluoromethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,3-Trichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,2,4-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
1,3,5-Trimethylbenzene	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Vinyl acetate	ND		15		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Vinyl chloride	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Xylenes, Total	ND		7.7		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
2,2-Dichloropropane	ND		3.8		ug/Kg		09/21/16 20:40	09/23/16 16:09	1
Gasoline Range Organics (GRO) -C5-C12	ND		190		ug/Kg		09/21/16 20:40	09/23/16 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*45 - 131*	*09/21/16 20:40*	*09/23/16 16:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*120*		*60 - 140*	*09/21/16 20:40*	*09/23/16 16:09*	*1*
Toluene-d8 (Surr)	*102*		*58 - 140*	*09/21/16 20:40*	*09/23/16 16:09*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Bis(2-chloroethyl)ether	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Chlorophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,3-Dichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,4-Dichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzyl alcohol	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,2-Dichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Methylphenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Methylphenol, 3 & 4	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
N-Nitrosodi-n-propylamine	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Hexachloroethane	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Nitrobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Isophorone	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Nitrophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dimethylphenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Bis(2-chloroethoxy)methane	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dichlorophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
1,2,4-Trichlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Naphthalene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Chloroaniline	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Hexachlorobutadiene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Chloro-3-methylphenol	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Methylnaphthalene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: ST-3780
Date Collected: 09/21/16 10:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-4
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4,6-Trichlorophenol	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4,5-Trichlorophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Chloronaphthalene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Nitroaniline	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Dimethyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Acenaphthylene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
3-Nitroaniline	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Acenaphthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dinitrophenol	ND		6.5		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Nitrophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Dibenzofuran	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,4-Dinitrotoluene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2,6-Dinitrotoluene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Diethyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Chlorophenyl phenyl ether	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Fluorene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Nitroaniline	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
2-Methyl-4,6-dinitrophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
N-Nitrosodiphenylamine	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
4-Bromophenyl phenyl ether	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Hexachlorobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Pentachlorophenol	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Phenanthrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Anthracene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Di-n-butyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Fluoranthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Pyrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Butyl benzyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
3,3'-Dichlorobenzidine	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[a]anthracene	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Bis(2-ethylhexyl) phthalate	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Chrysene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Di-n-octyl phthalate	ND		1.7		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[b]fluoranthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[a]pyrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[k]fluoranthene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Indeno[1,2,3-cd]pyrene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzo[g,h,i]perylene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Benzoic acid	ND		3.3		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Azobenzene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5
Dibenz(a,h)anthracene	ND		0.66		mg/Kg		09/26/16 10:36	09/28/16 00:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*63*		*21 - 98*	*09/26/16 10:36*	*09/28/16 00:28*	*5*
2-Fluorobiphenyl	*85*		*30 - 112*	*09/26/16 10:36*	*09/28/16 00:28*	*5*
Terphenyl-d14	*86*		*59 - 134*	*09/26/16 10:36*	*09/28/16 00:28*	*5*
2-Fluorophenol	*66*		*28 - 98*	*09/26/16 10:36*	*09/28/16 00:28*	*5*
Phenol-d5	*71*		*23 - 101*	*09/26/16 10:36*	*09/28/16 00:28*	*5*
2,4,6-Tribromophenol	*71*		*37 - 114*	*09/26/16 10:36*	*09/28/16 00:28*	*5*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**200**		10		mg/Kg		09/26/16 11:32	09/27/16 21:23	10
Motor Oil Range Organics [C24-C36]	**700**		500		mg/Kg		09/26/16 11:32	09/27/16 21:23	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*0*	*X D*	*40 - 130*	*09/26/16 11:32*	*09/27/16 21:23*	*10*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Dieldrin	**3.7**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Heptachlor epoxide	**64**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
4,4'-DDT	**8.6**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
4,4'-DDE	**6.2**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
Chlordane (technical)	**620**		40		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
alpha-Chlordane	**120**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1
gamma-Chlordane	**95**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*		*57 - 122*	*09/26/16 10:20*	*09/28/16 09:11*	*1*
DCB Decachlorobiphenyl	*89*		*21 - 136*	*09/26/16 10:20*	*09/28/16 09:11*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1221	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1232	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1242	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1248	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1254	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1
PCB-1260	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*45 - 132*	*09/26/16 11:02*	*09/27/16 20:16*	*1*
DCB Decachlorobiphenyl	*74*		*42 - 146*	*09/26/16 11:02*	*09/27/16 20:16*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Arsenic	**3.4**		3.4		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Barium	**110**		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: ST-3780
Date Collected: 09/21/16 10:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-4
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.34		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Cadmium	**1.2**		0.43		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Chromium	**40**		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Cobalt	**7.6**		0.69		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Copper	**25**		5.2		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Lead	**23**		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Molybdenum	ND		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Nickel	**35**		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Selenium	ND		3.4		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Silver	ND		0.86		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Thallium	ND		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Vanadium	**31**		1.7		mg/Kg		09/23/16 16:18	09/26/16 22:16	4
Zinc	**47**		5.2		mg/Kg		09/23/16 16:18	09/26/16 22:16	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.075**		0.0097		mg/Kg		09/23/16 13:01	09/28/16 16:52	1

Client Sample ID: JT-4450
Date Collected: 09/21/16 13:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-5
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Acetone	ND		41		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Benzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Dichlorobromomethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Bromobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chlorobromomethane	ND		17		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Bromoform	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Bromomethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2-Butanone (MEK)	ND	*	41		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
n-Butylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
sec-Butylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
tert-Butylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Carbon disulfide	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Carbon tetrachloride	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chlorobenzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chloroethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chloroform	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chloromethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2-Chlorotoluene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
4-Chlorotoluene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Chlorodibromomethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,3-Dichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,4-Dichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,3-Dichloropropane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1-Dichloropropene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dibromo-3-Chloropropane	ND	*	8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Ethylene Dibromide	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Dibromomethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Dichlorodifluoromethane	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1-Dichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1-Dichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
cis-1,2-Dichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
trans-1,2-Dichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2-Dichloropropane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
cis-1,3-Dichloropropene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
trans-1,3-Dichloropropene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Ethylbenzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Hexachlorobutadiene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2-Hexanone	ND		41		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Isopropylbenzene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
4-Isopropyltoluene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Methylene Chloride	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
4-Methyl-2-pentanone (MIBK)	ND		41		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Naphthalene	ND	*	8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
N-Propylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Styrene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,1,2-Tetrachloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1

Client Sample ID: JT-4450
Date Collected: 09/21/16 13:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-5
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Tetrachloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Toluene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,3-Trichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,4-Trichlorobenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,1-Trichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,2-Trichloroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Trichloroethene	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Trichlorofluoromethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,3-Trichloropropane	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,2,4-Trimethylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
1,3,5-Trimethylbenzene	ND	*	4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Vinyl acetate	ND		17		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Vinyl chloride	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Xylenes, Total	ND		8.3		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
2,2-Dichloropropane	ND		4.1		ug/Kg		09/21/16 20:40	09/23/16 16:38	1
Gasoline Range Organics (GRO) -C5-C12	ND		210		ug/Kg		09/21/16 20:40	09/23/16 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*70*		*45 - 131*	*09/21/16 20:40*	*09/23/16 16:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*60 - 140*	*09/21/16 20:40*	*09/23/16 16:38*	*1*
Toluene-d8 (Surr)	*96*		*58 - 140*	*09/21/16 20:40*	*09/23/16 16:38*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Bis(2-chloroethyl)ether	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Chlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,3-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,4-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzyl alcohol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,2-Dichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Methylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Methylphenol, 3 & 4	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
N-Nitrosodi-n-propylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Hexachloroethane	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Nitrobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Isophorone	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Nitrophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dimethylphenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Bis(2-chloroethoxy)methane	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
1,2,4-Trichlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Naphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Chloroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Hexachlorobutadiene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Chloro-3-methylphenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Methylnaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-4450
Date Collected: 09/21/16 13:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-5
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4,6-Trichlorophenol	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4,5-Trichlorophenol	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Chloronaphthalene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Dimethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Acenaphthylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
3-Nitroaniline	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Acenaphthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Nitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Dibenzofuran	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,4-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2,6-Dinitrotoluene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Diethyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Chlorophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Fluorene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
2-Methyl-4,6-dinitrophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
N-Nitrosodiphenylamine	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
4-Bromophenyl phenyl ether	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Hexachlorobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Pentachlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Phenanthrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Di-n-butyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Butyl benzyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
3,3'-Dichlorobenzidine	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[a]anthracene	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Bis(2-ethylhexyl) phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Chrysene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Di-n-octyl phthalate	ND		0.67		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[b]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[a]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[k]fluoranthene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Indeno[1,2,3-cd]pyrene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzo[g,h,i]perylene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Benzoic acid	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Azobenzene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2
Dibenz(a,h)anthracene	ND		0.27		mg/Kg		09/26/16 10:36	09/28/16 00:54	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*69*		*21 - 98*	*09/26/16 10:36*	*09/28/16 00:54*	*2*
2-Fluorobiphenyl	*86*		*30 - 112*	*09/26/16 10:36*	*09/28/16 00:54*	*2*
Terphenyl-d14	*86*		*59 - 134*	*09/26/16 10:36*	*09/28/16 00:54*	*2*
2-Fluorophenol	*75*		*28 - 98*	*09/26/16 10:36*	*09/28/16 00:54*	*2*
Phenol-d5	*78*		*23 - 101*	*09/26/16 10:36*	*09/28/16 00:54*	*2*
2,4,6-Tribromophenol	*68*		*37 - 114*	*09/26/16 10:36*	*09/28/16 00:54*	*2*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**58**		3.0		mg/Kg		09/26/16 11:32	09/28/16 02:49	3
Motor Oil Range Organics [C24-C36]	**200**		150		mg/Kg		09/26/16 11:32	09/28/16 02:49	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*93*		*40 - 130*	*09/26/16 11:32*	*09/28/16 02:49*	*3*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Dieldrin	**2.4**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
4,4'-DDT	**9.9**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
4,4'-DDE	**6.4**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Toxaphene	ND		39		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
Chlordane (technical)	ND		39		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
alpha-Chlordane	**2.0**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1
gamma-Chlordane	**8.6**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*91*		*57 - 122*	*09/26/16 10:20*	*09/28/16 09:28*	*1*
DCB Decachlorobiphenyl	*92*		*21 - 136*	*09/26/16 10:20*	*09/28/16 09:28*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1221	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1232	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1242	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1248	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1254	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1
PCB-1260	ND		49		ug/Kg		09/26/16 11:02	09/27/16 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*82*		*45 - 132*	*09/26/16 11:02*	*09/27/16 20:32*	*1*
DCB Decachlorobiphenyl	*75*		*42 - 146*	*09/26/16 11:02*	*09/27/16 20:32*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Arsenic	**13**		2.8		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Barium	**140**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-4450
Date Collected: 09/21/16 13:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-5
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.28		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Cadmium	**1.1**		0.35		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Chromium	**32**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Cobalt	**7.1**		0.56		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Copper	**24**		4.2		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Lead	**33**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Molybdenum	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Nickel	**37**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Selenium	ND		2.8		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Silver	ND		0.70		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Thallium	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Vanadium	**31**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:21	4
Zinc	**65**		4.2		mg/Kg		09/23/16 16:18	09/26/16 22:21	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.22**		0.0094		mg/Kg		09/23/16 13:01	09/28/16 16:54	1

Client Sample ID: JT-4800
Date Collected: 09/21/16 13:28
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-6
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Acetone	ND		40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Benzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Dichlorobromomethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Bromobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chlorobromomethane	ND		16		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Bromoform	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Bromomethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2-Butanone (MEK)	ND	*	40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
n-Butylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
sec-Butylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
tert-Butylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Carbon disulfide	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Carbon tetrachloride	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chloroethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chloroform	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chloromethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2-Chlorotoluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
4-Chlorotoluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Chlorodibromomethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,3-Dichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,4-Dichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,3-Dichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1-Dichloropropene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dibromo-3-Chloropropane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Ethylene Dibromide	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Dibromomethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Dichlorodifluoromethane	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1-Dichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1-Dichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
cis-1,2-Dichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
trans-1,2-Dichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2-Dichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
cis-1,3-Dichloropropene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
trans-1,3-Dichloropropene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Ethylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Hexachlorobutadiene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2-Hexanone	ND		40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Isopropylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
4-Isopropyltoluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Methylene Chloride	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
4-Methyl-2-pentanone (MIBK)	ND		40		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Naphthalene	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
N-Propylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Styrene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,1,2-Tetrachloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1

Client Sample ID: JT-4800
Date Collected: 09/21/16 13:28
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-6
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Tetrachloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Toluene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,3-Trichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,4-Trichlorobenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,1-Trichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,2-Trichloroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Trichloroethene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Trichlorofluoromethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,3-Trichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,2,4-Trimethylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
1,3,5-Trimethylbenzene	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Vinyl acetate	ND		16		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Vinyl chloride	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Xylenes, Total	ND		7.9		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
2,2-Dichloropropane	ND		4.0		ug/Kg		09/21/16 20:40	09/23/16 17:08	1
Gasoline Range Organics (GRO) -C5-C12	ND		200		ug/Kg		09/21/16 20:40	09/23/16 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*89*		*45 - 131*	*09/21/16 20:40*	*09/23/16 17:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*60 - 140*	*09/21/16 20:40*	*09/23/16 17:08*	*1*
Toluene-d8 (Surr)	*102*		*58 - 140*	*09/21/16 20:40*	*09/23/16 17:08*	*1*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Bis(2-chloroethyl)ether	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Chlorophenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,3-Dichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,4-Dichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzyl alcohol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,2-Dichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Methylphenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Methylphenol, 3 & 4	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
N-Nitrosodi-n-propylamine	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Hexachloroethane	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Nitrobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Isophorone	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Nitrophenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dimethylphenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Bis(2-chloroethoxy)methane	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dichlorophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
1,2,4-Trichlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Naphthalene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Chloroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Hexachlorobutadiene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Chloro-3-methylphenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Methylnaphthalene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-4800
Date Collected: 09/21/16 13:28
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-6
Matrix: Solid

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4,6-Trichlorophenol	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4,5-Trichlorophenol	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Chloronaphthalene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Nitroaniline	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Dimethyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Acenaphthylene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
3-Nitroaniline	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Acenaphthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dinitrophenol	ND		5.2		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Nitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Dibenzofuran	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,4-Dinitrotoluene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2,6-Dinitrotoluene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Diethyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Chlorophenyl phenyl ether	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Fluorene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Nitroaniline	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
2-Methyl-4,6-dinitrophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
N-Nitrosodiphenylamine	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
4-Bromophenyl phenyl ether	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Hexachlorobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Pentachlorophenol	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Phenanthrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Anthracene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Di-n-butyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Fluoranthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Pyrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Butyl benzyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
3,3'-Dichlorobenzidine	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[a]anthracene	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Bis(2-ethylhexyl) phthalate	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Chrysene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Di-n-octyl phthalate	ND		1.3		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[b]fluoranthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[a]pyrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[k]fluoranthene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Indeno[1,2,3-cd]pyrene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzo[g,h,i]perylene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Benzoic acid	ND		2.6		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Azobenzene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4
Dibenz(a,h)anthracene	ND		0.53		mg/Kg		09/26/16 10:36	09/28/16 01:20	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*65*		*21 - 98*	*09/26/16 10:36*	*09/28/16 01:20*	*4*
2-Fluorobiphenyl	*90*		*30 - 112*	*09/26/16 10:36*	*09/28/16 01:20*	*4*
Terphenyl-d14	*90*		*59 - 134*	*09/26/16 10:36*	*09/28/16 01:20*	*4*
2-Fluorophenol	*74*		*28 - 98*	*09/26/16 10:36*	*09/28/16 01:20*	*4*
Phenol-d5	*79*		*23 - 101*	*09/26/16 10:36*	*09/28/16 01:20*	*4*
2,4,6-Tribromophenol	*82*		*37 - 114*	*09/26/16 10:36*	*09/28/16 01:20*	*4*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**100**		5.0		mg/Kg		09/26/16 11:32	09/27/16 22:22	5
Motor Oil Range Organics [C24-C36]	**380**		250		mg/Kg		09/26/16 11:32	09/27/16 22:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*0*	*X D*	*40 - 130*	*09/26/16 11:32*	*09/27/16 22:22*	*5*

Method: 8081A - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Dieldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
4,4'-DDT	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
4,4'-DDE	**3.3**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
4,4'-DDD	**5.9**		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
Chlordane (technical)	ND		40		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
alpha-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1
gamma-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 09:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*99*		*57 - 122*	*09/26/16 10:20*	*09/28/16 09:46*	*1*
DCB Decachlorobiphenyl	*86*		*21 - 136*	*09/26/16 10:20*	*09/28/16 09:46*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1221	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1232	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1242	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1248	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1254	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1
PCB-1260	ND		50		ug/Kg		09/26/16 11:02	09/27/16 20:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*45 - 132*	*09/26/16 11:02*	*09/27/16 20:49*	*1*
DCB Decachlorobiphenyl	*74*		*42 - 146*	*09/26/16 11:02*	*09/27/16 20:49*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Arsenic	**5.2**		2.7		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Barium	**110**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-4800
Date Collected: 09/21/16 13:28
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-6
Matrix: Solid

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.27		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Cadmium	ND		0.34		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Chromium	**57**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Cobalt	**8.8**		0.55		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Copper	**26**		4.1		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Lead	**16**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Molybdenum	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Nickel	**46**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Selenium	ND		2.7		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Silver	ND		0.68		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Thallium	ND		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Vanadium	**37**		1.4		mg/Kg		09/23/16 16:18	09/26/16 22:26	4
Zinc	**47**		4.1		mg/Kg		09/23/16 16:18	09/26/16 22:26	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.12**		0.0095		mg/Kg		09/23/16 13:01	09/28/16 16:57	1

Surrogate Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	12DCE	TOL
Lab Sample ID	Client Sample ID	(45-131)	(60-140)	(58-140)
720-74613-1	JT-3730	73	96	98
720-74613-2	JT-4090	94	96	92
720-74613-3	JT-3490	72	107	97
720-74613-4	ST-3780	97	120	102
720-74613-5	JT-4450	70	109	96
720-74613-6	JT-4800	89	106	102
LCS 720-209822/5	Lab Control Sample	100	85	95
LCS 720-209822/7	Lab Control Sample	100	86	95
LCS 720-209835/5	Lab Control Sample	96	99	105
LCS 720-209835/7	Lab Control Sample	97	101	105
LCSD 720-209822/6	Lab Control Sample Dup	98	84	96
LCSD 720-209822/8	Lab Control Sample Dup	101	87	95
LCSD 720-209835/6	Lab Control Sample Dup	96	100	106
LCSD 720-209835/8	Lab Control Sample Dup	97	103	105
MB 720-209822/4	Method Blank	101	85	95
MB 720-209835/4	Method Blank	97	101	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		NBZ	FBP	TPH	2FP	PHL	TBP
Lab Sample ID	Client Sample ID	(21-98)	(30-112)	(59-134)	(28-98)	(23-101)	(37-114)
720-74613-1	JT-3730	62	81	78	68	71	69
720-74613-2	JT-4090	66	92	94	69	79	43
720-74613-3	JT-3490	66	86	87	71	75	74
720-74613-4	ST-3780	63	85	86	66	71	71
720-74613-5	JT-4450	69	86	86	75	78	68
720-74613-6	JT-4800	65	90	90	74	79	82
LCS 720-209965/2-A	Lab Control Sample	76	75	87	73	77	73
MB 720-209965/1-A	Method Blank	70	68	83	70	74	64

Surrogate Legend

NBZ = Nitrobenzene-d5
FBP = 2-Fluorobiphenyl
TPH = Terphenyl-d14
2FP = 2-Fluorophenol
PHL = Phenol-d5
TBP = 2,4,6-Tribromophenol

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		PTP1
Lab Sample ID	Client Sample ID	(40-130)
720-74613-1	JT-3730	73
720-74613-2	JT-4090	0 X D
720-74613-3	JT-3490	108
720-74613-3 MS	JT-3490	92
720-74613-3 MSD	JT-3490	99
720-74613-4	ST-3780	0 X D
720-74613-5	JT-4450	93
720-74613-6	JT-4800	0 X D
LCS 720-209972/2-A	Lab Control Sample	106
MB 720-209972/1-A	Method Blank	106

Surrogate Legend

PTP = p-Terphenyl

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX1	DCB1
Lab Sample ID	Client Sample ID	(57-122)	(21-136)
720-74613-1	JT-3730	91	99
720-74613-2	JT-4090	94 p	102

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX2	DCB2
Lab Sample ID	Client Sample ID	(57-122)	(21-136)
720-74613-3	JT-3490	88	80
720-74613-4	ST-3780	90	89
LCS 720-209959/2-A	Lab Control Sample	88	105
MB 720-209959/1-A	Method Blank	84	99

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX2	DCB1
Lab Sample ID	Client Sample ID	(57-122)	(21-136)
720-74613-5	JT-4450	91	92
720-74613-6	JT-4800	99	86

Surrogate Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Surrogate Legend
TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	TCX1 (45-132)	DCB1 (42-146)								
720-74613-1	JT-3730	75	80								
720-74613-2	JT-4090	84	75								
720-74613-3	JT-3490	78	75								
720-74613-4	ST-3780	84	74								
720-74613-5	JT-4450	82	75								
720-74613-6	JT-4800	83	74								
LCS 720-209967/2-A	Lab Control Sample	80	75								
MB 720-209967/1-A	Method Blank	75	83								

Surrogate Legend
TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-209822/4
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/Kg			09/22/16 19:15	1
Acetone	ND		50		ug/Kg			09/22/16 19:15	1
Benzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Dichlorobromomethane	ND		5.0		ug/Kg			09/22/16 19:15	1
Bromobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Chlorobromomethane	ND		20		ug/Kg			09/22/16 19:15	1
Bromoform	ND		5.0		ug/Kg			09/22/16 19:15	1
Bromomethane	ND		10		ug/Kg			09/22/16 19:15	1
2-Butanone (MEK)	ND		50		ug/Kg			09/22/16 19:15	1
n-Butylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
sec-Butylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
tert-Butylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Carbon disulfide	ND		5.0		ug/Kg			09/22/16 19:15	1
Carbon tetrachloride	ND		5.0		ug/Kg			09/22/16 19:15	1
Chlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Chloroethane	ND		10		ug/Kg			09/22/16 19:15	1
Chloroform	ND		5.0		ug/Kg			09/22/16 19:15	1
Chloromethane	ND		10		ug/Kg			09/22/16 19:15	1
2-Chlorotoluene	ND		5.0		ug/Kg			09/22/16 19:15	1
4-Chlorotoluene	ND		5.0		ug/Kg			09/22/16 19:15	1
Chlorodibromomethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,3-Dichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1-Dichloropropene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg			09/22/16 19:15	1
Ethylene Dibromide	ND		5.0		ug/Kg			09/22/16 19:15	1
Dibromomethane	ND		10		ug/Kg			09/22/16 19:15	1
Dichlorodifluoromethane	ND		10		ug/Kg			09/22/16 19:15	1
1,1-Dichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1-Dichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2-Dichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			09/22/16 19:15	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			09/22/16 19:15	1
Ethylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Hexachlorobutadiene	ND		5.0		ug/Kg			09/22/16 19:15	1
2-Hexanone	ND		50		ug/Kg			09/22/16 19:15	1
Isopropylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
4-Isopropyltoluene	ND		5.0		ug/Kg			09/22/16 19:15	1
Methylene Chloride	ND		10		ug/Kg			09/22/16 19:15	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/Kg			09/22/16 19:15	1
Naphthalene	ND		10		ug/Kg			09/22/16 19:15	1
N-Propylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Styrene	ND		5.0		ug/Kg			09/22/16 19:15	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-209822/4
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
Tetrachloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
Toluene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
Trichloroethene	ND		5.0		ug/Kg			09/22/16 19:15	1
Trichlorofluoromethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			09/22/16 19:15	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			09/22/16 19:15	1
Vinyl acetate	ND		20		ug/Kg			09/22/16 19:15	1
Vinyl chloride	ND		5.0		ug/Kg			09/22/16 19:15	1
Xylenes, Total	ND		10		ug/Kg			09/22/16 19:15	1
2,2-Dichloropropane	ND		5.0		ug/Kg			09/22/16 19:15	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			09/22/16 19:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*45 - 131*		*09/22/16 19:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*85*		*60 - 140*		*09/22/16 19:15*	*1*
Toluene-d8 (Surr)	*95*		*58 - 140*		*09/22/16 19:15*	*1*

Lab Sample ID: LCS 720-209822/5
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	50.0	50.9		ug/Kg		102	70 - 144
Acetone	250	274		ug/Kg		109	30 - 162
Benzene	50.0	49.6		ug/Kg		99	70 - 130
Dichlorobromomethane	50.0	49.9		ug/Kg		100	70 - 140
Bromobenzene	50.0	48.6		ug/Kg		97	70 - 130
Chlorobromomethane	50.0	51.0		ug/Kg		102	70 - 130
Bromoform	50.0	56.7		ug/Kg		113	59 - 158
Bromomethane	50.0	52.0		ug/Kg		104	59 - 132
2-Butanone (MEK)	250	270		ug/Kg		108	53 - 133
n-Butylbenzene	50.0	48.5		ug/Kg		97	70 - 142
sec-Butylbenzene	50.0	43.8		ug/Kg		88	70 - 136
tert-Butylbenzene	50.0	45.4		ug/Kg		91	70 - 130
Carbon disulfide	50.0	53.4		ug/Kg		107	60 - 140
Carbon tetrachloride	50.0	44.4		ug/Kg		89	70 - 142
Chlorobenzene	50.0	47.9		ug/Kg		96	70 - 130
Chloroethane	50.0	54.7		ug/Kg		109	65 - 130
Chloroform	50.0	48.2		ug/Kg		96	77 - 127

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209822/5
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	50.0	53.2		ug/Kg		106	55 - 140
2-Chlorotoluene	50.0	46.6		ug/Kg		93	70 - 138
4-Chlorotoluene	50.0	46.7		ug/Kg		93	70 - 136
Chlorodibromomethane	50.0	49.4		ug/Kg		99	70 - 146
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	70 - 130
1,3-Dichlorobenzene	50.0	47.9		ug/Kg		96	70 - 131
1,4-Dichlorobenzene	50.0	48.7		ug/Kg		97	70 - 130
1,3-Dichloropropane	50.0	49.4		ug/Kg		99	70 - 140
1,1-Dichloropropene	50.0	46.6		ug/Kg		93	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	47.6		ug/Kg		95	60 - 145
Ethylene Dibromide	50.0	51.4		ug/Kg		103	70 - 140
Dibromomethane	50.0	49.2		ug/Kg		98	70 - 139
Dichlorodifluoromethane	50.0	44.7		ug/Kg		89	37 - 158
1,1-Dichloroethane	50.0	48.5		ug/Kg		97	70 - 130
1,2-Dichloroethane	50.0	47.0		ug/Kg		94	70 - 130
1,1-Dichloroethene	50.0	51.5		ug/Kg		103	74 - 122
cis-1,2-Dichloroethene	50.0	49.4		ug/Kg		99	70 - 138
trans-1,2-Dichloroethene	50.0	50.7		ug/Kg		101	67 - 130
1,2-Dichloropropane	50.0	52.7		ug/Kg		105	73 - 127
cis-1,3-Dichloropropene	50.0	52.2		ug/Kg		104	68 - 147
trans-1,3-Dichloropropene	50.0	50.6		ug/Kg		101	70 - 155
Ethylbenzene	50.0	45.0		ug/Kg		90	80 - 137
Hexachlorobutadiene	50.0	45.2		ug/Kg		90	70 - 132
2-Hexanone	250	247		ug/Kg		99	44 - 133
Isopropylbenzene	50.0	45.2		ug/Kg		90	70 - 130
4-Isopropyltoluene	50.0	44.8		ug/Kg		90	70 - 133
Methylene Chloride	50.0	50.6		ug/Kg		101	70 - 134
4-Methyl-2-pentanone (MIBK)	250	262		ug/Kg		105	60 - 160
Naphthalene	50.0	47.0		ug/Kg		94	60 - 147
N-Propylbenzene	50.0	44.7		ug/Kg		89	70 - 130
Styrene	50.0	50.4		ug/Kg		101	70 - 130
1,1,1,2-Tetrachloroethane	50.0	50.2		ug/Kg		100	70 - 130
1,1,2,2-Tetrachloroethane	50.0	52.4		ug/Kg		105	70 - 146
Tetrachloroethene	50.0	46.6		ug/Kg		93	70 - 132
Toluene	50.0	47.5		ug/Kg		95	75 - 120
1,2,3-Trichlorobenzene	50.0	46.5		ug/Kg		93	60 - 140
1,2,4-Trichlorobenzene	50.0	48.4		ug/Kg		97	60 - 140
1,1,1-Trichloroethane	50.0	43.2		ug/Kg		86	70 - 130
1,1,2-Trichloroethane	50.0	49.8		ug/Kg		100	70 - 130
Trichloroethene	50.0	46.5		ug/Kg		93	70 - 133
Trichlorofluoromethane	50.0	47.1		ug/Kg		94	60 - 140
1,2,3-Trichloropropane	50.0	48.6		ug/Kg		97	70 - 146
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.2		ug/Kg		100	60 - 140
1,2,4-Trimethylbenzene	50.0	46.6		ug/Kg		93	70 - 130
1,3,5-Trimethylbenzene	50.0	46.7		ug/Kg		93	70 - 131
Vinyl acetate	50.0	60.8		ug/Kg		122	38 - 176
Vinyl chloride	50.0	52.4		ug/Kg		105	58 - 125

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209822/5
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
m-Xylene & p-Xylene	50.0	47.9		ug/Kg		96	70 - 146
o-Xylene	50.0	44.7		ug/Kg		89	70 - 140
2,2-Dichloropropane	50.0	43.2		ug/Kg		86	70 - 162

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*85*		*60 - 140*
Toluene-d8 (Surr)	*95*		*58 - 140*

Lab Sample ID: LCS 720-209822/7
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	995		ug/Kg		100	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*86*		*60 - 140*
Toluene-d8 (Surr)	*95*		*58 - 140*

Lab Sample ID: LCSD 720-209822/6
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	50.0	50.9		ug/Kg		102	70 - 144	0	20
Acetone	250	262		ug/Kg		105	30 - 162	4	30
Benzene	50.0	49.8		ug/Kg		100	70 - 130	0	20
Dichlorobromomethane	50.0	49.7		ug/Kg		99	70 - 140	0	20
Bromobenzene	50.0	48.7		ug/Kg		97	70 - 130	0	20
Chlorobromomethane	50.0	50.3		ug/Kg		101	70 - 130	1	20
Bromoform	50.0	55.4		ug/Kg		111	59 - 158	2	20
Bromomethane	50.0	52.7		ug/Kg		105	59 - 132	1	20
2-Butanone (MEK)	250	269		ug/Kg		107	53 - 133	0	20
n-Butylbenzene	50.0	48.6		ug/Kg		97	70 - 142	0	20
sec-Butylbenzene	50.0	44.3		ug/Kg		89	70 - 136	1	20
tert-Butylbenzene	50.0	46.2		ug/Kg		92	70 - 130	2	20
Carbon disulfide	50.0	53.9		ug/Kg		108	60 - 140	1	20
Carbon tetrachloride	50.0	45.3		ug/Kg		91	70 - 142	2	20
Chlorobenzene	50.0	46.6		ug/Kg		93	70 - 130	3	20
Chloroethane	50.0	54.9		ug/Kg		110	65 - 130	0	20
Chloroform	50.0	48.5		ug/Kg		97	77 - 127	1	20
Chloromethane	50.0	54.6		ug/Kg		109	55 - 140	3	20
2-Chlorotoluene	50.0	46.8		ug/Kg		94	70 - 138	0	20
4-Chlorotoluene	50.0	47.0		ug/Kg		94	70 - 136	1	20
Chlorodibromomethane	50.0	49.4		ug/Kg		99	70 - 146	0	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209822/6
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	70 - 130	0	20
1,3-Dichlorobenzene	50.0	47.9		ug/Kg		96	70 - 131	0	20
1,4-Dichlorobenzene	50.0	48.4		ug/Kg		97	70 - 130	1	20
1,3-Dichloropropane	50.0	49.6		ug/Kg		99	70 - 140	0	20
1,1-Dichloropropene	50.0	46.9		ug/Kg		94	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	50.0	47.1		ug/Kg		94	60 - 145	1	20
Ethylene Dibromide	50.0	51.2		ug/Kg		102	70 - 140	0	20
Dibromomethane	50.0	48.7		ug/Kg		97	70 - 139	1	20
Dichlorodifluoromethane	50.0	44.9		ug/Kg		90	37 - 158	1	20
1,1-Dichloroethane	50.0	48.6		ug/Kg		97	70 - 130	0	20
1,2-Dichloroethane	50.0	46.7		ug/Kg		93	70 - 130	1	20
1,1-Dichloroethene	50.0	52.4		ug/Kg		105	74 - 122	2	20
cis-1,2-Dichloroethene	50.0	49.4		ug/Kg		99	70 - 138	0	20
trans-1,2-Dichloroethene	50.0	51.0		ug/Kg		102	67 - 130	1	20
1,2-Dichloropropane	50.0	52.9		ug/Kg		106	73 - 127	0	20
cis-1,3-Dichloropropene	50.0	52.2		ug/Kg		104	68 - 147	0	20
trans-1,3-Dichloropropene	50.0	50.1		ug/Kg		100	70 - 155	1	20
Ethylbenzene	50.0	43.9		ug/Kg		88	80 - 137	2	20
Hexachlorobutadiene	50.0	45.3		ug/Kg		91	70 - 132	0	20
2-Hexanone	250	249		ug/Kg		100	44 - 133	1	20
Isopropylbenzene	50.0	44.4		ug/Kg		89	70 - 130	2	20
4-Isopropyltoluene	50.0	45.1		ug/Kg		90	70 - 133	0	20
Methylene Chloride	50.0	50.7		ug/Kg		101	70 - 134	0	20
4-Methyl-2-pentanone (MIBK)	250	266		ug/Kg		106	60 - 160	1	20
Naphthalene	50.0	47.0		ug/Kg		94	60 - 147	0	20
N-Propylbenzene	50.0	45.4		ug/Kg		91	70 - 130	1	20
Styrene	50.0	48.9		ug/Kg		98	70 - 130	3	20
1,1,1,2-Tetrachloroethane	50.0	49.2		ug/Kg		98	70 - 130	2	20
1,1,2,2-Tetrachloroethane	50.0	52.3		ug/Kg		105	70 - 146	0	20
Tetrachloroethene	50.0	47.2		ug/Kg		94	70 - 132	1	20
Toluene	50.0	45.9		ug/Kg		92	75 - 120	3	20
1,2,3-Trichlorobenzene	50.0	46.4		ug/Kg		93	60 - 140	0	20
1,2,4-Trichlorobenzene	50.0	47.6		ug/Kg		95	60 - 140	2	20
1,1,1-Trichloroethane	50.0	43.6		ug/Kg		87	70 - 130	1	20
1,1,2-Trichloroethane	50.0	49.9		ug/Kg		100	70 - 130	0	20
Trichloroethene	50.0	46.6		ug/Kg		93	70 - 133	0	20
Trichlorofluoromethane	50.0	47.1		ug/Kg		94	60 - 140	0	20
1,2,3-Trichloropropane	50.0	49.0		ug/Kg		98	70 - 146	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.3		ug/Kg		101	60 - 140	0	20
1,2,4-Trimethylbenzene	50.0	46.8		ug/Kg		94	70 - 130	0	20
1,3,5-Trimethylbenzene	50.0	47.1		ug/Kg		94	70 - 131	1	20
Vinyl acetate	50.0	61.4		ug/Kg		123	38 - 176	1	20
Vinyl chloride	50.0	52.9		ug/Kg		106	58 - 125	1	20
m-Xylene & p-Xylene	50.0	46.8		ug/Kg		94	70 - 146	2	20
o-Xylene	50.0	43.6		ug/Kg		87	70 - 140	3	20
2,2-Dichloropropane	50.0	42.7		ug/Kg		85	70 - 162	1	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209822/6
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*84*		*60 - 140*
Toluene-d8 (Surr)	*96*		*58 - 140*

Lab Sample ID: LCSD 720-209822/8
Matrix: Solid
Analysis Batch: 209822

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	999		ug/Kg		100	61 - 128	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*87*		*60 - 140*
Toluene-d8 (Surr)	*95*		*58 - 140*

Lab Sample ID: MB 720-209835/4
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0		ug/Kg			09/23/16 08:47	1
Acetone	ND		50		ug/Kg			09/23/16 08:47	1
Benzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Dichlorobromomethane	ND		5.0		ug/Kg			09/23/16 08:47	1
Bromobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Chlorobromomethane	ND		20		ug/Kg			09/23/16 08:47	1
Bromoform	ND		5.0		ug/Kg			09/23/16 08:47	1
Bromomethane	ND		10		ug/Kg			09/23/16 08:47	1
2-Butanone (MEK)	ND		50		ug/Kg			09/23/16 08:47	1
n-Butylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
sec-Butylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
tert-Butylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Carbon disulfide	ND		5.0		ug/Kg			09/23/16 08:47	1
Carbon tetrachloride	ND		5.0		ug/Kg			09/23/16 08:47	1
Chlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Chloroethane	ND		10		ug/Kg			09/23/16 08:47	1
Chloroform	ND		5.0		ug/Kg			09/23/16 08:47	1
Chloromethane	ND		10		ug/Kg			09/23/16 08:47	1
2-Chlorotoluene	ND		5.0		ug/Kg			09/23/16 08:47	1
4-Chlorotoluene	ND		5.0		ug/Kg			09/23/16 08:47	1
Chlorodibromomethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2-Dichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,3-Dichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,4-Dichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,3-Dichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1-Dichloropropene	ND		5.0		ug/Kg			09/23/16 08:47	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: MB 720-209835/4
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		10		ug/Kg			09/23/16 08:47	1
Ethylene Dibromide	ND		5.0		ug/Kg			09/23/16 08:47	1
Dibromomethane	ND		10		ug/Kg			09/23/16 08:47	1
Dichlorodifluoromethane	ND		10		ug/Kg			09/23/16 08:47	1
1,1-Dichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2-Dichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1-Dichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
cis-1,2-Dichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
trans-1,2-Dichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2-Dichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
cis-1,3-Dichloropropene	ND		5.0		ug/Kg			09/23/16 08:47	1
trans-1,3-Dichloropropene	ND		5.0		ug/Kg			09/23/16 08:47	1
Ethylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Hexachlorobutadiene	ND		5.0		ug/Kg			09/23/16 08:47	1
2-Hexanone	ND		50		ug/Kg			09/23/16 08:47	1
Isopropylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
4-Isopropyltoluene	ND		5.0		ug/Kg			09/23/16 08:47	1
Methylene Chloride	ND		10		ug/Kg			09/23/16 08:47	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/Kg			09/23/16 08:47	1
Naphthalene	ND		10		ug/Kg			09/23/16 08:47	1
N-Propylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Styrene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,1,2-Tetrachloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
Tetrachloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
Toluene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,3-Trichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,4-Trichlorobenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,1-Trichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,2-Trichloroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
Trichloroethene	ND		5.0		ug/Kg			09/23/16 08:47	1
Trichlorofluoromethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,3-Trichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0		ug/Kg			09/23/16 08:47	1
1,2,4-Trimethylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
1,3,5-Trimethylbenzene	ND		5.0		ug/Kg			09/23/16 08:47	1
Vinyl acetate	ND		20		ug/Kg			09/23/16 08:47	1
Vinyl chloride	ND		5.0		ug/Kg			09/23/16 08:47	1
Xylenes, Total	ND		10		ug/Kg			09/23/16 08:47	1
2,2-Dichloropropane	ND		5.0		ug/Kg			09/23/16 08:47	1
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			09/23/16 08:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*45 - 131*		*09/23/16 08:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*		*09/23/16 08:47*	*1*
Toluene-d8 (Surr)	*103*		*58 - 140*		*09/23/16 08:47*	*1*

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209835/5
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	50.0	57.5		ug/Kg		115	70 - 144
Acetone	250	332		ug/Kg		133	30 - 162
Benzene	50.0	53.7		ug/Kg		107	70 - 130
Dichlorobromomethane	50.0	54.8		ug/Kg		110	70 - 140
Bromobenzene	50.0	50.7		ug/Kg		101	70 - 130
Chlorobromomethane	50.0	56.1		ug/Kg		112	70 - 130
Bromoform	50.0	57.3		ug/Kg		115	59 - 158
Bromomethane	50.0	53.7		ug/Kg		107	59 - 132
2-Butanone (MEK)	250	337	*	ug/Kg		135	53 - 133
n-Butylbenzene	50.0	50.4		ug/Kg		101	70 - 142
sec-Butylbenzene	50.0	51.6		ug/Kg		103	70 - 136
tert-Butylbenzene	50.0	50.8		ug/Kg		102	70 - 130
Carbon disulfide	50.0	60.4		ug/Kg		121	60 - 140
Carbon tetrachloride	50.0	55.8		ug/Kg		112	70 - 142
Chlorobenzene	50.0	50.3		ug/Kg		101	70 - 130
Chloroethane	50.0	52.7		ug/Kg		105	65 - 130
Chloroform	50.0	53.0		ug/Kg		106	77 - 127
Chloromethane	50.0	46.8		ug/Kg		94	55 - 140
2-Chlorotoluene	50.0	48.0		ug/Kg		96	70 - 138
4-Chlorotoluene	50.0	48.9		ug/Kg		98	70 - 136
Chlorodibromomethane	50.0	57.1		ug/Kg		114	70 - 146
1,2-Dichlorobenzene	50.0	48.3		ug/Kg		97	70 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/Kg		99	70 - 131
1,4-Dichlorobenzene	50.0	49.4		ug/Kg		99	70 - 130
1,3-Dichloropropane	50.0	53.4		ug/Kg		107	70 - 140
1,1-Dichloropropene	50.0	54.2		ug/Kg		108	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	58.3		ug/Kg		117	60 - 145
Ethylene Dibromide	50.0	59.6		ug/Kg		119	70 - 140
Dibromomethane	50.0	54.7		ug/Kg		109	70 - 139
Dichlorodifluoromethane	50.0	47.0		ug/Kg		94	37 - 158
1,1-Dichloroethane	50.0	50.7		ug/Kg		101	70 - 130
1,2-Dichloroethane	50.0	50.9		ug/Kg		102	70 - 130
1,1-Dichloroethene	50.0	55.9		ug/Kg		112	74 - 122
cis-1,2-Dichloroethene	50.0	50.4		ug/Kg		101	70 - 138
trans-1,2-Dichloroethene	50.0	56.3		ug/Kg		113	67 - 130
1,2-Dichloropropane	50.0	51.4		ug/Kg		103	73 - 127
cis-1,3-Dichloropropene	50.0	56.5		ug/Kg		113	68 - 147
trans-1,3-Dichloropropene	50.0	57.4		ug/Kg		115	70 - 155
Ethylbenzene	50.0	50.3		ug/Kg		101	80 - 137
Hexachlorobutadiene	50.0	62.1		ug/Kg		124	70 - 132
2-Hexanone	250	310		ug/Kg		124	44 - 133
Isopropylbenzene	50.0	53.8		ug/Kg		108	70 - 130
4-Isopropyltoluene	50.0	51.1		ug/Kg		102	70 - 133
Methylene Chloride	50.0	54.5		ug/Kg		109	70 - 134
4-Methyl-2-pentanone (MIBK)	250	303		ug/Kg		121	60 - 160
Naphthalene	50.0	56.8		ug/Kg		114	60 - 147
N-Propylbenzene	50.0	51.9		ug/Kg		104	70 - 130
Styrene	50.0	53.0		ug/Kg		106	70 - 130

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCS 720-209835/5
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	50.3		ug/Kg		101	70 - 130
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/Kg		101	70 - 146
Tetrachloroethene	50.0	58.6		ug/Kg		117	70 - 132
Toluene	50.0	49.5		ug/Kg		99	75 - 120
1,2,3-Trichlorobenzene	50.0	56.6		ug/Kg		113	60 - 140
1,2,4-Trichlorobenzene	50.0	56.9		ug/Kg		114	60 - 140
1,1,1-Trichloroethane	50.0	54.5		ug/Kg		109	70 - 130
1,1,2-Trichloroethane	50.0	53.4		ug/Kg		107	70 - 130
Trichloroethene	50.0	55.6		ug/Kg		111	70 - 133
Trichlorofluoromethane	50.0	59.6		ug/Kg		119	60 - 140
1,2,3-Trichloropropane	50.0	52.1		ug/Kg		104	70 - 146
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	61.0		ug/Kg		122	60 - 140
1,2,4-Trimethylbenzene	50.0	50.2		ug/Kg		100	70 - 130
1,3,5-Trimethylbenzene	50.0	50.1		ug/Kg		100	70 - 131
Vinyl acetate	50.0	62.1		ug/Kg		124	38 - 176
Vinyl chloride	50.0	51.1		ug/Kg		102	58 - 125
m-Xylene & p-Xylene	50.0	50.4		ug/Kg		101	70 - 146
o-Xylene	50.0	49.4		ug/Kg		99	70 - 140
2,2-Dichloropropane	50.0	61.3		ug/Kg		123	70 - 162

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*99*		*60 - 140*
Toluene-d8 (Surr)	*105*		*58 - 140*

Lab Sample ID: LCS 720-209835/7
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	962		ug/Kg		96	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*105*		*58 - 140*

Lab Sample ID: LCSD 720-209835/6
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	50.0	56.7		ug/Kg		113	70 - 144	1	20
Acetone	250	325		ug/Kg		130	30 - 162	2	30
Benzene	50.0	53.4		ug/Kg		107	70 - 130	0	20
Dichlorobromomethane	50.0	54.3		ug/Kg		109	70 - 140	1	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209835/6
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromobenzene	50.0	50.6		ug/Kg		101	70 - 130	0	20
Chlorobromomethane	50.0	55.6		ug/Kg		111	70 - 130	1	20
Bromoform	50.0	55.2		ug/Kg		110	59 - 158	4	20
Bromomethane	50.0	54.1		ug/Kg		108	59 - 132	1	20
2-Butanone (MEK)	250	316		ug/Kg		126	53 - 133	6	20
n-Butylbenzene	50.0	50.9		ug/Kg		102	70 - 142	1	20
sec-Butylbenzene	50.0	51.8		ug/Kg		104	70 - 136	1	20
tert-Butylbenzene	50.0	50.7		ug/Kg		101	70 - 130	0	20
Carbon disulfide	50.0	59.8		ug/Kg		120	60 - 140	1	20
Carbon tetrachloride	50.0	55.3		ug/Kg		111	70 - 142	1	20
Chlorobenzene	50.0	49.9		ug/Kg		100	70 - 130	1	20
Chloroethane	50.0	52.4		ug/Kg		105	65 - 130	1	20
Chloroform	50.0	53.1		ug/Kg		106	77 - 127	0	20
Chloromethane	50.0	46.8		ug/Kg		94	55 - 140	0	20
2-Chlorotoluene	50.0	48.0		ug/Kg		96	70 - 138	0	20
4-Chlorotoluene	50.0	49.3		ug/Kg		99	70 - 136	1	20
Chlorodibromomethane	50.0	56.8		ug/Kg		114	70 - 146	0	20
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	70 - 130	1	20
1,3-Dichlorobenzene	50.0	49.9		ug/Kg		100	70 - 131	0	20
1,4-Dichlorobenzene	50.0	49.8		ug/Kg		100	70 - 130	1	20
1,3-Dichloropropane	50.0	53.1		ug/Kg		106	70 - 140	1	20
1,1-Dichloropropene	50.0	53.7		ug/Kg		107	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	50.0	56.1		ug/Kg		112	60 - 145	4	20
Ethylene Dibromide	50.0	58.2		ug/Kg		116	70 - 140	2	20
Dibromomethane	50.0	54.3		ug/Kg		109	70 - 139	1	20
Dichlorodifluoromethane	50.0	46.7		ug/Kg		93	37 - 158	1	20
1,1-Dichloroethane	50.0	50.9		ug/Kg		102	70 - 130	0	20
1,2-Dichloroethane	50.0	50.9		ug/Kg		102	70 - 130	0	20
1,1-Dichloroethene	50.0	54.9		ug/Kg		110	74 - 122	2	20
cis-1,2-Dichloroethene	50.0	51.0		ug/Kg		102	70 - 138	1	20
trans-1,2-Dichloroethene	50.0	55.3		ug/Kg		111	67 - 130	2	20
1,2-Dichloropropane	50.0	51.7		ug/Kg		103	73 - 127	1	20
cis-1,3-Dichloropropene	50.0	56.7		ug/Kg		113	68 - 147	0	20
trans-1,3-Dichloropropene	50.0	56.9		ug/Kg		114	70 - 155	1	20
Ethylbenzene	50.0	49.9		ug/Kg		100	80 - 137	1	20
Hexachlorobutadiene	50.0	62.6		ug/Kg		125	70 - 132	1	20
2-Hexanone	250	289		ug/Kg		116	44 - 133	7	20
Isopropylbenzene	50.0	53.4		ug/Kg		107	70 - 130	1	20
4-Isopropyltoluene	50.0	51.3		ug/Kg		103	70 - 133	0	20
Methylene Chloride	50.0	54.2		ug/Kg		108	70 - 134	1	20
4-Methyl-2-pentanone (MIBK)	250	289		ug/Kg		116	60 - 160	5	20
Naphthalene	50.0	56.0		ug/Kg		112	60 - 147	1	20
N-Propylbenzene	50.0	51.7		ug/Kg		103	70 - 130	1	20
Styrene	50.0	53.0		ug/Kg		106	70 - 130	0	20
1,1,1,2-Tetrachloroethane	50.0	50.3		ug/Kg		101	70 - 130	0	20
1,1,2,2-Tetrachloroethane	50.0	48.9		ug/Kg		98	70 - 146	3	20
Tetrachloroethene	50.0	58.0		ug/Kg		116	70 - 132	1	20
Toluene	50.0	49.1		ug/Kg		98	75 - 120	1	20

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS (Continued)

Lab Sample ID: LCSD 720-209835/6
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene			50.0	57.0		ug/Kg		114	60 - 140	1	20
1,2,4-Trichlorobenzene			50.0	57.3		ug/Kg		115	60 - 140	1	20
1,1,1-Trichloroethane			50.0	54.2		ug/Kg		108	70 - 130	1	20
1,1,2-Trichloroethane			50.0	53.1		ug/Kg		106	70 - 130	1	20
Trichloroethene			50.0	54.6		ug/Kg		109	70 - 133	2	20
Trichlorofluoromethane			50.0	58.4		ug/Kg		117	60 - 140	2	20
1,2,3-Trichloropropane			50.0	51.1		ug/Kg		102	70 - 146	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	60.1		ug/Kg		120	60 - 140	1	20
1,2,4-Trimethylbenzene			50.0	50.7		ug/Kg		101	70 - 130	1	20
1,3,5-Trimethylbenzene			50.0	50.2		ug/Kg		100	70 - 131	0	20
Vinyl acetate			50.0	60.0		ug/Kg		120	38 - 176	3	20
Vinyl chloride			50.0	50.7		ug/Kg		101	58 - 125	1	20
m-Xylene & p-Xylene			50.0	50.5		ug/Kg		101	70 - 146	0	20
o-Xylene			50.0	49.8		ug/Kg		100	70 - 140	1	20
2,2-Dichloropropane			50.0	57.4		ug/Kg		115	70 - 162	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*100*		*60 - 140*
Toluene-d8 (Surr)	*106*		*58 - 140*

Lab Sample ID: LCSD 720-209835/8
Matrix: Solid
Analysis Batch: 209835

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	977		ug/Kg		98	61 - 128	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*103*		*60 - 140*
Toluene-d8 (Surr)	*105*		*58 - 140*

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Lab Sample ID: MB 720-209965/1-A
Matrix: Solid
Analysis Batch: 209988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Bis(2-chloroethyl)ether	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Chlorophenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
1,3-Dichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
1,4-Dichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzyl alcohol	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-209965/1-A
Matrix: Solid
Analysis Batch: 209988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Methylphenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Methylphenol, 3 & 4	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
N-Nitrosodi-n-propylamine	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachloroethane	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Nitrobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Isophorone	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Nitrophenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dimethylphenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Bis(2-chloroethoxy)methane	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dichlorophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
1,2,4-Trichlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Naphthalene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Chloroaniline	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachlorobutadiene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Chloro-3-methylphenol	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Methylnaphthalene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachlorocyclopentadiene	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4,6-Trichlorophenol	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4,5-Trichlorophenol	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Chloronaphthalene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Nitroaniline	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Dimethyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Acenaphthylene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
3-Nitroaniline	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Acenaphthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dinitrophenol	ND		0.66		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Nitrophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Dibenzofuran	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,4-Dinitrotoluene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2,6-Dinitrotoluene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Diethyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Chlorophenyl phenyl ether	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Fluorene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Nitroaniline	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
2-Methyl-4,6-dinitrophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
N-Nitrosodiphenylamine	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
4-Bromophenyl phenyl ether	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Hexachlorobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Pentachlorophenol	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Phenanthrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Anthracene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Di-n-butyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Fluoranthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Pyrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Butyl benzyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
3,3'-Dichlorobenzidine	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-209965/1-A
Matrix: Solid
Analysis Batch: 209988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209965

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Bis(2-ethylhexyl) phthalate	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Chrysene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Di-n-octyl phthalate	ND		0.17		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[b]fluoranthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[a]pyrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[k]fluoranthene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Indeno[1,2,3-cd]pyrene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzo[g,h,i]perylene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Benzoic acid	ND		0.33		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Azobenzene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1
Dibenz(a,h)anthracene	ND		0.067		mg/Kg		09/26/16 10:36	09/27/16 01:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*70*		*21 - 98*	*09/26/16 10:36*	*09/27/16 01:02*	*1*
2-Fluorobiphenyl	*68*		*30 - 112*	*09/26/16 10:36*	*09/27/16 01:02*	*1*
Terphenyl-d14	*83*		*59 - 134*	*09/26/16 10:36*	*09/27/16 01:02*	*1*
2-Fluorophenol	*70*		*28 - 98*	*09/26/16 10:36*	*09/27/16 01:02*	*1*
Phenol-d5	*74*		*23 - 101*	*09/26/16 10:36*	*09/27/16 01:02*	*1*
2,4,6-Tribromophenol	*64*		*37 - 114*	*09/26/16 10:36*	*09/27/16 01:02*	*1*

Lab Sample ID: LCS 720-209965/2-A
Matrix: Solid
Analysis Batch: 209988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	1.33	1.03		mg/Kg		77	48 - 115
Bis(2-chloroethyl)ether	1.33	1.02		mg/Kg		76	45 - 115
2-Chlorophenol	1.33	1.04		mg/Kg		78	48 - 115
1,3-Dichlorobenzene	1.33	0.936		mg/Kg		70	41 - 115
1,4-Dichlorobenzene	1.33	0.952		mg/Kg		71	40 - 115
Benzyl alcohol	1.33	1.08		mg/Kg		81	51 - 115
1,2-Dichlorobenzene	1.33	0.981		mg/Kg		74	44 - 115
2-Methylphenol	1.33	1.05		mg/Kg		78	54 - 115
Methylphenol, 3 & 4	1.33	1.05		mg/Kg		79	42 - 115
N-Nitrosodi-n-propylamine	1.33	1.07		mg/Kg		80	46 - 115
Hexachloroethane	1.33	1.00		mg/Kg		75	44 - 115
Nitrobenzene	1.33	1.11		mg/Kg		83	48 - 115
Isophorone	1.33	1.08		mg/Kg		81	54 - 115
2-Nitrophenol	1.33	1.10		mg/Kg		82	48 - 115
2,4-Dimethylphenol	1.33	1.07		mg/Kg		80	52 - 115
Bis(2-chloroethoxy)methane	1.33	1.05		mg/Kg		78	46 - 115
2,4-Dichlorophenol	1.33	1.10		mg/Kg		83	49 - 100
1,2,4-Trichlorobenzene	1.33	1.03		mg/Kg		77	47 - 115
Naphthalene	1.33	1.03		mg/Kg		77	44 - 115
4-Chloroaniline	1.33	0.919		mg/Kg		69	30 - 115
Hexachlorobutadiene	1.33	1.06		mg/Kg		79	44 - 115

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-209965/2-A
Matrix: Solid
Analysis Batch: 209988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloro-3-methylphenol	1.33	1.11		mg/Kg		83	58 - 115
2-Methylnaphthalene	1.33	1.05		mg/Kg		79	49 - 115
Hexachlorocyclopentadiene	1.33	0.691		mg/Kg		52	42 - 132
2,4,6-Trichlorophenol	1.33	1.10		mg/Kg		83	45 - 115
2,4,5-Trichlorophenol	1.33	1.09		mg/Kg		82	48 - 115
2-Chloronaphthalene	1.33	1.06		mg/Kg		80	52 - 115
2-Nitroaniline	1.33	1.14		mg/Kg		85	54 - 115
Dimethyl phthalate	1.33	1.06		mg/Kg		79	64 - 119
Acenaphthylene	1.33	1.05		mg/Kg		79	61 - 129
3-Nitroaniline	1.33	0.940		mg/Kg		71	50 - 115
Acenaphthene	1.33	0.974		mg/Kg		73	50 - 115
2,4-Dinitrophenol	2.67	1.83		mg/Kg		69	15 - 115
4-Nitrophenol	2.67	2.28		mg/Kg		85	54 - 125
Dibenzofuran	1.33	1.05		mg/Kg		78	55 - 115
2,4-Dinitrotoluene	1.33	1.09		mg/Kg		81	57 - 115
2,6-Dinitrotoluene	1.33	1.08		mg/Kg		81	54 - 119
Diethyl phthalate	1.33	1.05		mg/Kg		79	49 - 117
4-Chlorophenyl phenyl ether	1.33	1.09		mg/Kg		82	57 - 115
Fluorene	1.33	1.05		mg/Kg		78	54 - 115
4-Nitroaniline	1.33	1.00		mg/Kg		75	59 - 115
2-Methyl-4,6-dinitrophenol	2.67	2.04		mg/Kg		77	39 - 115
N-Nitrosodiphenylamine	1.33	1.10		mg/Kg		83	56 - 115
4-Bromophenyl phenyl ether	1.33	1.10		mg/Kg		83	53 - 115
Hexachlorobenzene	1.33	1.04		mg/Kg		78	55 - 115
Pentachlorophenol	2.67	2.23		mg/Kg		84	35 - 115
Phenanthrene	1.33	1.07		mg/Kg		80	54 - 115
Anthracene	1.33	1.10		mg/Kg		83	55 - 115
Di-n-butyl phthalate	1.33	1.18		mg/Kg		89	55 - 115
Fluoranthene	1.33	1.05		mg/Kg		79	52 - 130
Pyrene	1.33	1.19		mg/Kg		89	48 - 115
Butyl benzyl phthalate	1.33	1.34		mg/Kg		100	53 - 115
3,3'-Dichlorobenzidine	1.33	1.11		mg/Kg		83	42 - 115
Benzo[a]anthracene	1.33	1.13		mg/Kg		85	55 - 115
Bis(2-ethylhexyl) phthalate	1.33	1.38		mg/Kg		104	53 - 115
Chrysene	1.33	1.10		mg/Kg		82	58 - 115
Di-n-octyl phthalate	1.33	1.32		mg/Kg		99	53 - 115
Benzo[b]fluoranthene	1.33	1.15		mg/Kg		86	50 - 119
Benzo[a]pyrene	1.33	1.18		mg/Kg		88	57 - 122
Benzo[k]fluoranthene	1.33	1.14		mg/Kg		85	55 - 120
Indeno[1,2,3-cd]pyrene	1.33	1.19		mg/Kg		90	56 - 115
Benzo[g,h,i]perylene	1.33	1.26		mg/Kg		95	56 - 115
Benzoic acid	1.33	1.16		mg/Kg		87	10 - 115
Azobenzene	1.33	1.07		mg/Kg		80	52 - 115
Dibenz(a,h)anthracene	1.33	1.18		mg/Kg		88	57 - 121

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-209965/2-A
Matrix: Solid
Analysis Batch: 209988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209965

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*76*		*21 - 98*
2-Fluorobiphenyl	*75*		*30 - 112*
Terphenyl-d14	*87*		*59 - 134*
2-Fluorophenol	*73*		*28 - 98*
Phenol-d5	*77*		*23 - 101*
2,4,6-Tribromophenol	*73*		*37 - 114*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-209972/1-A
Matrix: Solid
Analysis Batch: 210022

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		1.0		mg/Kg		09/26/16 11:32	09/27/16 12:05	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		09/26/16 11:32	09/27/16 12:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*106*		*40 - 130*	*09/26/16 11:32*	*09/27/16 12:05*	*1*

Lab Sample ID: LCS 720-209972/2-A
Matrix: Solid
Analysis Batch: 210022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	83.3	67.7		mg/Kg		81	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*106*		*40 - 130*

Lab Sample ID: 720-74613-3 MS
Matrix: Solid
Analysis Batch: 210023

Client Sample ID: JT-3490
Prep Type: Total/NA
Prep Batch: 209972

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	9.1	F1	83.0	172	F1	mg/Kg		196	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
p-Terphenyl	*92*		*40 - 130*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 720-74613-3 MSD
Matrix: Solid
Analysis Batch: 210023

Client Sample ID: JT-3490
Prep Type: Total/NA
Prep Batch: 209972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	9.1	F1	83.0	165	F1	mg/Kg		188	50 - 150	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
p-Terphenyl	*99*		*40 - 130*

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 720-209959/1-A
Matrix: Solid
Analysis Batch: 210110

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209959

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Dieldrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endrin aldehyde	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endrin	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endrin ketone	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Heptachlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Heptachlor epoxide	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
4,4'-DDT	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
4,4'-DDE	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
4,4'-DDD	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endosulfan I	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endosulfan II	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
alpha-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
beta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
gamma-BHC (Lindane)	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
delta-BHC	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Endosulfan sulfate	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Methoxychlor	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Toxaphene	ND		40		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
Chlordane (technical)	ND		40		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
alpha-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1
gamma-Chlordane	ND		2.0		ug/Kg		09/26/16 10:20	09/28/16 06:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*57 - 122*	*09/26/16 10:20*	*09/28/16 06:15*	*1*
DCB Decachlorobiphenyl	*99*		*21 - 136*	*09/26/16 10:20*	*09/28/16 06:15*	*1*

Lab Sample ID: LCS 720-209959/2-A
Matrix: Solid
Analysis Batch: 210110

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	16.7	13.9		ug/Kg		84	65 - 120
Dieldrin	16.7	17.2		ug/Kg		103	72 - 120

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 720-209959/2-A
Matrix: Solid
Analysis Batch: 210110

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209959

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin aldehyde	16.7	18.9		ug/Kg		113	68 - 120
Endrin	16.7	18.1		ug/Kg		109	68 - 120
Endrin ketone	16.7	19.2		ug/Kg		115	84 - 133
Heptachlor	16.7	15.9		ug/Kg		95	69 - 120
Heptachlor epoxide	16.7	17.1		ug/Kg		103	68 - 120
4,4'-DDT	16.7	17.6		ug/Kg		105	63 - 127
4,4'-DDE	16.7	17.3		ug/Kg		104	84 - 126
4,4'-DDD	16.7	18.2		ug/Kg		109	85 - 128
Endosulfan I	16.7	17.2		ug/Kg		103	62 - 120
Endosulfan II	16.7	17.5		ug/Kg		105	65 - 120
alpha-BHC	16.7	15.9		ug/Kg		95	62 - 120
beta-BHC	16.7	19.1		ug/Kg		115	78 - 136
gamma-BHC (Lindane)	16.7	16.7		ug/Kg		100	72 - 120
delta-BHC	16.7	16.1		ug/Kg		97	43 - 125
Endosulfan sulfate	16.7	18.3		ug/Kg		110	74 - 121
Methoxychlor	16.7	18.7		ug/Kg		112	71 - 132
alpha-Chlordane	16.7	16.7		ug/Kg		100	70 - 120
gamma-Chlordane	16.7	16.5		ug/Kg		99	68 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*88*		*57 - 122*
DCB Decachlorobiphenyl	*105*		*21 - 136*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 720-209967/1-A
Matrix: Solid
Analysis Batch: 210024

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209967

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1221	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1232	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1242	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1248	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1254	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1
PCB-1260	ND		50		ug/Kg		09/26/16 11:02	09/27/16 18:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*75*		*45 - 132*	*09/26/16 11:02*	*09/27/16 18:52*	*1*
DCB Decachlorobiphenyl	*83*		*42 - 146*	*09/26/16 11:02*	*09/27/16 18:52*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 720-209967/2-A
Matrix: Solid
Analysis Batch: 210024

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	133	111		ug/Kg		83	65 - 121
PCB-1260	133	111		ug/Kg		83	68 - 127

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*80*		*45 - 132*
DCB Decachlorobiphenyl	*75*		*42 - 146*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-209893/1-A
Matrix: Solid
Analysis Batch: 209996

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209893

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Arsenic	ND		1.0		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Barium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Beryllium	ND		0.10		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Cadmium	ND		0.13		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Chromium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Cobalt	ND		0.20		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Copper	ND		1.5		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Lead	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Molybdenum	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Nickel	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Selenium	ND		1.0		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Silver	ND		0.25		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Thallium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Vanadium	ND		0.50		mg/Kg		09/23/16 16:18	09/26/16 13:41	1
Zinc	ND		1.5		mg/Kg		09/23/16 16:18	09/26/16 13:41	1

Lab Sample ID: LCS 720-209893/2-A
Matrix: Solid
Analysis Batch: 209996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209893

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	46.8		mg/Kg		94	80 - 120
Arsenic	50.0	47.4		mg/Kg		95	80 - 120
Barium	50.0	45.4		mg/Kg		91	80 - 120
Beryllium	50.0	44.5		mg/Kg		89	80 - 120
Cadmium	50.0	47.4		mg/Kg		95	80 - 120
Chromium	50.0	47.7		mg/Kg		95	80 - 120
Cobalt	50.0	48.0		mg/Kg		96	80 - 120
Copper	50.0	48.3		mg/Kg		97	80 - 120
Lead	50.0	47.4		mg/Kg		95	80 - 120
Molybdenum	50.0	48.7		mg/Kg		97	80 - 120
Nickel	50.0	48.3		mg/Kg		97	80 - 120
Selenium	50.0	46.1		mg/Kg		92	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 720-209893/2-A
Matrix: Solid
Analysis Batch: 209996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209893

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	25.0	23.6		mg/Kg		94	80 - 120
Thallium	50.0	48.9		mg/Kg		98	80 - 120
Vanadium	50.0	47.4		mg/Kg		95	80 - 120
Zinc	50.0	46.8		mg/Kg		94	80 - 120

Lab Sample ID: LCSSRM 720-209893/3-A
Matrix: Solid
Analysis Batch: 209996

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209893

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	74.6	43.5		mg/Kg		58	11 - 101
Arsenic	45.5	41.5		mg/Kg		91	69 - 119
Barium	579	494		mg/Kg		85	61 - 117
Beryllium	155	129		mg/Kg		83	56 - 102
Cadmium	201	178		mg/Kg		89	67 - 118
Chromium	106	93.8		mg/Kg		88	67 - 121
Cobalt	247	226		mg/Kg		91	64 - 133
Copper	130	119		mg/Kg		91	68 - 126
Lead	302	261		mg/Kg		86	62 - 113
Molybdenum	165	151		mg/Kg		92	62 - 128
Nickel	305	274		mg/Kg		90	65 - 117
Selenium	133	120		mg/Kg		90	63 - 126
Silver	33.5	30.3		mg/Kg		90	51 - 130
Thallium	191	172		mg/Kg		90	64 - 124
Vanadium	214	193		mg/Kg		90	67 - 123
Zinc	388	341		mg/Kg		88	62 - 110

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-209870/1-A
Matrix: Solid
Analysis Batch: 210001

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209870

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		09/23/16 11:45	09/26/16 15:05	1

Lab Sample ID: LCS 720-209870/2-A
Matrix: Solid
Analysis Batch: 210001

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209870

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.833	0.795		mg/Kg		95	80 - 120

Lab Sample ID: MB 720-209873/1-A
Matrix: Solid
Analysis Batch: 210193

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		09/23/16 13:01	09/28/16 16:38	1

Lab Sample ID: LCS 720-209873/2-A
Matrix: Solid
Analysis Batch: 210193

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209873

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.833	0.786		mg/Kg		94	80 - 120		

Lab Sample ID: 720-74613-3 MS
Matrix: Solid
Analysis Batch: 210193

Client Sample ID: JT-3490
Prep Type: Total/NA
Prep Batch: 209873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.11		0.806	0.927		mg/Kg		102	75 - 125		

Lab Sample ID: 720-74613-3 MSD
Matrix: Solid
Analysis Batch: 210193

Client Sample ID: JT-3490
Prep Type: Total/NA
Prep Batch: 209873

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.11		0.781	0.906		mg/Kg		102	75 - 125	2	20

GC/MS VOA

Prep Batch: 209759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-2	JT-4090	Total/NA	Solid	5035	

Analysis Batch: 209822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-2	JT-4090	Total/NA	Solid	8260B/CA_LUFT MS	209759
MB 720-209822/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209822/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209822/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209822/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209822/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

Analysis Batch: 209835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-3	JT-3490	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-4	ST-3780	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-5	JT-4450	Total/NA	Solid	8260B/CA_LUFT MS	209886
720-74613-6	JT-4800	Total/NA	Solid	8260B/CA_LUFT MS	209886
MB 720-209835/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209835/5	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 720-209835/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209835/6	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-209835/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	

Prep Batch: 209886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	5035	
720-74613-3	JT-3490	Total/NA	Solid	5035	
720-74613-4	ST-3780	Total/NA	Solid	5035	
720-74613-5	JT-4450	Total/NA	Solid	5035	
720-74613-6	JT-4800	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 209965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	

GC/MS Semi VOA (Continued)

Prep Batch: 209965 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	3546	
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209965/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209965/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 209988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-209965/1-A	Method Blank	Total/NA	Solid	8270C	209965
LCS 720-209965/2-A	Lab Control Sample	Total/NA	Solid	8270C	209965

Analysis Batch: 210106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8270C	209965
720-74613-2	JT-4090	Total/NA	Solid	8270C	209965
720-74613-3	JT-3490	Total/NA	Solid	8270C	209965
720-74613-4	ST-3780	Total/NA	Solid	8270C	209965
720-74613-5	JT-4450	Total/NA	Solid	8270C	209965
720-74613-6	JT-4800	Total/NA	Solid	8270C	209965

GC Semi VOA

Prep Batch: 209959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	
720-74613-3	JT-3490	Total/NA	Solid	3546	
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209959/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209959/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 209967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	
720-74613-3	JT-3490	Total/NA	Solid	3546	
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209967/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209967/2-A	Lab Control Sample	Total/NA	Solid	3546	

Prep Batch: 209972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3546	
720-74613-2	JT-4090	Total/NA	Solid	3546	
720-74613-3	JT-3490	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Prep Batch: 209972 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-4	ST-3780	Total/NA	Solid	3546	
720-74613-5	JT-4450	Total/NA	Solid	3546	
720-74613-6	JT-4800	Total/NA	Solid	3546	
MB 720-209972/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-209972/2-A	Lab Control Sample	Total/NA	Solid	3546	
720-74613-3 MS	JT-3490	Total/NA	Solid	3546	
720-74613-3 MSD	JT-3490	Total/NA	Solid	3546	

Analysis Batch: 210016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8081A	209959

Analysis Batch: 210020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8015B	209972
720-74613-2	JT-4090	Total/NA	Solid	8015B	209972
720-74613-4	ST-3780	Total/NA	Solid	8015B	209972
720-74613-5	JT-4450	Total/NA	Solid	8015B	209972
720-74613-6	JT-4800	Total/NA	Solid	8015B	209972

Analysis Batch: 210022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-209972/1-A	Method Blank	Total/NA	Solid	8015B	209972
LCS 720-209972/2-A	Lab Control Sample	Total/NA	Solid	8015B	209972

Analysis Batch: 210023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	8015B	209972
720-74613-3 MS	JT-3490	Total/NA	Solid	8015B	209972
720-74613-3 MSD	JT-3490	Total/NA	Solid	8015B	209972

Analysis Batch: 210024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	8082	209967
720-74613-2	JT-4090	Total/NA	Solid	8082	209967
720-74613-3	JT-3490	Total/NA	Solid	8082	209967
720-74613-4	ST-3780	Total/NA	Solid	8082	209967
720-74613-5	JT-4450	Total/NA	Solid	8082	209967
720-74613-6	JT-4800	Total/NA	Solid	8082	209967
MB 720-209967/1-A	Method Blank	Total/NA	Solid	8082	209967
LCS 720-209967/2-A	Lab Control Sample	Total/NA	Solid	8082	209967

Analysis Batch: 210110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-2	JT-4090	Total/NA	Solid	8081A	209959
720-74613-3	JT-3490	Total/NA	Solid	8081A	209959
720-74613-4	ST-3780	Total/NA	Solid	8081A	209959
720-74613-5	JT-4450	Total/NA	Solid	8081A	209959
720-74613-6	JT-4800	Total/NA	Solid	8081A	209959
MB 720-209959/1-A	Method Blank	Total/NA	Solid	8081A	209959
LCS 720-209959/2-A	Lab Control Sample	Total/NA	Solid	8081A	209959

Metals

Prep Batch: 209870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	7471A	
720-74613-2	JT-4090	Total/NA	Solid	7471A	
MB 720-209870/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-209870/2-A	Lab Control Sample	Total/NA	Solid	7471A	

Prep Batch: 209873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	7471A	
720-74613-4	ST-3780	Total/NA	Solid	7471A	
720-74613-5	JT-4450	Total/NA	Solid	7471A	
720-74613-6	JT-4800	Total/NA	Solid	7471A	
MB 720-209873/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-209873/2-A	Lab Control Sample	Total/NA	Solid	7471A	
720-74613-3 MS	JT-3490	Total/NA	Solid	7471A	
720-74613-3 MSD	JT-3490	Total/NA	Solid	7471A	

Prep Batch: 209893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	3050B	
720-74613-2	JT-4090	Total/NA	Solid	3050B	
720-74613-3	JT-3490	Total/NA	Solid	3050B	
720-74613-4	ST-3780	Total/NA	Solid	3050B	
720-74613-5	JT-4450	Total/NA	Solid	3050B	
720-74613-6	JT-4800	Total/NA	Solid	3050B	
MB 720-209893/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-209893/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSSRM 720-209893/3-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 209996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-209893/1-A	Method Blank	Total/NA	Solid	6010B	209893
LCS 720-209893/2-A	Lab Control Sample	Total/NA	Solid	6010B	209893
LCSSRM 720-209893/3-A	Lab Control Sample	Total/NA	Solid	6010B	209893

Analysis Batch: 210001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	7471A	209870
720-74613-2	JT-4090	Total/NA	Solid	7471A	209870
MB 720-209870/1-A	Method Blank	Total/NA	Solid	7471A	209870
LCS 720-209870/2-A	Lab Control Sample	Total/NA	Solid	7471A	209870

Analysis Batch: 210039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-1	JT-3730	Total/NA	Solid	6010B	209893
720-74613-2	JT-4090	Total/NA	Solid	6010B	209893
720-74613-3	JT-3490	Total/NA	Solid	6010B	209893
720-74613-4	ST-3780	Total/NA	Solid	6010B	209893
720-74613-5	JT-4450	Total/NA	Solid	6010B	209893
720-74613-6	JT-4800	Total/NA	Solid	6010B	209893

Metals (Continued)

Analysis Batch: 210193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-74613-3	JT-3490	Total/NA	Solid	7471A	209873
720-74613-4	ST-3780	Total/NA	Solid	7471A	209873
720-74613-5	JT-4450	Total/NA	Solid	7471A	209873
720-74613-6	JT-4800	Total/NA	Solid	7471A	209873
MB 720-209873/1-A	Method Blank	Total/NA	Solid	7471A	209873
LCS 720-209873/2-A	Lab Control Sample	Total/NA	Solid	7471A	209873
720-74613-3 MS	JT-3490	Total/NA	Solid	7471A	209873
720-74613-3 MSD	JT-3490	Total/NA	Solid	7471A	209873

Lab Chronicle

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-3730

Date Collected: 09/21/16 09:46
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 15:10	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		2	210106	09/27/16 23:10	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		1	210020	09/27/16 20:24	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210016	09/27/16 14:52	JZT	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 19:26	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:01	CAM	TAL PLS
Total/NA	Prep	7471A			209870	09/23/16 11:45	OBI	TAL PLS
Total/NA	Analysis	7471A		1	210001	09/26/16 16:13	OBI	TAL PLS

Client Sample ID: JT-4090

Date Collected: 09/21/16 11:25
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209759	09/21/16 20:40	JRM	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209822	09/22/16 23:14	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		10	210106	09/27/16 23:36	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		5	210020	09/27/16 20:54	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		2	210110	09/28/16 08:36	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 19:42	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:06	CAM	TAL PLS
Total/NA	Prep	7471A			209870	09/23/16 11:45	OBI	TAL PLS
Total/NA	Analysis	7471A		1	210001	09/26/16 16:16	OBI	TAL PLS

Client Sample ID: JT-3490

Date Collected: 09/21/16 08:50
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 15:40	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS

Client Sample ID: JT-3490

Date Collected: 09/21/16 08:50
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270C		2	210106	09/28/16 00:02	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		3	210023	09/27/16 12:05	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 08:53	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 19:59	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:11	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:49	SLK	TAL PLS

Client Sample ID: ST-3780

Date Collected: 09/21/16 10:05
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 16:09	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		5	210106	09/28/16 00:28	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		10	210020	09/27/16 21:23	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 09:11	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 20:16	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:16	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:52	SLK	TAL PLS

Client Sample ID: JT-4450

Date Collected: 09/21/16 13:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 16:38	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		2	210106	09/28/16 00:54	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		3	210020	09/28/16 02:49	JXL	TAL PLS

Lab Chronicle

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Client Sample ID: JT-4450

Date Collected: 09/21/16 13:12
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 09:28	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 20:32	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:21	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:54	SLK	TAL PLS

Client Sample ID: JT-4800

Date Collected: 09/21/16 13:28
Date Received: 09/21/16 17:00

Lab Sample ID: 720-74613-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			209886	09/21/16 20:40	BSY	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	209835	09/23/16 17:08	JRM	TAL PLS
Total/NA	Prep	3546			209965	09/26/16 10:36	TTC	TAL PLS
Total/NA	Analysis	8270C		4	210106	09/28/16 01:20	MQL	TAL PLS
Total/NA	Prep	3546			209972	09/26/16 11:32	TTC	TAL PLS
Total/NA	Analysis	8015B		5	210020	09/27/16 22:22	JXL	TAL PLS
Total/NA	Prep	3546			209959	09/26/16 10:20	TTC	TAL PLS
Total/NA	Analysis	8081A		1	210110	09/28/16 09:46	MQL	TAL PLS
Total/NA	Prep	3546			209967	09/26/16 11:02	TTC	TAL PLS
Total/NA	Analysis	8082		1	210024	09/27/16 20:49	DCH	TAL PLS
Total/NA	Prep	3050B			209893	09/23/16 16:18	MJD	TAL PLS
Total/NA	Analysis	6010B		4	210039	09/26/16 22:26	CAM	TAL PLS
Total/NA	Prep	7471A			209873	09/23/16 13:01	MJD	TAL PLS
Total/NA	Analysis	7471A		1	210193	09/28/16 16:57	SLK	TAL PLS

Laboratory References:

= Asbestos TEM Laboratories, Inc., 630 BANCROFT WAY, Berkeley, CA 94710

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-18

Method Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS
8270C	Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	SW846	TAL PLS
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
8081A	Organochlorine Pesticides (GC)	SW846	TAL PLS
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PLS
6010B	Metals (ICP)	SW846	TAL PLS
7471A	Mercury (CVAA)	SW846	TAL PLS
Asbestos	General Sub Contract Method	NONE	

Protocol References:

NONE = NONE

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= Asbestos TEM Laboratories, Inc., 630 BANCROFT WAY, Berkeley, CA 94710

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: S S Papadopulos & Associates, Inc.
Project/Site: Bay Road Improvement Project

TestAmerica Job ID: 720-74613-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-74613-1	JT-3730	Solid	09/21/16 09:46	09/21/16 17:00
720-74613-2	JT-4090	Solid	09/21/16 11:25	09/21/16 17:00
720-74613-3	JT-3490	Solid	09/21/16 08:50	09/21/16 17:00
720-74613-4	ST-3780	Solid	09/21/16 10:05	09/21/16 17:00
720-74613-5	JT-4450	Solid	09/21/16 13:12	09/21/16 17:00
720-74613-6	JT-4800	Solid	09/21/16 13:28	09/21/16 17:00

ASBESTOS TEM LABORATORIES, INC.

CARB Method 435
Polarized Light Microscopy
Analytical Report

Laboratory Job # 1283-00754

630 Bancroft Way
Berkeley, CA 94710
(510) 704-8930
FAX (510) 704-8429

Sep/27/2016

Afsaneh Salimpour
TestAmerica Laboratories, Inc.
1220 Quarry Lane
Pleasanton, CA 94566

RE: LABORATORY JOB # 1283-00754
Polarized light microscopy analytical results for bulk sample(s).
Job Site: 720-74613-1
Job No.: Bay Road

Enclosed please find the bulk material analytical results for one or more samples submitted for asbestos analysis. The analyses were performed in accordance with the California Air Resources Board (ARB) Method 435 for the determination of asbestos in serpentine aggregate samples.

Prior to analysis, samples are logged-in and all data pertinent to the sample recorded. The samples are checked for damage or disruption of any chain-of-custody seals. A unique laboratory ID number is assigned to each sample. A hard copy log-in sheet containing all pertinent information concerning the sample is generated. This and all other relevant paper work are kept with the sample throughout the analytical procedures to assure proper analysis.

Sample preparation follows a standard CARB 435 prep method. The entire sample is dried at 135-150 C and then crushed to ~3/8" gravel size using a Bico Chipmunk crusher. If the submitted sample is >1 pint, the sample was split using a 1/2" riffle splitter following ASTM Method C-702-98 to obtain a 1 pint aliquot. The entire 1 pint aliquot, or entire original sample, is then pulverized in a Bico Braun disc pulverizer calibrated to produce a nominal 200 mesh final product. If necessary, additional homogenization steps are undertaken using a 3/8" riffle splitter. Small aliquots are collected from throughout the pulverized material to create three separate microsope slide mounts containing the appropriate refractive index oil. The prepared slides are placed under a polarizing light microscope where standard mineralogical techniques are used to analyze the various materials present, including asbestos. If asbestos is identified and of less than 10% concentration by visual area estimate then an additional five sample mounts are prepared. Quantification of asbestos concentration is obtained using the standard CAL ARB Method 435 point count protocol. For samples observed to contain visible asbestos of less than 10% concentration, a point counting techinique is used with 50 points counted on each of eight sample mounts for a total of 400 points. The data is then compiled into standard report format and subjected to a thorough quality assurance check before the information is released to the client.

While the CARB 435 method has much to commend it, there are a number of situations where it fails to provide sufficient accuracy to make a definitive determination of the presence/absence of asbestos and/or an accurate count of the asbestos concentration present in a given sample. These problems include, but are not limited to, 1) statistical uncertainty with samples containing <1% asbestos when too few particles are counted, 2) definitive identification and discrimination between various fibrous amphibole minerals such as tremolite/actinolite/hornblende and the "Libby amphiboles" such as tremolite/winchite/richterite/arfvedsonite, and C) small asbestiform fibers which are near or below the resolution limit of the PLM microscope such as those found in various California coast range serpentine bodies. In these cases, further analysis by transmission electron microscopy is recommended to obtain a more accurate result.

Sincerely Yours,

Lab Manager
ASBESTOS TEM LABORATORIES, INC.

POLARIZED LIGHT MICROSCOPY
CARB 435 ANALYTICAL REPORT

Contact: Afsaneh Salimpour

Address: TestAmerica Laboratories, Inc.
1220 Quarry Lane
Pleasanton, CA 94566

Samples Submitted: 6
Samples Analyzed: 6
Job Site / No. Bay Road
720-74613-1

Report No. **344482**
Date Submitted: Sep-23-16
Date Reported: Sep-27-16

SAMPLE ID	POINTS COUNTED	ASBESTOS %	ASBESTOS TYPE	LOCATION / DESCRIPTION
JT-3730		**<0.25%**	**None Detected**	720-74613-1
Lab ID # 1283-00754-001	**400** - Total Points			No Asbestos Detected - ARB Exception I
JT-4090		**<0.25%**	**None Detected**	720-74613-2
Lab ID # 1283-00754-002	**400** - Total Points			No Asbestos Detected - ARB Exception I
JT-3490		**<0.25%**	**None Detected**	720-74613-3
Lab ID # 1283-00754-003	**400** - Total Points			No Asbestos Detected - ARB Exception I
ST-3780		**<0.25%**	**None Detected**	720-74613-4
Lab ID # 1283-00754-004	**400** - Total Points			No Asbestos Detected - ARB Exception I
JT-4450		**<0.25%**	**None Detected**	720-74613-5
Lab ID # 1283-00754-005	**400** - Total Points			No Asbestos Detected - ARB Exception I
JT-4800		**<0.25%**	**None Detected**	720-74613-6
Lab ID # 1283-00754-006	**400** - Total Points			No Asbestos Detected - ARB Exception I
Lab ID #	- Total Points			
Lab ID #	- Total Points			
Lab ID #	- Total Points			
Lab ID #	- Total Points			

QC Reviewer _____ **Analyst** _____

TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone (925) 484-1919 Fax (925) 600-3002

Chain of Custody Record

344482

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh	Carrier Tracking No(s):	COC No: 720-30464.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com		Page: Page 1 of 1
Company: Asbestos TEM Laboratories, Inc.				Job #: 720-74613-1
Address: 630 BANCROFT WAY, ,	Due Date Requested: 9/27/2016			
City: Berkeley	TAT Requested (days):			
State, Zip: CA, 94710				
Phone:	PO #:			
Email:	WO #:			
Project Name: Bay Road	Project #: 72012136			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Other/NAS, BT=Tissue, AIR)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SVS (Asbestos) Asbestos Carb 435 400 dc	Total Number of containers	Special Instructions/Note:
JT-3730 (720-74613-1)	9/21/16	09:46 Pacific		Solid			X		
JT-4090 (720-74613-2)	9/21/16	11:25 Pacific		Solid			X		
JT-3490 (720-74613-3)	9/21/16	08:50 Pacific		Solid			X		
ST-3780 (720-74613-4)	9/21/16	10:05 Pacific		Solid			X		
JT-4450 (720-74613-5)	9/21/16	13:12 Pacific		Solid			X		
JT-4800 (720-74613-6)	9/21/16	13:28 Pacific		Solid			X		

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by: Karen Mueller for Lorna Johnson	Date/Time: 9-23-16 851	Company PLEAS	Received by: ATEM	Date/Time: 9/23/16 @ 851	Company ATEM		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

9/29/2016

171164

TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
phone 925.484.1919 fax

720-74613

Chain of Custody Record

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Maz Bozorginia	Site Contact: Ken Chiang	Date:	COC No.
City of East Palo Alto	Tel/Fax: mbozorginia@cityofepa.org	Lab Contact:	Carrier:	1 of 1 COCs
2415 University Avenue	Analysis Turnaround Time			Sampler:
East Palo Alto, CA 94303	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
Phone: 650-853-3130	TAT if different from Below ____			Walk-in Client:
Fax: 650-853-3115	2 weeks			Lab Sampling:
Project Name: Bay Road Improvement Project	1 week			
Site: Bay Road	2 days			Job / SDG No.
P O #	1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Title 22 Metals by EPA 6010/7471	TPHd and TPHmo by EPA 8015B	VOCs and TPHg by EPA 8260B	OCPs by EPA 8081	SVOCs by EPA 8270C	PCBs by EPA 8082	Asbestos by CARB 435 with 400 pt. ct.	Sample Specific Notes:
JT-3730	9/21/16	09:46	C/G	S	5			X	X	X	X	X	X	X	8260 samples grab, others composite
JT-4090		11:25			5			X	X	X	X	X	X	X	8260 samples grab, others composite
JT-3490		08:50			5			X	X	X	X	X	X	X	8260 samples grab, others composite
ST-3780		10:05			5			X	X	X	X	X	X	X	8260 samples grab, others composite
JT-4450		13:12			5			X	X	X	X	X	X	X	8260 samples grab, others composite
JT-4800		13:28			5			X	X	X	X	X	X	X	8260 samples grab, others composite

720-74613 Chain of Custody

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are *retained longer than 1 month*)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

2.9 °C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____	Therm ID No. ____
Relinquished by:	Company: SSP	Date/Time: 9/21/16 1345	Received by:	Company: TA	Date/Time: 9-21-16 1345
Relinquished by:	Company: TA	Date/Time: 9.21.16 1700	Received by:	Company:	Date/Time: 9-21-16 17 00
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Login Sample Receipt Checklist

Client: S S Papadopulos & Associates, Inc.

Job Number: 720-74613-1

Login Number: 74613
List Number: 1
Creator: Bullock, Tracy

List Source: TestAmerica Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX C

DTSC Information Advisory for Clean Imported Fill Material

Information Advisory
Clean Imported Fill Material

October 2001

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

It is DTSC's mission to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California

California Environmental Protection Agency

Executive Summary

This fact sheet has been prepared to ensure that inappropriate fill material is not introduced onto sensitive land use properties under the oversight of the DTSC or applicable regulatory authorities. Sensitive land use properties include those that contain facilities such as hospitals, homes, day care centers, and schools. This document only focuses on human health concerns and ecological issues are not addressed. It identifies those types of land use activities that may be appropriate when determining whether a site may be used as a fill material source area. It also provides guidelines for the appropriate types of analyses that should be performed relative to the former land use, and for the number of samples that should be collected and analyzed based on the estimated volume of fill material that will need to be used. The information provided in this fact sheet is not regulatory in nature, rather is to be used as a guide, and in most situations the final decision as to the acceptability of fill material for a sensitive land use property is made on a case-by-case basis by the appropriate regulatory agency.

Introduction

The use of imported fill material has recently come under scrutiny because of the instances where contaminated soil has been brought onto an otherwise clean site. However, there are currently no established standards in the statutes or regulations that address environmental requirements for imported fill material. Therefore, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has prepared this fact sheet to identify procedures that can be used to minimize the possibility of introducing contaminated soil onto a site that requires imported fill material. Such sites include those that are undergoing site remediation, corrective action, and closure activities overseen by DTSC or the appropriate regulatory agency. These procedures may also apply to construction projects that will result in sensitive land uses. The intent of this fact sheet is to protect people who live on or otherwise use a sensitive land use property. By using this fact sheet as a guide, the reader will minimize the chance of introducing fill material that may result in potential risk to human health or the environment at some future time.

Overview

Both natural and manmade fill materials are used for a variety of purposes. Fill material properties are commonly controlled to meet the necessary site specific engineering specifications. Because most sites requiring fill material are located in or near urban areas, the fill materials are often obtained from construction projects that generate an excess of soil, and from demolition debris (asphalt, broken concrete, etc.). However, materials from those types of sites may or may not be appropriate, depending on the proposed use of the fill, and the quality of the assessment and/or mitigation measures, if necessary. Therefore, unless material from construction projects can be demonstrated to be free of contamination and/or appropriate for the proposed use, the use of that material as fill should be avoided.

Selecting Fill Material

In general, the fill source area should be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to insure that the fill does not include former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous ma-

Potential Contaminants Based on the Fill Source Area

Fill Source:	Target Compounds
Land near to an existing freeway	Lead (EPA methods 6010B or 7471A), PAHs (EPA method 8310)
Land near a mining area or rock quarry	Heavy Metals (EPA methods 6010B and 7471A), asbestos (polarized light microscopy), pH
Agricultural land	Pesticides (Organochlorine Pesticides: EPA method 8081A or 8080A; Organophosphorus Pesticides: EPA method 8141A; Chlorinated Herbicides: EPA method 8151A), heavy metals (EPA methods 6010B and 7471A)
Residential/acceptable commercial land	VOCs (EPA method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035), semi-VOCs (EPA method 8270C), TPH (modified EPA method 8015), PCBs (EPA method 8082 or 8080A), heavy metals including lead (EPA methods 6010B and 7471A), asbestos (OSHA Method ID-191)

**The recommended analyses should be performed in accordance with USEPA SW-846 methods (1996). Other possible analyses include Hexavalent Chromium: EPA method 7199*

Recommended Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 acres or less	Minimum of 4 samples
2 to 4 acres	Minimum of 1 sample every 1/2 acre
4 to 10 acres	Minimum of 8 samples
Greater than 10 acres	Minimum of 8 locations with 4 subsamples per location
Volume of Borrow Area Stockpile	**Samples per Volume**
Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1000 cubic yards +1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

terials were used, handled or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil. Undesirable commercial sites include former gasoline service stations, retail strip malls that contained dry cleaners or photographic processing facilities, paint stores, auto repair and/or painting facilities. Undesirable industrial facilities include metal processing shops, manufacturing facilities, aerospace facilities, oil refineries, waste treatment plants, etc. Alternatives to using fill from construction sites include the use of fill material obtained from a commercial supplier of fill material or from soil pits in rural or suburban areas. However, care should be taken to ensure that those materials are also uncontaminated.

Documentation and Analysis

In order to minimize the potential of introducing contaminated fill material onto a site, it is necessary to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. It is recommended that any such documentation should be signed by an appropriately licensed (CA-registered) individual. If such documentation is not available or is inadequate, samples of the fill material should be chemically analyzed. Analysis of the fill material should be based on the source of the fill and knowledge of the prior land use.

Detectable amounts of compounds of concern within the fill material should be evaluated for risk in accordance with the DTSC Preliminary Endangerment Assessment (PEA) Guidance Manual. If

metal analyses are performed, only those metals (CAM 17 / Title 22) to which risk levels have been assigned need to be evaluated. At present, the DTSC is working to establish California Screening Levels (CSL) to determine whether some compounds of concern pose a risk. Until such time as these CSL values are established, DTSC recommends that the DTSC PEA Guidance Manual or an equivalent process be referenced. This guidance may include the Regional Water Quality Control Board's (RWQCB) guidelines for reuse of non-hazardous petroleum hydrocarbon contaminated soil as applied to Total Petroleum Hydrocarbons (TPH) only. The RWQCB guidelines should not be used for volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCS). In addition, a standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results should also accompany all analytical reports.

When possible, representative samples should be collected at the borrow area while the potential fill material is still in place, and analyzed prior to removal from the borrow area. In addition to performing the appropriate analyses of the fill material, an appropriate number of samples should also be determined based on the approximate volume or area of soil to be used as fill material. The table above can be used as a guide to determine the number of samples needed to adequately characterize the fill material when sampled at the borrow site.

Alternative Sampling

A Phase I or PEA may be conducted prior to sampling to determine whether the borrow area may have been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with DTSC or appropriate regulatory agency. However, if it is not possible to analyze the fill material at the borrow area or determine that it is appropriate for use via a Phase I or PEA, it is recommended that one (1) sample per truckload be collected and analyzed for all compounds of concern to ensure that the imported soil is uncontaminated and acceptable. (See chart on Potential Contaminants Based on the Fill Source Area for appropriate analyses). This sampling frequency may be modified upon consultation with the DTSC or appropriate regulatory agency if all of the fill material is derived from a common borrow area. However, fill material that is not characterized at the borrow area will need to be stockpiled either on or off-site until the analyseshave been completed. In addition, should contaminants exceeding acceptance criteria be identified in the stockpiled fill material, that material will be deemed unacceptable and new fill material will need to be obtained, sampled and analyzed. Therefore, the DTSC recommends that all sampling and analyses should be completed prior to delivery to the site to ensure the soil is free of contamination, and to eliminate unnecessary transportation charges for unacceptable fill material.

Composite sampling for fill material characterization may or may not be appropriate, depending on quality and homogeneity of source/borrow area, and compounds of concern. Compositing samples for volatile and semivolatile constituents is not acceptable. Composite sampling for heavy metals, pesticides, herbicides or PAH's from unanalyzed stockpiled soil is also unacceptable, unless it is stockpiled at the borrow area and originates from the same source area. In addition, if samples are composited, they should be from the same soil layer, and not from different soil layers.

When very large volumes of fill material are anticipated, or when larger areas are being considered as borrow areas, the DTSC recommends that a Phase I or PEA be conducted on the area to ensure that the borrow area has not been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with the DTSC.

For further information, call Richard Coffman, Ph.D., R.G., at (818) 551-2175.

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

2020 Challenger Drive, Suite 103 | Alameda, California 94501 | p. 510.343.3000

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