SOIL GAS SURVEY

MARCH 2012

751 - 785 SEVENTH STREET
Oakland, California

USEPA Brownfield Assessment Grant
2B-00T18101-0
Alameda County Case No. RO0002586

Prepared for:
City of Oakland Public Works Agency
Oakland, California

Y8359-11

5900 Hollis Street, Suite D • Emeryville, CA 94608 • (510) 420-8686

BASELINE

ENVIRONMENTAL CONSULTING

6 March 2012
Y8359-11.01803

Mr. Gopakumar Nair
Environmental Specialist
City of Oakland, Public Works Agency
250 Frank H. Ogawa Plaza, Suite 5301
Oakland, CA 94612

Subject: Soil Gas Survey, 751-785 Seventh Street, Oakland, California

Dear Mr. Nair:

Please find enclosed our report documenting the activities and findings of a Soil Gas Survey performed at 751-785 Seventh Street in Oakland, California. The purpose of the Soil Gas Survey was to investigate the potential for indoor air vapor intrusion of volatile organic compound present in the soil and groundwater at the site. The Soil Gas Survey was performed for the City of Oakland under West Oakland Community-wide Brownfield Assessment Grant No. 2B-00T18101-0 from the U.S. Environmental Protection Agency in accordance with *Sampling and Analysis Plan, 751-785 Seventh Street Oakland, California*, dated 7 October 2011 and approved by EPA in a memorandum to the City of Oakland, dated 28 September 2011.

If you have any questions or comments, please do not hesitate to contact us at your convenience.

Sincerely,

James G. McCarty, P.E.
Project Engineer

JM

Enclosure

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Emeryville *Petaluma*

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APPROVAL PAGE

Approved by: _____ _____

Gopakumar Nair, Project Manager
City of Oakland

Date

Approved by: James McCarty _____ 3/6/12

James McCarty, P.E., Project Manager
BASELINE

Date

Approved by: Lydia Huang _____ 3/6/12

Lydia Huang, P.E., QA Officer
BASELINE

Date

PROFESSIONAL CERTIFICATION

This report was prepared by myself or by other professionals directly under my supervision.

James McCarty
P. E. No. C 62618

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SOIL GAS SURVEY

751 - 785 Seventh Street
Oakland, California

This report describes the activities and discusses the results of a 29 November 2011 soil gas survey performed by BASELINE Environmental Consulting ("BASELINE") on the behalf of the City of Oakland Public Works Agency for the properties at 751 - 785 Seventh Street ("site") in Oakland, California (Figure 1). This investigation was performed for the City of Oakland under West Oakland Community-wide Brownfield Assessment Grant No. 2B-00T18101-0 from the U.S. Environmental Protection Agency. Under BASELINE's supervision, TEG Northern California, Incorporated ("TEG") collected shallow (4 to 5 feet below ground surface) and deep (8 to 10 feet below ground surface) soil gas samples from six locations within the boundaries of the site (Figure 6). The soil gas samples were analyzed for volatile organic compounds ("VOCs") by TEG's on-site mobile laboratory.

In addition, BASELINE collected vapor samples on 2 February 2012 from beneath the existing on-site building. The vapor samples were collected from a vapor probe installed by BASELINE in the shallow slab-on-grade foundations and analyzed for VOCs by Air Toxics, LTD. A separate report was prepared describing this scope of work and is included in Appendix E.

OBJECTIVE

The objective of the soil gas survey is to determine whether VOCs are present in the soil gas underneath the site at levels that represent an indoor air intrusion concern for existing or future buildings. Based on the past investigations at the site, the chemical of potential concern for vapor intrusion is trichloroethene ("TCE").

This soil gas survey is intended to build on or confirm the soil gas testing conducted on the site and the neighboring parcel to the south (601 Brush Street) by others. Evaluation of the soil gas concentrations and the potential for indoor air vapor intrusion is intended to support consideration of separating the parcel occupied by the Kinetic Arts Center from the parcel to the west and facilitate the overall environmental restoration.

CONCLUSIONS

The results indicate the presence of VOCs in the soil at the site. The chemical of primary concern is TCE, which was reported in shallow soil gas samples collected nearest to historical features (former track drain and the former Frog Pond), which have been removed.

The reported TCE concentrations in the soil gas samples collected closest to locations where the elevated TCE concentrations have been reported in groundwater samples were higher in the deeper soil gas samples than the shallow soil gas samples, indicating the VOCs may be migrating into the vadose zone from the underlying groundwater. Near the existing building on the

northeastern portion of the site, the reported TCE concentrations were higher in the shallow soil gas samples, indicating the concentrations of VOCs detected may be related to historical surface or near-surface releases, which have not migrated into the groundwater. This conclusion is consistent with groundwater samples collected in the past, where TCE has been detected in the groundwater around the former Frog Pond and along the extreme southern edge of the site, compared with low or no detections of TCE in the groundwater on the more northern portions of the site.

The concentrations of VOCs in indoor air were estimated by applying the Department of Toxic Substances Control's recommended attenuation factor to analytical results from vapor samples collected beneath the shallow slab-on-grade foundation. This assumes that the VOC concentration in the indoor air would be 1/20th the concentration measured beneath the foundation slab. The estimated indoor air concentrations of VOCs were below the San Francisco Regional Water Quality Control Board's ambient and indoor air Environmental Screening Levels for residential and commercial/industrial land uses.

SOIL GAS SURVEY

751 - 785 Seventh Street
Oakland, California

1.0 INTRODUCTION

This report describes the activities and discusses the results of a soil gas survey performed by BASELINE Environmental Consulting ("BASELINE") on the behalf of the City of Oakland Public Works Agency for the properties at 751 - 785 Seventh Street in Oakland, California ("site") (Figure 1). This investigation was performed for the City of Oakland under West Oakland Brownfield Community-wide Assessment Grant No. 2B-00T18101-0 from the U.S. Environmental Protection Agency ("U.S. EPA"). The site is owned by the Brush Street Group, LLC and is currently under the regulatory oversight of the Alameda County Environmental Health Services ("ACEH") (Alameda County SLIC Case No. RO0002586). The investigation was performed in accordance with BASELINE's *Sampling and Analysis Plan for 751-785 Seventh Street in Oakland California* ("SAP"), dated 7 October 2011, with two exceptions, which are discussed in more detail in Section 12.0. The SAP was approved by the U.S. EPA in a memorandum to the City of Oakland, dated 28 September 2011, and conditionally approved by ACEH in a letter to the Brush Street Group, LLC in a letter dated 26 October 2011 (Appendix A).

2.0 OBJECTIVE

The objective of the soil gas survey is to determine whether volatile organic compounds ("VOCs") are present in the soil gas underneath the site at levels that represent an indoor air intrusion concern for existing or future buildings. Based on the past investigations at the site, the chemical of potential concern for vapor intrusion is trichloroethene ("TCE").

This soil gas survey is intended to build on or confirm the soil gas testing conducted on the site and the neighboring parcel to the south (601 Brush Street) by others. Evaluation of the soil gas concentrations and the potential for indoor air vapor intrusion is intended to support consideration of separating the parcel occupied by the Kinetic Arts Center from the parcel to the west and facilitate the overall environmental restoration.

3.0 BACKGROUND

In 2005, BASELINE prepared a Site History and Data Summary Report for the site, which described the land use history based on Sanborn Fire Insurance maps, aerial photographs, Phase I and Phase II Environmental Site Assessments ("ESA") by others, and various agency records (BASELINE, 2005).

Sanborn Fire Insurance maps for the site indicated that the site was occupied by a number of structures dating back to at least 1889. Sanborn Fire Insurance maps from between 1889 and 1912 labeled the various structures on-site as "dwellings," "Santa Fe Express Co.," "lodgings,"

"Chinese laundry," "Japanese laundry," 'marble works," and "stable," indicating that the site has a long history of both residential and commercial use.

In the 1950s, a building in the western portion of the site was occupied by an auto truck sales and service facility. According to the Phase I ESA prepared by Hillmann Environmental, a building permit was issued for this building in 1945, and a second, smaller office building was permitted in 1950 (Hillmann, 1997). The northeastern corner of the site was occupied by two small buildings designated a residence and a store.

Francis Plating operated a metal plating facility at the site between 1957 and 1998. Francis Plating performed anodizing, passivating, phosphate and chromium conversion coatings, electroless nickel and electroplating of nickel, cadmium, chromium, silver, and zinc. Interviews with previous production managers by East Bay Municipal Utility District ("EBMUD") as part of their inspection report indicated that the facility performed largely anodizing and nickel and cadmium plating (BASELINE, 2005).

Between 1970 and 1992, plating and anodizing operations, water treatment, and acid storage were located in the plating building and yard on the eastern half of the site. Electroless nickel and cadmium and chromium electroplating were carried out within a building on the southwestern portion of the site, which contained a below-grade, concrete structure measuring approximately 70 feet long by 15 feet wide and 4 feet deep, referred to as the "Frog Pond". Offices, drying ovens, and a paint shop were located on the northwestern portion of the site.

In November 1992, a fire destroyed the building containing the Frog Pond on the southwestern portion of the site. According the an incident report prepared by the U.S. EPA's Technical Assistance Team Contractor, Ecology and Environment, Inc., the Oakland Fire Department used an estimated 250,000 to 300,000 gallons of water fighting the fire, which ran off the site into the storm sewer system (Hillmann, 1997). The storm drains were sealed and approximately 200,000 gallons of water were recovered, but an unknown quantity of high pH water containing chromium was released to the Oakland Estuary.

After the fire, electroplating operations were consolidated in the plating building on the northeastern quarter of the site and the Frog Pond was used as a repository for liquids spilled during on-site treatment. By 1993, the site was divided into three areas: the "plating building" in the northeast corner, the "rear yard" in the southeast corner, and the "front yard" throughout the western half of the site, including the former Frog Pond as shown on Figure 2. The site was covered with concrete asphalt except for small strips of exposed soil along the eastern (along Brush Street) and western (adjacent to the Shell Station) perimeters and the northern perimeter along 7th Street. Various above ground tanks were located throughout the southern portion of the site. A drum storage area and shed were located on the south side of the plating building.

The plating building in the northeast corner contained tanks for anodizing, acid activation, phosphate coatings, chromium conversion coating, cadmium cyanide plating, chrome plating, electrolytic nickel plating, and nitric acid stripping/passivation. These process tanks were secondarily contained within a large sump 25 feet wide, 70 feet long, and approximately 8 feet deep. The large sump in the plating building was used to collect water and chemicals during rinsing operations and incidental spills from transfer operations.

Previously, water in the sump was discharged to the EBMUD sanitary sewer system. In 1996, the facility had two violations for exceeding the allowable concentration of nickel in the facility's wastewater discharge. The facility received a cease and desist order from EMBUD to discontinue discharge above the allowable limits. The facility elected to discontinue discharge to the sewer, and the onsite sewer connection was cemented shut.

After sealing of the EBMUD sewer connection, the facility treated wastewater on-site, using the large sump in the plating building as a catch basin for spilled plating liquids and rinsate (Figure 2). The track drain located adjacent to Brush Street drained spills and stormwater runoff from the site into the large sump and the front yard area was used for waste treatment. Batch pretreatment of wastewater from nickel plating and nitric acid stripping processes was done in this area and wastewater was contained in the Frog Pond. After increasing the pH in the large sump to precipitate metals out of solution, the excess liquid was pumped off the top into a 5,000-gallon Baker Tank in the southwestern corner of the front yard. The pH of the residual liquid in the Baker Tank was raised and the liquid was sent to a boiler and evaporated. Metal precipitates were collected in a filter press. No records are available indicating how the filter cakes were disposed; it is possible that all precipitates remained on-site until identified in 1998 during the EBMUD inspection, which found a large amount of improperly stored filter cake (BASELINE, 2005).

The plating facility was abandoned in 1998. The abandoned plating facility contained hazardous materials and wastes, which were removed during an emergency response action directed by U.S. EPA Office of Emergency Response in 1998/1999. The site layout as indicated in the U.S. EPA documentation related to the removal action is reproduced in Figure 2 and the report contains the following description of the site (U.S EPA, 1998):

"Large volumes of plating related hazardous materials exist at the facility including metal cyanide plating solutions, strong acids, caustics, paints, solvents, laboratory chemicals and metal salts. There are also a large number of drums and small containers at the site, many of which appear to be leaking or in a deteriorated state."

Sometime in 2003, before the Brush Street Group, LLC became the owner of the site, the Frog Pond was filled with pea gravel and covered with an asphalt concrete cap. Between June and December 2007, the Brush Street Group, LLC had the Frog Pond concrete structure removed, the excavation backfilled with gravel, and covered with a concrete cap (Section 3.1.6).

In 2008, the plating building on the northeastern portion of the building was renovated for its current use. The roof and portions of the exterior structure were removed and replaced. The large sump was filled with crushed recycled concrete and capped with concrete.

3.1 Previous Investigations

Numerous environmental investigations have been performed at the site, which are summarized below. While much of the focus of these investigations has been the metals impacts from the plating operations, the focus of this soil gas survey is the impact of volatile chemicals on soil gas. The primary VOC of concern is TCE because: 1) it has been detected at higher concentrations in soil, soil gas, and groundwater samples collected at the site, and 2) because of its relative toxicity when compared to other VOCs present. Therefore, while the summaries

below include discussions of other types of contaminant analyses, the focus is on the TCE results.

3.1.1 Phase I/II–Versar, Inc

In 1993, a Phase I ESA was performed for the site by Versar, Inc. ("Versar"). While a final report of the investigations may never have been prepared, a copy of the draft report was included in a Phase I ESA prepared by Hillmann Environmental Company in 1997 (Hillmann, 1997). A site inspection performed by Versar observed that the site contained multiple below grade concrete sumps used to collect plating wastewater and the concrete was compromised in several areas, particularly in the wastewater treatment area. Containers of hazardous material and waste were not stored in posted dedicated areas and were not provided with segregated secondary containment. Housekeeping in the outdoor areas of the site was characterized as poor, primarily due to the storage of unused equipment and debris and waste from the fire. Drums containing soil contaminated with carburetor cleaner were observed, which were labeled with hazardous waste stickers and had been stored on the site in excess of 90 days.

Later in 1993, Versar conducted a Phase II ESA. Versar advanced 19 soil borings at the site (BH-1 through BH-19, Figure 2) and collected 29 soil samples at depths ranging from 1.0 to 15.5 feet below ground surface ("bgs"). The soil samples were submitted for various combinations of chemical analyses including: total petroleum hydrocarbons ("TPH") as diesel, VOCs, semi-volatile organic compounds, polychlorinated biphenyls ("PCBs"), cyanide, pH, and Title 22 metals.

Analytical results tabulated in draft preliminary results were listed as "Significant Laboratory Results of Soil Samples" which did not contain all analytes or any laboratory reporting limits. Laboratory reports were not included and the summary table was labeled "draft". The criteria Versar used to determine which results were considered "significant" are unknown. In the draft tables, TCE was reported in one soil sample (BH-13) collected in the western corner of the site (Figure 2). The soil sample BH-13 was collected at 2.0 feet bgs and reported to contain TCE at a concentration of 0.026 milligrams per kilogram ("mg/kg").

3.1.2 Ecology And Environment

After the Francis Plating facility was abandoned, Ecology and Environment was contracted by U.S. EPA to perform sampling as part of the 1999 emergency response action (BASELINE, 2005). The sampling effort mainly involved characterization of stored liquids, sludge, and sediments contained in tanks, pits, and ponds, all located above the concrete pavement. All of these materials were subsequently removed from the site. Soil samples were collected and analyzed for selected metals and total cyanide only.

Surface soils were removed from several locations as part of the emergency response action to ensure that remaining surface soils did not contain cadmium, chromium, nickel, and lead concentrations above U.S. EPA Industrial Preliminary Remedial Goal. During the removal action, soil was removed from the following areas:

- Exposed surface soil in the rear yard along Brush Street to a depth of one foot bgs (soil represented by sampling locations RY-SS-1, RY-SS-2, and RY-SS-3 in Figure 2). Additional 6 to 12 inches of soil were excavated from the vicinity of RY-SS-3.

- Exposed surface soil along the western edge of the site to a depth of one foot (soil represented by sampling locations FY-SS-1, FY-SS-4, FY-SS-5, FY-SS-6, and FY-SS-8 in Figure 2).

- Exposed soil in "Tree Well B" to a depth of 6 inches bgs.

3.1.3 Soil and Groundwater Investigation

BASELINE performed a preliminary soil and groundwater investigation in 2003 (BASELINE, 2003). Seven soil borings, B-FP01 through B-FP07, were installed to depths ranging from 16 to 25 feet bgs (Figure 3). Two shallow monitoring wells, MW-FP1 and MW-FP2, were also installed.

Soil samples were collected in the fill and just beneath the fill/native material interface at approximately 2 feet and 5 feet bgs. Soil samples were analyzed for Title 22 metals, total petroleum hydrocarbons as gasoline and diesel, VOCs, polynuclear aromatic hydrocarbons ("PAHs"), PCBs, pH, hexavalent chromium ("Cr-VI"), and cyanide.

Groundwater samples were collected from the two groundwater monitoring wells. Grab groundwater samples were collected from two boreholes, B-FP04 and B-FP05, to assess groundwater quality directly beneath the property. These groundwater samples were analyzed for TPH, VOCs, PAHs, PCBs, and cyanide. A grab groundwater sample was also collected from boring B-FP03 and analyzed for TPH to assess the potential presence of petroleum hydrocarbons, which might have migrated from the adjacent Shell Service Station site.

TCE was reported in soil samples from three locations: B-FP3, B-FP5, and B-FP6. The TCE results are shown on Figure 4. At B-FP3, TCE was reported in the soil sample collected from 1.5 feet bgs at a concentration of 0.024 mg/kg. At B-FP5, TCE was reported in the soil sample collected from 2.5 feet bgs at a concentration of 0.033 mg/kg.

TCE was reported in grab groundwater samples from B-F04 and B-FP05 at 21 and 42 micrograms per liter ("µg/L"), respectively. No VOCs were reported above the laboratory reporting limits in the groundwater samples from the groundwater monitoring wells MW-FP1 and MW-FP2.

3.1.4 Phase II Investigation

In November 2005, BASELINE performed a Phase II investigation (BASELINE, 2006). The investigation consisted of installation of soil borings in: 1) source areas (borings B-FP08 through B-FP17), 2) areas to define the extent of the PAH-impacted area (borings B-FP07A through B-FP07C), and 3) areas with exposed soil (samples SS-FP01 through SS-FP10, Figure 3). In addition, grab groundwater samples were collected from select soil borings and the two on-site groundwater monitoring wells, MW-FP1 and MW-FP2 (Figure 3).

Soil samples were analyzed for one or all of the following: Title 22 metals, VOCs, PAHs, and Cr-VI. Select soil samples were also analyzed for soluble cadmium, copper, lead, and/or nickel using the waste extraction test or the toxicity characteristic leaching procedure. Groundwater samples from the two groundwater monitoring wells were analyzed for TPH as gasoline, TPH as diesel, VOCs, and PAHs. Grab groundwater samples from the soil borings were analyzed for at

least one of the following: Title 22 metals, Cr-VI, TPH as gasoline, TPH as diesel, VOCs, PAHs, and pH. The TCE results are shown on Figure 4.

TCE was reported from: a soil sample collected at 0.5 feet bgs at location B-FP14 at a concentration of 0.0094 mg/kg; in soil samples collected at 6.0 feet bgs at location B-FP21 at a concentration of 0.0044 mg/kg and at 12.0 feet bgs at a concentration of 0.017 mg/kg; in soil samples collected at 6.0 feet bgs at location B-FP22 at a concentration of 0.04 mg/kg and at 12 feet bgs at a concentration of 0.0077 mg/kg; and in a soil sample collected at 12.0 feet bgs at location B-FP23 at a concentration of 0.005 mg/kg.

TCE was reported in a grab groundwater sample from locations: B-FP10 at a concentration of 8.9 µg/L; B-FP11 at a concentration of 1.2 µg/L; B-FP13 at a concentration of 13 µg/L; B-FP14 at a concentration of 1,000 µg/L; B-FP16 at a concentration of 8.0 µg/L; and SS-FP19 at a concentration of 3.6 µg/L. No VOCs were reported above the laboratory reporting limits in the groundwater sample from the groundwater monitoring well MW-FP1. TCE was reported in the groundwater sample from MW-FP2 at a concentration of 0.6 µg/L.

3.1.5 Phase III Investigation

In 2006, a Focused Phase III investigation was proposed after sample results from the Phase II investigation identified chlorinated VOCs adjacent to the Frog Pond (Figure 2) (BASELINE, 2006). The investigation consisted of collecting soil and grab groundwater samples from six soil borings (B-FP18 through B-FP23) (Figure 3).

Two soil samples were collected from each boring, from 5 or 6 feet bgs and from 12 feet bgs. Soil samples were analyzed for VOCs. In addition, the soil sample from B-FP25 collected at 6.0 feet bgs was also analyzed for Cr-VI. The grab groundwater sample from B-FP23 was analyzed for Title 22 metals, Cr-VI, VOCs, and pH.

The TCE results are shown on Figure 4. TCE was reported in grab groundwater samples at: B-FP18 at a concentration of 600 µg/L; B-FP19 at a concentration of 6.4 µg/L; B-FP20 at a concentration of 390 µg/L; B-FP21 at a concentration of 57 µg/L; B-FP22 at a concentration of 1,500 µg/L; and B-FP23 at a concentration of 310 µg/L.

3.1.6 Frog Pond Removal

Data from the Phase III investigation suggested that the Frog Pond was the likely source of residual metals in the soil and groundwater. Therefore, the Frog Pond was removed in an attempt to identify the source (BASELINE, 2008). Once the Frog Pond was removed, BASELINE collected soil samples from eight locations beneath the Frog Pond between 31 May and 5 June 2007 (B-FP24 through B-FP31, Figure 3) and submitted the samples for Title 22 metals and Cr-VI analyses (BASELINE, 2008). BASELINE also collected a sample of the fine-grained sand immediately below the cobbles imbedded at the bottom of the concrete column located in the western end of the Frog Pond for metals analysis, after the cobbles and sand were excavated.

Elevated levels of total chromium, Cr-VI, copper, and nickel were reported in some of the soil samples collected. Elevated levels of antimony, total chromium, Cr-VI, cobalt, copper, nickel,

thallium, and/or vanadium were also reported in a grab groundwater sample FP-GRAB GW, collected beneath the former Frog Pond and adjacent to the concrete column.

3.1.7 Soil Gas Survey – 601 Brush Street

On 19 May 2009, P&D Environmental ("P&D") performed a subsurface investigation for the property adjacent to and southwest of the site, 601 Brush Street (P&D Environmental, 2009) (Figure 3). P&D advanced five borings (B-1 through B-5) and collected grab groundwater samples from four of the borings (B-1 through B-4). TCE was reported in the grab groundwater samples at concentrations ranging from 4.7 to 60 µg/L.

Between 24 September and 26 October 2009, P&D performed an additional subsurface investigation at the 601 Brush Street property. P&D collected soil gas samples at 5 and 12 feet bgs at four locations (SG-1 through SG-4) (Figure 3).

The soil gas concentrations reported in the samples collected on 24 September 2009 from 601 Brush Street property at 5 feet bgs ranged from 180 to 5,600 micrograms per cubic meter ("µg/m^3"") and at 12 feet bgs ranged from 260 to 1,400 µg/m^3. At the two of the shallow locations with the highest soil gas TCE concentration, the TCE soil gas concentration was higher in the sample collected at 5 feet bgs than at 12 feet bgs, indicating that these concentrations may be related to surface releases rather than the volatilization of TCE from the groundwater. The leak detection agent used (2-propanol) was reported in six of the eight samples indicating that some to the results are biased low.

On 19 October 2009, P&D collected one grab groundwater sample from one soil boring (B-8) on the 601 Brush Street property. P&D also collected two grab groundwater samples from two borings (B6 and B7) and installed two soil gas probes to a depth of 5 feet bgs (SG5 and SG6) on the southeastern portion of the 751-785 Seventh Street property (Figure 3). The grab groundwater samples collected from the borings B8 at 601 Brush Street was reported to contain TCE at 6.9 µg/L Grab groundwater samples collected from the borings B6 and B7 on the 751-785 Seventh Street property were reported to contain TCE at 15 and 7.2 µg/L, respectively.

Due to rainy conditions, P&D did not collect the soil gas samples on the 751-785 Seventh Street property until 26 October 2008, five days after installing the soil gas probes. Soil gas samples collected from SG-5 and SG-6 at 5 feet bgs on the 751-785 Seventh Street property contained TCE at 3,400 and 5,900 µg/m^3, respectively. No 2-propanol was detected in the soil gas samples collected at the 751-785 Seventh Street property.

3.1.8 Phase IV Soil and Groundwater Investigation

On 2 and 3 March 2010, BASELINE installed three shallow groundwater monitoring wells (MW-FP3, MW-FP4A, and MW-FP5) and one deep groundwater monitoring well (MW-FP4B) at the site (BASELINE, 2010) (Figure 3). The shallow borings were completed to a final depth of 25 feet bgs and the deep boring was completed to a final depth of 65 feet bgs.

Soil samples were collected from 5 feet bgs at MW-FP3 and from 5, 10, 15, and 20 feet bgs at MW-FP4A and MW-FP5 for chemical analysis. The soil samples were analyzed for Title 22 metals and Cr-VI.

A soil sample from MW-FP4B was collected from 26 feet bgs and analyzed for hydraulic conductivity, effective porosity, and bulk density.

The three on-site shallow groundwater monitoring wells, MW-FP4A, MW-FP3, and MW-FP5, were screened from 12 to 25 feet bgs within the Merritt Sands. The deep well (MW-FP4B) was screened within the Merritt Sands from 45 to the top of the Old Bay Mud at 57 feet bgs.

On 12 April 2010, BASELINE installed one shallow off-site well (MW-FP6) and one deep off-site well (MW-FP7B) on Sixth Street. These wells were installed similarly to the wells previously installed on-site, as described above.

After developing the wells on 9 March 2010, the two existing groundwater monitoring wells (MW-FP1, and MW-FP2), the six new groundwater monitoring wells (MW-FP3, MW-FP4A, MW-FP4B MW-FP5, MW-FP6, and MW-FP7B), and two Shell Service Station groundwater monitoring wells (MW-3 and MW-9) (Figure 3) were sampled using a low flow method. The soil and groundwater samples were analyzed for dissolved Title 22 Metals, Cr-VI, and VOCs.

TCE was reported in the groundwater samples from one or more wells (Figure 4). TCE was reported in on-site shallow groundwater monitoring wells MW-FP3 at 0.9 µg/L, MW-FP4A at 51 µg/L, and MW-FP5 at 1.2 µg/L. TCE was not reported in on-site shallow groundwater monitoring wells MW-FP1 and MW-FP2 or on-site deep groundwater monitoring well MW-FP4B.

4.0 SITE DESCRIPTION

The site is bounded by Seventh Street to the north, Brush Street to the east, a commercial building and lot to the south (601 Brush Street, currently occupied by Cabinets to Go and Cal-CON Pumping) and a Shell service station to the west. The adjacent Shell station is also under ACEH oversight due to petroleum releases (Alameda County Case No. RO0000493).

The eastern portion of the site (former plating building and rear yard) has been improved and a new building has been constructed on the foundation of the former plating building utilizing the existing steel structure and the existing cinderblock walls on Seventh and Brush streets. The building is currently occupied by the Kinetic Arts Center, a circus and fitness school. The rest of the site surface is covered by either asphalt or cement concrete.

4.1 Hydrogeology

The site is located within the East Bay Plain Subbasin (DWR, 2004). The East Bay Plain Subbasin is a northwest trending alluvial plain bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Basin. The East Bay Plain Basin extends beneath San Francisco Bay to the west. Average precipitation in the subbasin ranges from about 17 inches in the southeast to greater than 25 inches along the eastern boundary; most of the precipitation occurs between the months of November and March.

Past investigations indicate that the lithology is fairly consistent across the site. The soil from the surface to three or four feet bgs consists of silty sand/sand fill with some brick and concrete debris. Very fine- to fine-grained silty- to clayey- sands (Merritt Sands) of the San Antonio

Formation underlie the fill. The Merritt Sands is underlain by plastic clay (Old Bay Mud) at 50 to 60 feet bgs (BASELINE, 2010). The Old Bay Mud is the confining layer for the deeper water-bearing formation. Regional groundwater flow direction in the San Antonio Formation is southwesterly toward the Oakland Inner Harbor.

The average hydraulic conductivity of a soil sample collected at 26 feet bgs from MW-FP4B was reported to be 3×10^{-7} centimeters per second (BASELINE, 2010). The total porosity of the soil was determined to be 38.4 percent, while the effective porosity of the soil sample tested was 0.7 percent, indicative of dense silty- or clayey-sands.

The depth to groundwater in the unconfined water-bearing zone at the site, as measured between 2003 and 2010, ranges from 12.3 to 15.50 feet below the top of the well casing (BASELINE, 2010). The depths to groundwater measured on 15 April 2010 were used to calculate the groundwater elevation at the wells referenced to the North American Vertical Datum 1988 ("NAVD88") with depths to groundwater elevations ranging from 10.62 to 10.95 feet NAVD88. Groundwater contours based on these elevations are presented on Figure 5. The groundwater flow direction on 15 April 2010 was toward the southwest with a gradient of 0.005 (Baseline, 2010).

On 29 November 2011, the day the soil gas survey was performed, the depth to groundwater was measured in groundwater monitoring wells MW-FP1, MW-FP2, and MW-FP4A. The depths to groundwater ranged from 14.58 to 16.45 feet bgs and groundwater elevations ranged from 9.19 to 9.47 feet NAVD88.

5.0 FIELD ACTIVITIES

5.1 Preparation for Field Activities

Prior to field activities, BASELINE obtained a boring permit from the Alameda County Public Works Agency ("ACPWA") and contacted Underground Service Alert to clear proposed boring locations at the Site. All field activities described below were performed by BASELINE with assistance from TEG Northern California, Inc. ("TEG") on 29 November 2011. A copy of the boring permit is included in Appendix B.

5.2 Impact on Human Health and/or the Environment

The results of previous environmental investigations indicated that historical uses of the site have impacted the soil and groundwater at the site. The analytical results of the soil and groundwater samples collected during previous investigations indicated that the elevated concentrations of metals, primarily Cr-VI, and VOCs, primarily TCE, in the soil and groundwater originated from the area of a subsurface concrete column associated with the former Frog Pond. The discussion below describes the potential human and environmental impact from VOCs, as this is the focus of the soil gas survey.

The entire property is covered, either with asphalt or cement concrete, or by the existing building. Therefore, there is no current human exposure to the subsurface soils.

VOCs have been detected in shallow soil and grab groundwater samples collected at the site. Grab groundwater samples from borings B-FP14, B-FP18, B-FP20, and B-FP22 contained elevated concentrations of TCE and cis-1,2-DCE. No VOCs have been reported at concentrations exceeding the San Francisco Regional Water Quality Control Board's ("Regional Water Board") environmental screening levels ("ESLs") for residential land use (Regional Water Board, 2008) where groundwater in not a drinking source in the groundwater samples collected from the on-site or off-site groundwater monitoring wells. The groundwater impact is confined to the Merritt Sands since the Old Bay Mud, present at approximately 60 feet bgs, acts as a barrier to further vertical migration. There is no use of the groundwater at the site, thus there are no human exposure pathway to the groundwater contaminants.

Although the reported concentrations of VOCs are below the groundwater ESLs for potential vapor intrusion concerns from groundwater, and only trace concentrations were reported in the shallow soils, the soil gas survey conducted for the adjacent property (601 Brush Street, see Section 2.1.7) indicated that TCE was present in soil gas on-site at levels exceeding ESL screening values for potential vapor intrusion concerns.

5.3 Soil Gas Survey

On 29 November 2011, soil gas samples were collected by TEG from six locations as shown on Figure 6 (SG-01 through SG-06). The soil gas sample locations were chosen to provide adequate coverage across the site, target the area where previous investigations have indicated elevated concentrations of TCE are present in the groundwater (near the Frog Pond), evaluate the results of previous soil gas measurements at the site conducted by others, and evaluate the VOC indoor air intrusion potential near the existing building on-site.

Field notes, a photograph log, and photographs are included in Appendix C. The soil gas samples were collected using a soil vapor probe advanced by a direct-push drill rig operated by TEG under the direct supervision of a BASELINE Professional Engineer. Two soil gas samples, one shallow and one deep, were collected at each location.

The shallow soil gas samples were collected by advancing the probe to a depth of 5 feet bgs. Because of the low permeability of the soil, the probe was then pulled back up to 1.0 foot until enough permeable soil was exposed to allow collection of the soil gas sample. The permeability of the soil was tested by attempting to pull a soil gas sample with the sample syringe. Where the soil was not permeable, the syringe plunger would return to its original position under an induced vacuum. The deeper soil gas samples were collected by advancing the probe to 10 feet bgs and then pulling back up to two feet to allow collection of the soil gas sample. The final depth of the probe at the time the sample was collected is indicated in the sample ID.

Once the soil vapor probe was installed, the vapor probe rod was sealed at ground surface using hydrated bentonite (Photograph 9, Appendix C). Soil gas samples were not collected until a minimum of 30 minutes had passed after installation of the vapor probe. After purging, a soil gas sample was collected by TEG using a new unused sample syringe.

At the first soil gas sample location sampled, SG-04, TEG performed a purge volume step test on the shallow soil gas probe. The volume of the sample tubing and the annular space around the probe equals one purge volume. Soil gas samples were collected after one purging one purge

volume, three purge volumes, and seven purge volumes. The soil gas sample from three purge volumes contained the highest VOC concentrations. Therefore, all subsequent sampling was performed after purging three purge volumes.

A leak test was also performed at every sampling location to check for air leaks from the surface. The leak test was performed by covering the sample rod with a 5-gallon bucket and spraying Dust-Off®, which contains 1,1-difluoroethane, around the soil vapor rod at ground surface (Photographs 6, 11, and 14, Appendix C). 1,1-difluoroethane is not a chemical found in the subsurface at the site and detections of 1,1-difluoroethane in the soil gas sample indicate that a portion of the air in the sample came from the surface.

5.4 Decontamination Procedures

Sampling equipment that came in contact with soil (sample corers, soil vapor probe, and probe rods) were decontaminated in between sample collection by washing in an Alconox and water solution followed by sequential rinsing in clean water and deionized water (Photographs 10, 15, and 20, Appendix C).

6.0 FIELD DOCUMENTATION

6.1 Field Logs

BASELINE documented field activities and observations in a field log included in Appendix C. The field log was peer reviewed to confirm that correct field procedures were adhered to and that field data were coherent. The field log contains the following information:

- Time of arrival at the site and time of departure from the site;
- Personnel on-site;
- Weather conditions;
- Decontamination method;
- Soil vapor sampling procedure; and
- Additional site observations.

6.2 Photograph Logs

BASELINE prepared a photograph log containing a brief description of subjects and activities photographed during the field investigation. The photograph log and the photographs are included in Appendix C.

7.0 SAMPLE CONTAINERS, PACKAGING, AND SHIPPING

7.1 Soil Gas Samples

All soil gas samples were collected by TEG using new syringes. No preservative was required for any samples. All samples were analyzed immediately following collection using a mobile laboratory operated by TEG (Photograph 2 in Appendix C). Labeling, packaging, or shipping of the samples was not required.

A field duplicate sample was collected from sampling location SG-04 because this location was the closest to groundwater monitoring well MWFP-4A, which contained the highest concentration of VOCs when the groundwater monitoring wells on-site were last sampled on 15 April 2010 (Figure 4).

7.2 Chain-of-Custody Record

TEG completed a separate chain-of-custody record for soil gas samples collected and analyzed by TEG. A copy of the chain-of-custody record for soil gas samples is included in Appendix D.

8.0 ANALYTICAL METHODS

8.1 Soil Gas Samples

Samples were analyzed immediately following collection using a mobile laboratory operated by TEG. All samples, including the field duplicate sample, were analyzed for VOCs in accordance with EPA Method 8260B at BASELINE's request. A copy of the laboratory report is included in Appendix D.

9.0 ANALYTICAL RESULTS

9.1 Soil Gas Samples

VOCs were reported in soil gas samples collected from each location (Table 1), although not necessarily in both the shallow or the deeper soil gas samples. TCE was the only VOC reported at a soil gas concentration above the soil gas ESLs. The individual sample location results are discussed in more detail below. The soil gas locations and a summary of the TCE results are presented on Figure 6.

Soil gas sample location SG-01 was located outside the southeast corner of the existing building and close to the location of the former track drain. The shallow soil gas sample, collected with the probe pulled back from 5 to 4 feet bgs, was reported to contain TCE at 7,200 µg/m^3, 1,l-dichloroethene ("1,1-DCE") at 270 µg/m^3, and 1,1,1-trichloroethane ("1,1,1-TCA") at 510 µg/m^3. The deeper sample, collected with the probe pulled back from 10 to 8 feet bgs, was reported to contain TCE at 320 µg/m^3, 1,1,1-TCA at 270 µg/m^3, and benzene at 120 µg/m^3.

Soil gas sample location SG-02 was located outside the west side of the existing building. The shallow soil gas sample was collected with the probe only pulled back several inches from 5 feet bgs, and was reported to contain TCE at 420 µg/m^3. The deeper sample, collected with the probe pulled back from 10 to 9 feet bgs did not contain any VOCs above the laboratory reporting limits.

Soil gas sample location SG-03 was located at the west side of the existing building. The shallow soil gas sample, collected with the probe pulled back from 5 to 4.5 feet bgs, was reported to contain TCE at 1,300 µg/m^3 and 1,1,1-TCA at 780 µg/m^3. The deeper sample, collected with the probe pulled back from 10 to 8 feet bgs, was reported to contain TCE at 1,000 µg/m^3, 1,1,1-TCA at 130 µg/m^3, and benzene at 100 µg/m^3.

Soil gas sample location SG-04 was located just to the west of the Frog Pond. The shallow soil gas sample, collected with the probe pulled back from 5 to 4 feet bgs, was reported to contain TCE at 23,000 µg/m^3, trans-1,2-DCE at 110 µg/m^3, cis-1,2-DCE at 1,900 µg/m^3, and trichlorofluoromethane at 160 µg/m^3. The deeper sample, collected with the probe pulled back from 10 to 8 feet bgs, was reported to contain TCE at 160,000 µg/m^3, 1,1-DCE at 3,300 µg/m^3, trans-1,2-dichloroethene, at 12,000 µg/m^3, cis-1,2-DCE at 150,000 µg/m^3, and vinyl chloride at 3,000 µg/m^3.

Soil gas sample location SG-05 was located in the southeastern portion of the site. The shallow soil gas sample, collected with the probe pulled back just several inches from 5 feet bgs, was reported to contain TCE at 1,400 µg/m^3 and 1,1,1-TCA at 250 µg/m^3. The deeper sample, collected with the probe pulled back just several inches from 10 feet bgs, was reported to contain TCE at 6,800 µg/m^3, 1,1-DCE at 260 µg/m^3, and 1,1,1-TCA at 470 µg/m^3.

Soil gas sample location SG-06 was also located in the southeastern portion of the site. The shallow soil gas sample, collected with the probe pulled back just several inches from 5 feet bgs, was reported to contain 1,1,1-TCA at 490 µg/m^3. The deeper sample, collected with the probe pulled back to 8 from 10 feet bgs, was reported to contain TCE at 1,400 µg/m^3, benzene at 120 µg/m^3, 1,1-DCE at 680 µg/m^3, and 1,1,1-TCA at 690 µg/m^3.

10.0 DATA QUALITY EVALUATION

This section presents an evaluation of data quality indicators (i.e., precision, accuracy, representativeness, completeness, and comparability) for field and laboratory measurements to determine the viability and usability of the data.

10.1 Precision

Precision is a measure of the reproducibility of data when multiple samples are collected and analyzed under the same set of conditions. In accordance with the SAP for the site, BASELINE collected a field duplicate shallow sample for soil gas at location SG-04. BASELINE evaluated data precision by calculating the relative percent differences ("RPDs") between the standard and field duplicate sample results for all analytes identified above laboratory reporting limits and comparing the RPDs to the Department of Toxic Substance Control ("DTSC") criteria of less than 25 percent for soil gas samples (DTSC, 2010). The calculated RPDs for analytes identified in soil gas samples from SG-04 are summarized in Table 2.

The RPD for the detected analytes ranged from 6 to 11 percent. This indicates that measurements performed on the standard and field duplicate samples for soil gas were reproducible and the sampling technique employed in collecting the samples did not affect the reproducibility of the data.

Laboratory precision is measured using laboratory quality control samples (e.g., blank spike, blank spike duplicate, matrix spike, matrix spike duplicate, and laboratory control standard). BASELINE reviewed the laboratory reports by TEG for completeness and accuracy. The review of the laboratory report by TEG indicated that the calibration criteria for all target compounds were within laboratory control limits. A Quality Control Checklist for Review of Laboratory Report is included in Appendix D.

10.2 Accuracy

Accuracy is the difference between a measured value and an accepted reference or true value. The accuracy of laboratory data are evaluated using laboratory quality control samples (e.g., laboratory control spike, blank spike, blank spike duplicate, matrix spike, matrix spike duplicate, surrogate spikes, and laboratory control standard). As mentioned above, the review of the laboratory reports by TEG did not identify any analytical problems that would invalidate any of the reported results.

10.3 Representativeness

Representativeness is the degree to which data accurately and precisely represent an environmental condition. Site data are also considered representative if criteria affecting data quality (as discussed above) are met. Since the soil gas samples were immediately analyzed, preservation in the field was not required. Based on the data quality evaluation presented above, BASELINE considers data gathered during the field investigation to be representative of site conditions.

10.4 Completeness

Completeness is a measure of the amount of valid data collected from a location compared to the amount that would be expected to be obtained under normal conditions. Data are considered valid when none of the criteria adversely affecting data quality is exceeded. The sampling completeness is calculated by dividing the number of usable data by the total number of data planned to be collected for this investigation, expressed in terms of percentage. The acceptance criteria for completeness established for the sampling activity is 90 percent or greater. The sampling completeness for the soil gas investigation is 100 percent, within the acceptance criteria for completeness.

10.5 Comparability

Comparability is a measure of the confidence with which one data set can be compared to another. The comparability of data can be affected by variations in sampling techniques, analytical methods, and environmental conditions (e.g., weather/seasonal variation). Data comparability was ensured by using the same sampling technique, analytical method, and analytical laboratory for each sample matrix collected from the site. Weather/seasonal variation is not expected to affect data comparability since collection of all samples was completed in one day.

11.0 EVALUATION OF RESULTS AND CONCLUSIONS

This section presents an evaluation of analytical results for soil gas to assess potential subsurface impacts at the site, based on previous uses of the site and surrounding properties.

A comparison was performed between the shallow and deeper soil gas analytical results from each sample location. The soil gas TCE concentrations decreased with depth at locations SG-01, SG-02, and SG-03 suggesting that the residual contamination at those locations may be the result of historical surface or near-surface releases and less related to the contaminants volatilizing from groundwater. At locations SG-04, SG-05, and SG-06, the deeper soil gas analytical results are higher than the shallow results, suggesting that the contaminants may be migrating from the

groundwater into the soil pore spaces. This is consistent with the groundwater analytical data since the soil gas sample with the highest TCE concentration (SG-04) was collected near the groundwater monitoring well with the highest detected TCE in the groundwater (MW-FP4A), while at locations SG-01, SG-02, and SG-03, previous investigations have not reported elevated concentrations of TCE in groundwater (Figure 4).

To assess potential subsurface impacts at the site, the shallow soil gas analytical results were screened against ESLs for vapor intrusion concerns. The shallow soil gas results are used since these are more likely to reflect the potential for elevated concentrations in indoor air. The presence of an analyte at concentrations at or below the corresponding ESL would not be expected to pose a significant threat to human health.

At sampling locations SG-01, SG-03, SG-04, and SG-05, TCE was reported in the shallow soil gas sample at concentrations exceeding the soil gas ESLs for residential land use (Table 3). At sampling locations SG-01 and SG-04, TCE was reported in the shallow soil gas sample at a concentration exceeding soil gas ESLs for commercial land use. None of the other volatile organic compounds reported in the samples exceeded the soil gas ESLs for residential or commercial land uses.

11.1 Findings and Recommendations

The screening evaluation indicated that the shallow soil at all locations sampled have been impacted with VOCs. One or more of the soil gas samples collected on-site were reported to contained TCE, trans-1,2-DCE, cis-1,2-DCE, 1,l-DCE, 1,1,1-TCA, vinyl chloride, trichlorofluoromethane, and/or benzene at concentrations above the laboratory reporting limit of 100 µg/m^3 or, in the case of benzene, 80 µg/m^3.

Based on the findings of the soil gas survey, the Brush Street Group, LLC requested that BASELINE collect a sub-slab vapor sample near soil gas sample location SG-01. BASELINE installed a sub-slab vapor probe through the foundation slab at the southwest corner of the existing building, near soil gas location SG-01 and the former track drain, to provide additional information for the evaluation of the potential for TCE intrusion into the existing building's indoor air. The Brush Street Group, LLC authorized BASELINE to collect the sample and the procedures and results are presented in the attached report (Appendix E).[1]

On 2 February 2012, BASELINE collected a vapor sample ("Sub-slab-1a") and a duplicate ("Sub-slab-1b") from underneath the slab in the southeastern portion of the existing building (Appendix E). TCE was reported in the vapor samples at 19 and 18 µg/m^3, respectively; 1,1,1-TCA was reported at 18 and 19 µg/m^3, respectively; toluene was reported at 0.91 and 1.4 µg/m^3, respectively; and tetrachloroethene, m,p-xylene, and o-xylene were reported in sample "Sub-slab-1a" at 0.79, 0.36, and 0.20 µg/m^3, respectively. Applying the DTSC recommended attenuation factor of 0.05 for sub-slab vapor samples (DTSC, 2010), the concentration of VOCs reported under the slab does not appear to represent a health risk for current users of the building.

[1] The cost to install the sub-slab probe, collect and analyze the vapor samples, and prepare a report was borne by the Brush Street Group, LLC rather than the funds provided by the City of Oakland Brownfield Grant.

The compound 1,1-difluoroethane was used for leak detector and was reported in both samples indicating that the sampling system was not airtight and therefore, the results are biased low. Additional sampling following re-sealing of the top of the vapor sample probe would provide more conclusive data regarding the indoor air concentrations at the site.

12.0 DISPOSAL OF RESIDUAL MATERIALS

The borings advanced for collection of soil gas samples (SG-01 through SG-06 on Figure 4) were grouted on 29 November 2011 with neat cement to ground surface in accordance with the requirements of the ACPWA permit (Photographs 16, 17, 21, 25, 30, and 32). The grouting of all borings was observed by an ACPWA inspector.

No soil cuttings were generated during the soil gas survey. Soapy water from equipment decontamination was disposed to the sanitary sewer. Used personal protective equipment (nitrile gloves) and disposable sampling supplies (plastic liners) were placed in a municipal refuse dumpster. These wastes are not considered hazardous and can therefore be sent to a municipal landfill.

13.0 FIELD VARIANCES

This soil gas survey was performed in general accordance with the SAP, with exception of the following:

- Soil gas location SG-01 was relocated from the northeastern portion of the site to a location near the existing building and the former track drain at the request of Jerry Wickham of ACEH in a letter to Tom McCoy of the Brush Street Group, LLC, dated 26 October 2011 (Appendix A).

- Collection of a sub-slab vapor sample on 2 February 2012. Based on the elevated concentrations of TCE at location SG-01, located outside the southeastern corner of the existing building, the Brush Street Group, LLC requested that BASELINE installed a sub-slab vapor probe, and collected a vapor sample for VOC analysis. Installation of the sub-slab vapor probe, collection of the vapor sample, and results of the analysis are provided in Appendix E.

The first SAP deviation resulted in discovery of elevated TCE concentrations adjacent to the existing building. The second deviation provided additional information for evaluating current health risk for users of the existing building. Neither deviation compromised the results, which remain valid and representative.

14.0 HEALTH AND SAFETY PROCEDURES

Field activities described in this report were performed in accordance with a site-specific Health and Safety Plan ("HSP") prepared by BASELINE. The elements of the HSP were reviewed by BASELINE with field personnel engaged in sampling activities prior to the start of work at the site as part of a tail-gate safety meeting. Attendees of the tail-gate safety meeting are

documented on the sign-in sheet included in the HSP. A copy of the HSP is included in Appendix F.

15.0 LIMITATION

The soil gas survey has been conducted for the City of Oakland Public Works Agency. BASELINE's interpretations and conclusions regarding this information and presented in this report are based on the expertise and experience of BASELINE in conducting similar assessments and current federal, state, and local regulations and standards.

BASELINE's objective is to perform our work with care, exercising the customary thoroughness and competence of earth science, environmental, and engineering consulting professionals, in accordance with the standard for professional services for a consulting firm at the time these services were provided. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental conditions and potential liability at a particular site. Therefore, BASELINE cannot act as insurers and cannot "certify or underwrite" that a site is free of environmental contamination, and no expressed or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed with the customary thoroughness and competence of our profession.

The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration at the Site, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in the report.

The findings, observations, and conclusions expressed by BASELINE in this report are limited by the scope of services and should not be considered an opinion concerning the compliance of any past or current owner or operator of the Site with any federal, state, or local law or regulation. No warranty or guarantee, whether expressed or implied is made with respect to the data reported or findings, observations, and conclusions expressed in this report.

16.0 REFERENCES

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FIGURES

REGIONAL LOCATION

Figure 1

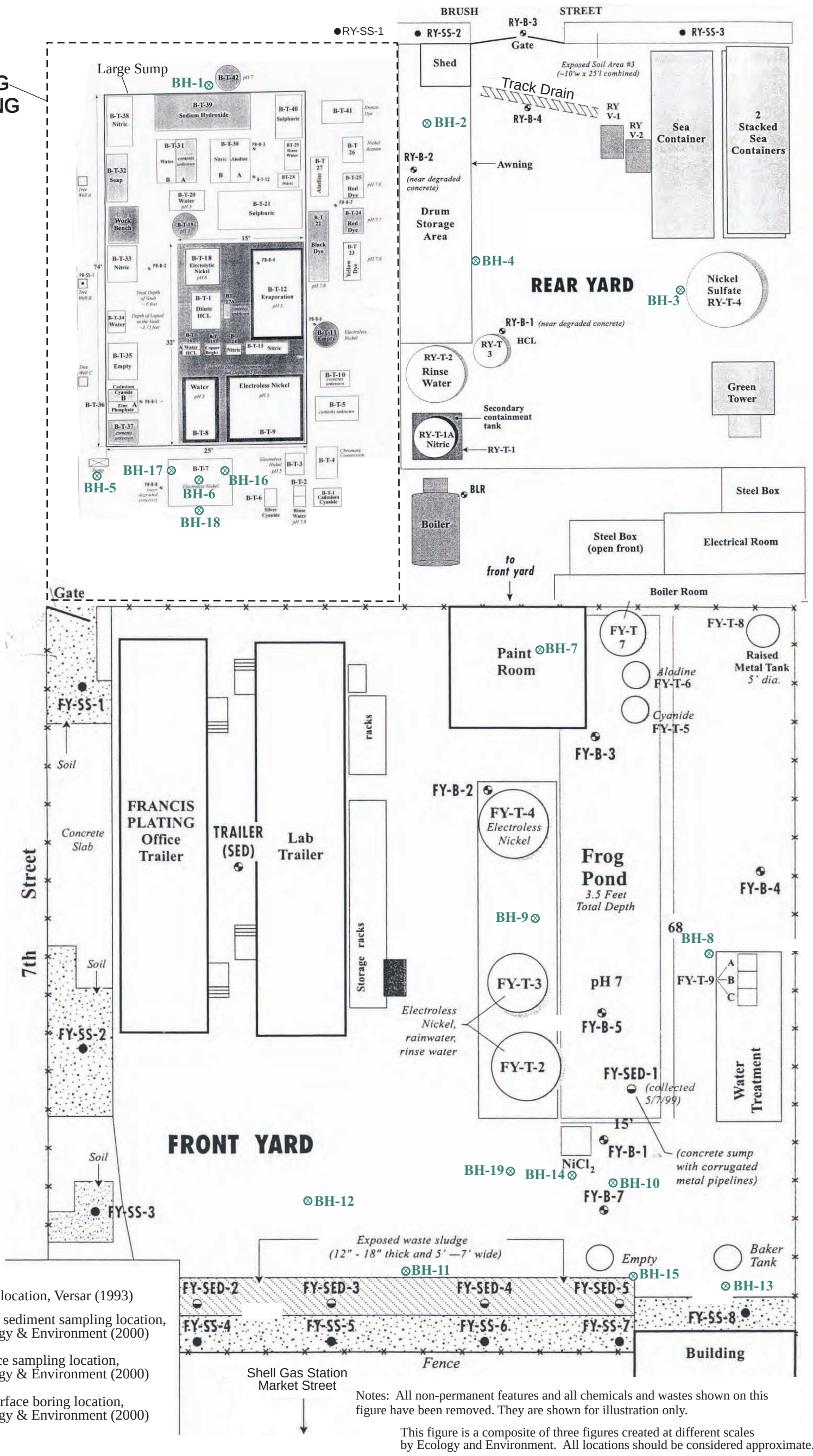
751-785 Seventh Street
Oakland, California

BASELINE

Y8359-11.01803.Fig1.cdr 3/1/12

Former Francis Plating Facility - 1993

Figure 2



Notes: All non-permanent features and all chemicals and wastes shown on this figure have been removed. They are shown for illustration only.

This figure is a composite of three figures created at different scales by Ecology and Environment. All locations should be considered approximate.

Source: Ecology and Environment, Inc. (2000).

Not to Scale

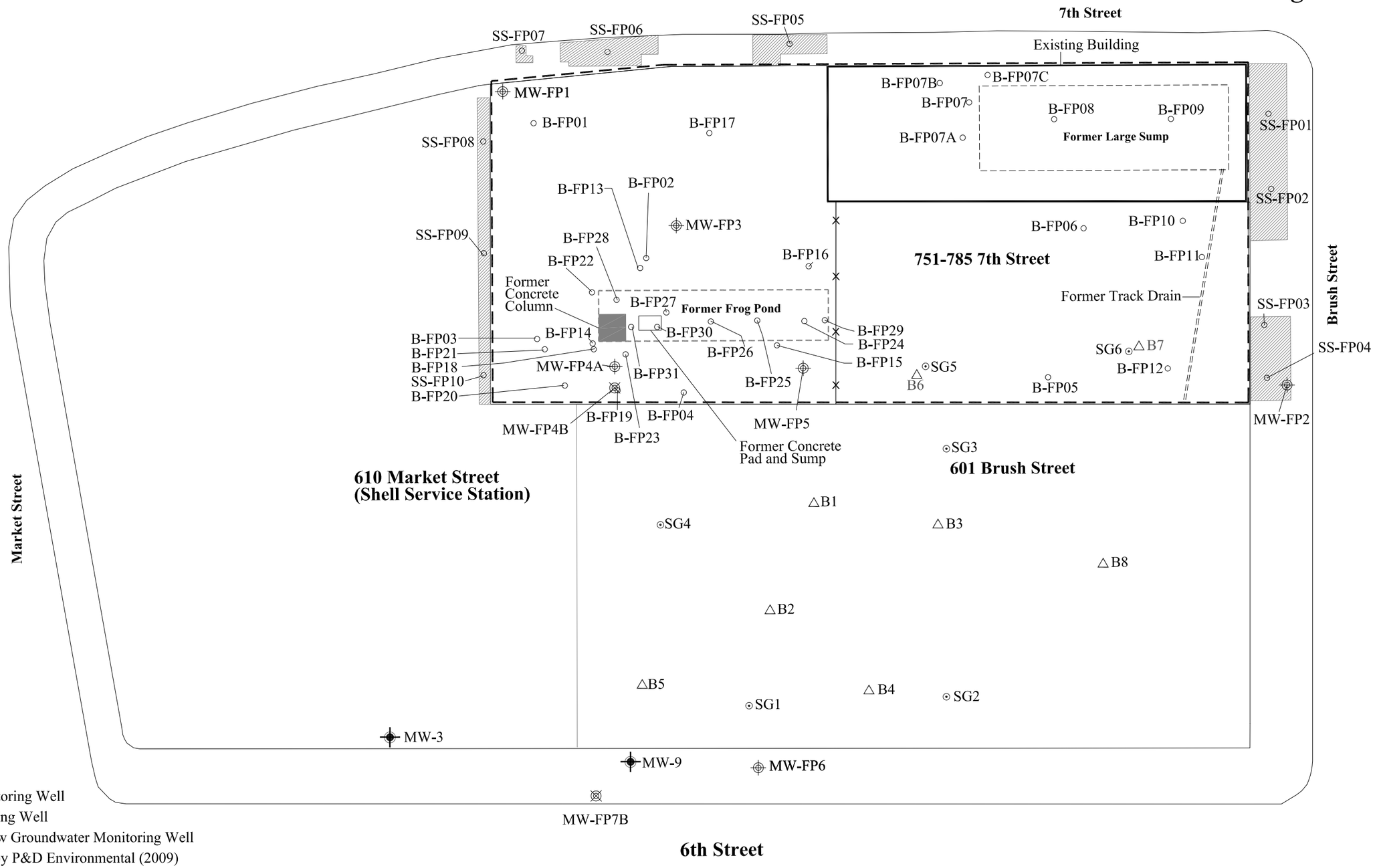
751-785 7th Street
Oakland, California

BASELINE

Y8359-11.01803.Figx.cdr 02/23/12

SITE PLAN

Figure 3



Legend

- Site Boundary
- Parcel Boundaries
- Fence
- Exposed Soil
- Boring or Sample Location
- Shallow Groundwater Monitoring Well
- Deep Groundwater Monitoring Well
- Shell Service Station Shallow Groundwater Monitoring Well
- Soil Gas Sample Collected by P&D Environmental (2009)
- Soil Boring Advanced by P&D Environmental (2009)

Note: P&D Environmental boring locations are approximate.

Source: P&D Environmental, Inc., 2009, Subsurface Investigation Report (SG1 through SB-6 and B-6 through B-8), 601 Brush Street, Oakland, CA, 12 November.

0 30 Feet

BASELINE

751 - 785 Seventh Street
Oakland, California

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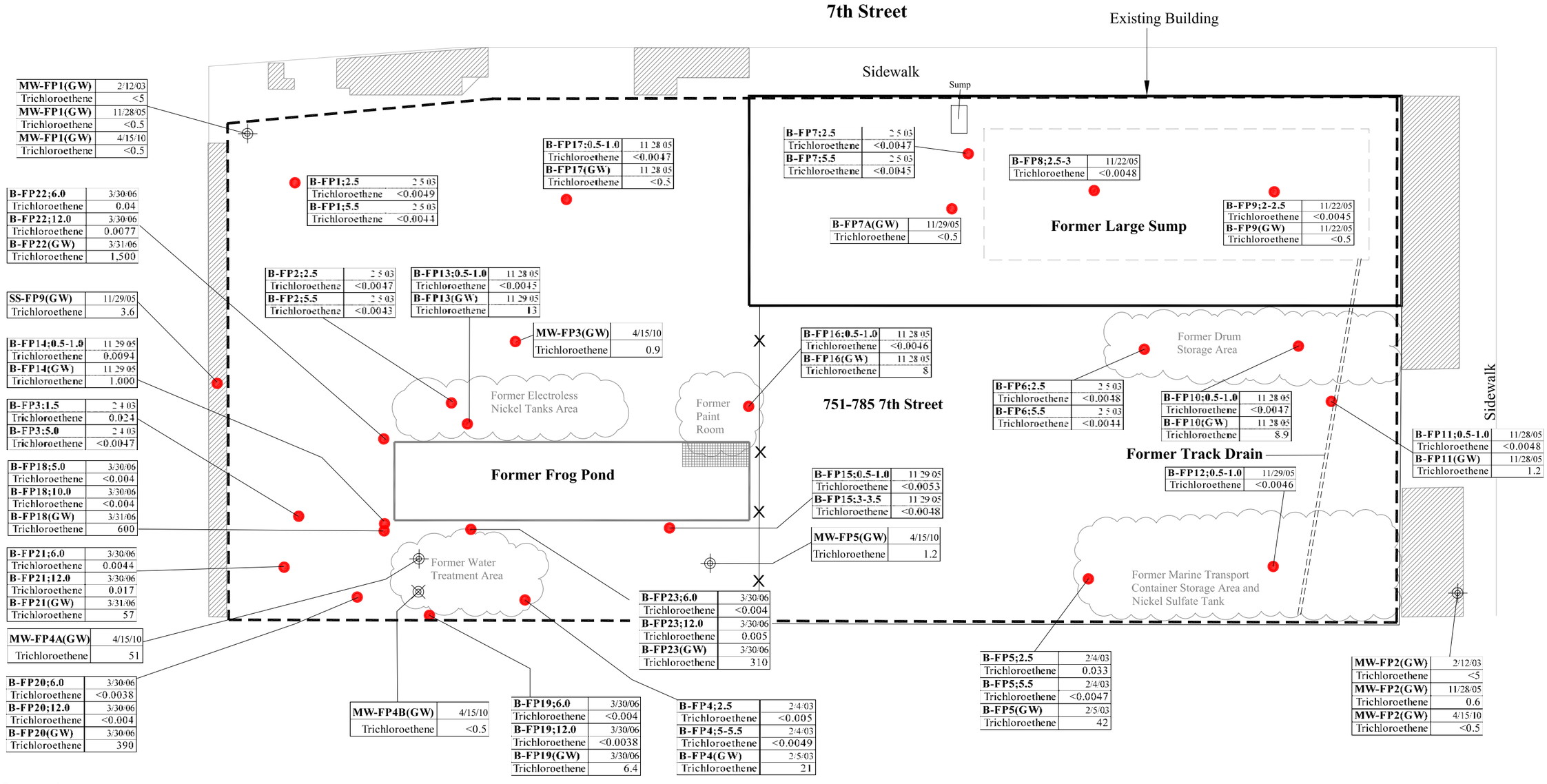
TRICHLOROETHENE CONCENTRATIONS IN SOIL AND GROUNDWATER SAMPLES

Figure 4



Legend

Site Boundary

Fence

Soil Sample Locations and Grab Groundwater

Shallow Groundwater Monitoring Well

Deep Groundwater Monitoring Well

Notes: Soil Concentrations in mg/kg
Groundwater Concentration in µg/L

Soil Sample ID
(Boring B-FP4, Sampled from 2.5 feet and from 5-5.5 Feet below the Ground Surface)

Groundwater Sample ID
(B-FP4)

B-FP4;2.5	2/4/03 ← Sample Date
Trichloroethene	<0.005
B-FP4;5-5.5	2/4/03
Trichloroethene	<0.0049
B-FP4(GW)	2/5/03
Trichloroethene	21 ← Trichloroethene Concentration

0 20 Feet

BASELINE

751 - 785 Seventh Street
Oakland, California

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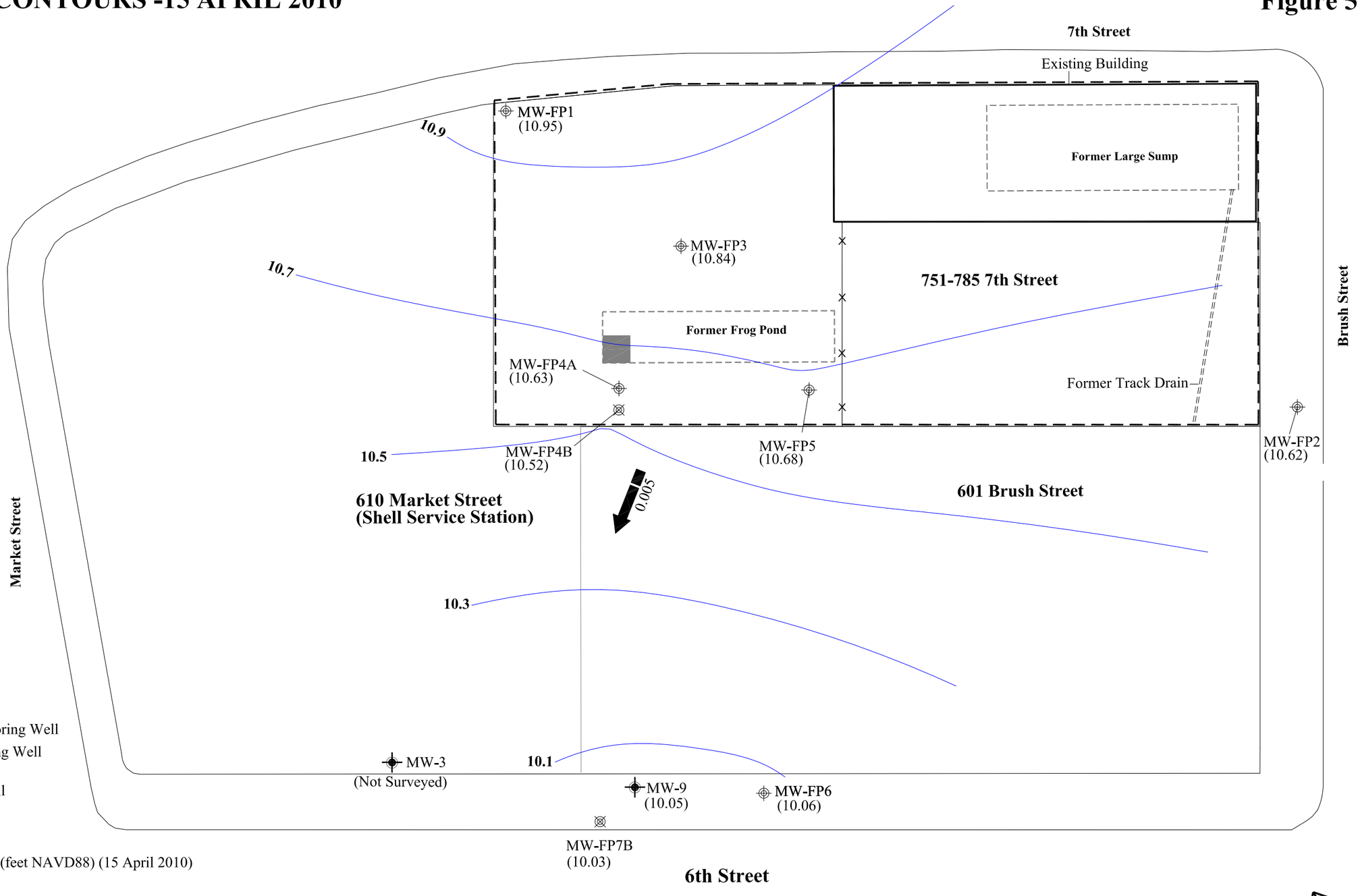
GROUNDWATER CONTOURS -15 APRIL 2010

Figure 5



Legend

- Site Boundary
- Fence
- 0.005 Groundwater Flow Direction and Gradient
- Shallow Groundwater Monitoring Well
- Deep Groundwater Monitoring Well
- Shell Service Shallow Station Groundwater Monitoring Well
- Parcel Boundaries
- Groundwater Contours
- (10.3) Groundwater Elevation (feet NAVD88) (15 April 2010)

751 - 785 Seventh Street
Oakland, California

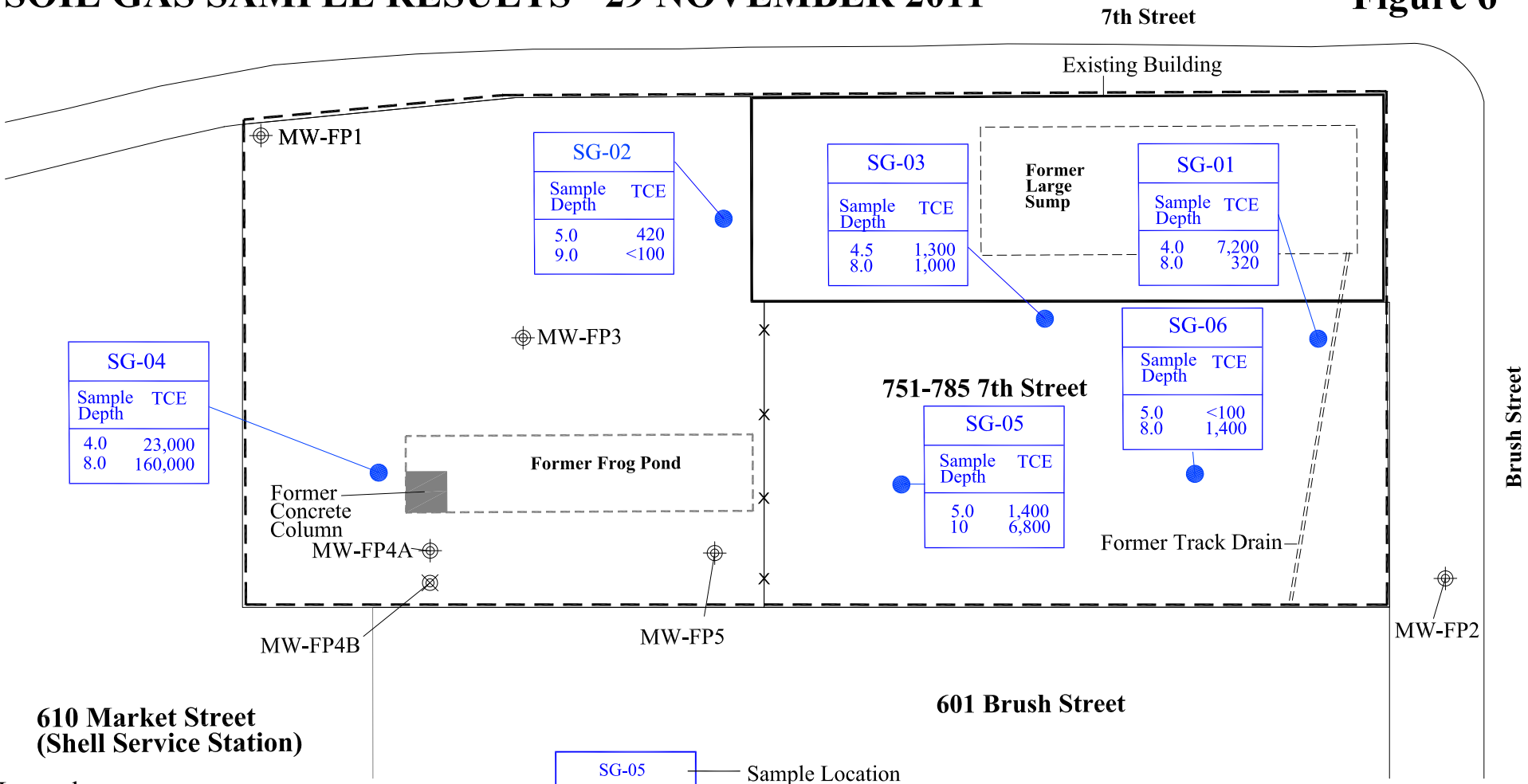
0 20 Feet

BASELINE

P:\DGraph\Y8359 Oakland\Y8359-11 Brush St\01803 SG iNV\Y8359-11.01803.v1.dwg, 3/1/2012 11:21:51 AM

SOIL GAS SAMPLE RESULTS - 29 NOVEMBER 2011

Figure 6



Legend

- Site Boundary
- Fence
- Soil Gas Sample Location
- Shallow Groundwater Monitoring Well
- Deep Groundwater Monitoring Well

SG-05
Sample Depth TCE
5.0 1,400
8.0 6,800

Sample Location

TCE Concentration in micrograms per cubic meter

Top of probe in feet below ground surface

(Deep samples were collected by advancing the vapor probe to 10 feet below ground surface and shallow samples to 5 feet below ground surface, then pulled back to the depth indicated.)

TCE = Trichloroethene

0 30 Feet

BASELINE

751 - 785 Seventh Street
Oakland, California

P:\DGraph\Y8359 Oakland\Y8359-11 Brush St\01803 SG iNV\Y8359-11.01803.v1.dwg, 3/1/2012 11:22:13 AM

TABLES

Table 1: Soil Gas Survey Analytical Results (µg/m^3)
751-785 7th Street
Oakland, CA

SAMPLE NUMBER:	SG-01@ 4	SG-01@ 8	SG-02 @ 5	SG-02 @ 9	SG-03 @ 4.5	SG-03 @ 8	SG-04@ 4	SG-04@ 8	SG-05@ 5	SG-05@ 10	SG-06@ 5	SG-06@ 8
Dichlorodifluoromethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Vinyl Chloride	<100	<100	<100	<100	<100	<100	<100	**3,000**	<100	<100	<100	<100
Chloroethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Trichlorofluoromethane	<100	<100	<100	<100	<100	<100	**160**	<100	<100	<100	<100	<100
1,l-Dichloroethene	**270**	<100	<100	<100	<100	<100	<100	**3,300**	<100	**260**	<100	**680**
1,1,2-Trichloro-trifluoroethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Methylene Chloride	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
trans-1,2-Dichloroethene	<100	<100	<100	<100	<100	<100	**110**	**12,000**	<100	<100	<100	<100
1,1-Dichloroethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
cis-1,2-Dichloroethene	<100	<100	<100	<100	<100	<100	**1,900**	**150,000**	<100	<100	<100	<100
Chloroform	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1,1-Trichloroethane	**510**	**270**	<100	<100	**780**	**130**	<100	<100	**250**	**470**	**490**	**690**
Carbon Tetrachloride	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,2-Dichloroethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Benzene	<80	**120**	<80	<80	<80	**100**	<80	<80	<80	<80	<80	**120**
Trichloroethene	**7,200**	**320**	**420**	<100	**1,300**	**1,000**	**23,000**	**160,000**	**1,400**	**6,800**	<100	**1,400**
Toluene	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
1,1,2-Trichloroethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Tetrachloroethene	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Ethylbenzene	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1,1,2-Tetrachloroethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
m,p-Xylene	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
o-Xylene	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1,2,2-Tetrachloroethane	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1-Difluoroethane (leak check)	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000

Notes:
Soil gas samples collected on 29 November 2011.
µg/m^3 = micrograms per cubic meter.
Probe advanced to 5 feet below ground surface and then pulled back to the depth indicated in the sample number until exposed soil premeability allowed collection of soil gas sample.
<x.x = Compound was not identified above laboratory reporting limit of x.x.
Soil gas sample locations are shown on Figure 6.
Laboratory reports are included in Appendices D.
Values reported above the laboratory reporting limits are shown in**bold font.**

TABLE 2: Duplicate Sample Results Evaluation (µg/m^3)
751-785 7th Street
Oakland, CA

Analyte	Sample Date	SG-04@4	SG-04@4 Dup	RPD %	Within Acceptable Limits
Trichlorofluoromethane	11/29/2010	160	150	6%	Yes
trans-1,2-Dichloroethene	11/29/2010	110	100	10%	Yes
cis-1,2-Dichloroethene	11/29/2010	1,900	1,700	11%	Yes
Trichloroethene	11/29/2010	23,000	21,000	9%	Yes

Notes:
µg/m^3 = micrograms per cubic meter.
RPD = Relative Percent Difference, equal to $100[(X - X_{dup}) / \{(X + X_{dup})/2\}]$.
Target RPD = 25 percent (DTSC, draft Advisory - Active Soil Gas Investigation, March 2010).

Table 3: ESL Screening of Shallow Soil Gas Survey Analytical Results (µg/m^3)
751-785 7th Street
Oakland, CA

SAMPLE NUMBER:	SG-01@ 4	SG-02 @ 5	SG-03 @ 4.5	SG-04@ 4	SG-05@ 5	SG-06@ 5	Soil Gas Residential ESL [1]	Soil Gas Commercial/ Industrial ESL [1]
Dichlorodifluoromethane	<100	<100	<100	<100	<100	<100	NE	NE
Vinyl Chloride	<100	<100	<100	<100	<100	<100	31	100
Chloroethane	<100	<100	<100	<100	<100	<100	21,000	58,000
Trichlorofluoromethane	<100	<100	<100	**160**	<100	<100	NE	NE
1,l-Dichloroethene	**270**	<100	<100	<100	<100	<100	42,000	120,000
1,1,2-Trichloro-trifluoroethane	<100	<100	<100	<100	<100	<100	NE	NE
Methylene Chloride	<100	<100	<100	<100	<100	<100	5,200	17,000
trans-1,2-Dichloroethene	<100	<100	<100	**110**	<100	<100	15,000	41,000
1,1-Dichloroethane	<100	<100	<100	<100	<100	<100	1,500	5,100
cis-1,2-Dichloroethene	<100	<100	<100	**1,900**	<100	<100	7,300	20,000
Chloroform	<100	<100	<100	<100	<100	<100	460	1,500
1,1,1-Trichloroethane	**510**	<100	**780**	<100	**250**	**490**	460,000	1,300,000
Carbon Tetrachloride	<100	<100	<100	<100	<100	<100	19	63
1,2-Dichloroethane	<100	<100	<100	<100	<100	<100	94	310
Benzene	<80	<80	<80	<80	<80	<80	84	280
Trichloroethene	**7,200**	**420**	**1,300**	**23,000**	**1,400**	<100	1,200	4,100
Toluene	<200	<200	<200	<200	<200	<200	63,000	180,000
1,1,2-Trichloroethane	<100	<100	<100	<100	<100	<100	150	510
Tetrachloroethene	<100	<100	<100	<100	<100	<100	410	1,400
Ethylbenzene	<100	<100	<100	<100	<100	<100	980	3,300
1,1,1,2-Tetrachloroethane	<100	<100	<100	<100	<100	<100	320	1,100
m,p-Xylene	<200	<200	<200	<200	<200	<200	21,000	58,000
o-Xylene	<100	<100	<100	<100	<100	<100	21,000	58,000
1,1,2,2-Tetrachloroethane	<100	<100	<100	<100	<100	<100	42	140

Notes:
Soil gas samples collected on 29 November 2011.
µg/m^3 = micrograms per cubic meter.
ESL = Environmental Screening Levels
Soil gas sample locations are shown on Figure 6.
Values reported above the laboratory reporting limits are shown in **bold font.**
<x.x = Compound was not identified above laboratory reporting limit of x.x.
Probe advanced to 5 feet below ground surface and then pulled back to the depth indicated in the sample number until exposed soil premeability allowed collection of soil gas sample.
NE = not established

Results in red exceed residential ESLs.
Results shaded yellow exceed commercial ESLs.
Laboratory reports are included in Appendices D.

[1] California Regional Water Quality Control Board, San Francisco Bay Region, 2008, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, May*, Table E-2, Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns

APPENDICES

APPENDIX A
SAMPING AND ANALYSIS PLAN APPROVALS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

September 28, 2011

MEMORANDUM

SUBJECT: Sampling and Analysis Plan (SAP), 751-785 Seventh Street, Oakland, California (EPA QA Office Document Control Number [DCN] BNFD0502SV2)

FROM: Gail E. Morison, Environmental Scientist
Quality Assurance Office, MTS-3

THROUGH: Eugenia E. McNaughton, Ph.D., Manager
Quality Assurance Office, MTS-3

TO: Wallace Woo, Project Manager
Brownfields and Site Assessment Section, SFD-6-1

A Response to Comments (RTC) memorandum and revised sampling and analysis plan (SAP) for the 751-785 Seventh Street site in Oakland, California, prepared by BASELINE Environmental Consulting and dated September 2011, have been reviewed. The reviews were based on information provided in "Sampling and Analysis Plan (SAP) Guidance and Template, Version 3, Brownfields Projects" (R9QA/008.1, September 2009); the Quality Assurance Project Plan (QAPP) for the West Oakland Development Area (BNFD0514QV1), approval pending; and a Quality Assurance (QA) Office memorandum dated July 20, 2011.

The SAP is approved. The RTC has been attached for reference. If you have any questions or need any further information, please feel free to contact me at 415-972-3807.

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

October 26, 2011

Mr. Tom McCoy 94612 (*Sent via E-mail to: tmccoy@bbiconstruction.com*)
Brush Street Group, LLC
1155 3rd Street, Suite 230
Oakland, CA 94607

Subject: Conditional Work Plan Approval for SLIC Case RO0002586 and GeoTracker Global ID SL0600130797, Francis Plating, 751-785 7th Street, Oakland, CA 94607

Dear Mr. McCoy:

Alameda County Environmental Health (ACEH) staff has reviewed the Spills, Leaks, Investigation, and Cleanup (SLIC) case file for the above referenced site including the recently submitted document entitled, "*Sampling and Analysis Plan for 751-785 Seventh Street in Oakland, California,*" dated October 7, 2011 (Work Plan). The Work Plan, which was prepared on your behalf by Baseline Environmental Consulting, presents plans for soil vapor sampling.

The proposed scope of work is conditionally approved and may be implemented provided that the technical comments below are addressed and incorporated during the proposed activities. Submittal of a revised Work Plan or Work Plan Addendum is not required unless an alternate scope of work outside that described in the Work Plan and technical comment below is proposed. We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

Although this proposed scope of work is acceptable for implementation, the proposed scope of work represents a phased investigation approach that addresses some but not all remaining issues for the site. As previously discussed in both meetings and correspondence, several data gaps remain and remedial activities have not been initiated.

TECHNICAL COMMENTS

1. **Soil Vapor Sample Locations.** We request that soil vapor sample location SG-01 be moved to a location on the east side of the site adjacent to the Former Drainage Ditch. The revised location for soil vapor sample SG-01 should be approximately 10 feet east of B-FP-10 and 10 feet north northeast of B-FP11. Please present results from the soil vapor sampling in the Site Investigation Report requested below.

2. **Additional Soil Vapor Sampling.** The Work Plan proposes soil vapor sampling at six locations without provisions for step-out sampling if elevated concentrations of chemicals of concern are detected. Please note that, contingent upon soil vapor sampling results from the six proposed locations, additional soil vapor sampling may be necessary during a future phase of investigation.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **February 28, 2012** – Site Investigation Report

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org. Online case files are available for review at the following website: http://www.acgov.org/aceh/index.htm**.**

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (*Sent via E-mail to:* lgriffin@oaklandnet.com)

Margot Lederer Prado, City of Oakland Economic Development Division, Brownfields Management, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612 (*Sent via E-mail to: MPrado@oaklandnet.com)*

Mark Gomez, City of Oakland, 250 Frank H. Ogawa Plaza, Suite 5301, Oakland, CA 94612

Jim McCarty, Baseline Environmental Consulting, 5900 Hollis Street, Suite D, Emeryville, CA 94608 (*Sent via E-mail to: jim@baseline-env.com*)

Markus Niebanck, Amicus, 580 Second Street, Suite 260, Oakland, CA 94607 (*Sent via E-mail to: markus@amicusenv.com)*

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH

GeoTracker, eFile

Attachment 1

Responsible Party(ies) Legal Requirements / Obligations

REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**REVISION DATE:** July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection**.
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

1) Obtain User Name and Password
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to deh.loptoxic@acgov.org
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

APPENDIX B
ALAMEDA COUNTY BORING PERMIT

Alameda County Public Works Agency - Water Resources Well Permit

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

Application Approved on: 11/01/2011 By jamesy

Permit Numbers: W2011-0676
Permits Valid from 11/29/2011 to 11/29/2011

Application Id:	1320100772377	**City of Project Site:**	Oakland
Site Location:	751-785 SEVENTH STREET		
Project Start Date:	11/29/2011	**Completion Date:**	11/29/2011
Assigned Inspector:	Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org		
Applicant:	BASELINE Environmental Consulting - James McCarty 5900 Hollis Street, Suite D, Emeryville, CA 94608	**Phone:**	510-420-8686
Property Owner:	TOM MCCOY 1155 3RD STREET, OAKLAND, CA 94607	**Phone:**	510-286-8200 x216
Client:	** same as Property Owner **		
Contact:	James McCarty	**Phone:** **Cell:**	510-420-8686 510-931-8686

	Total Due:	$265.00
Receipt Number: WR2011-0323	**Total Amount Paid:**	$265.00
Payer Name : Yane Nordhav	Paid By: MC	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 6 Boreholes
Driller: TEG Northern California - Lic #: 706568 - Method: DP **Work Total: $265.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2011-0676	11/01/2011	02/27/2012	6	3.00 in.	12.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

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

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

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

APPENDIX C
FIELD NOTES, PHOTOGRAPH LOG, PHOTOGRAPHS

FIELD LOG

Project name:	751-785 7th Street, Oakland	**Project no.:**	Y8359-11
Logger:	RR	**Date:**	11-29-11
Weather conditions:	Morning fog, cold, then sunshine		
Site personnel:	BASELINE, TEG		

Time	Field Activities
6:30	Arrival Time
	- Don PPE: safety vest, boots, and nitrile gloves
	- Opened wells MW-FP4A, MW-FP1, and MW-FP2
	and allowed groundwater to stabilize
7:00	- JM on-site
	MW-FP1 W.L. = 16.30' btoc
	= 16.6' below ground surface
	MW-FP4A W.L. = ~~14.07'~~ btoc 16.45'
	~~14.40'~~ bgs 16.80'
7:33	TEG has arrived and setting up
	MW-F2 W.L. = 14.58' btoc
	= 14.95' bgs
	- Conduct health and safety meeting
8:00	TEG advanced vapor probe at SG-04 to 5' bgs.
	Probe was raised to 4' bgs where vacuum was
	not high.
8:20	TEG advanced deep probe at SG-04 to 10' bgs.
	Probe was raised to 8' bgs.
8:30	TEG set up for leak test and collection of
	one purge volume.
8:59	TEG collected another sample after purging three
	volumes. One sample volume is 50 ml
9:10	TEG advanced shallow probe at SG-05 at 5' bgs
9:15	TEG advanced deep probe at SG-05 at 10' bgs
9:20	TEG purged seven volumes then collected sample.
9:58	Based on purge test results, purge volume should
	~~Departure Time~~ be three.

Project name:	751-785 7th Street, Oakland	**Project no.:**	Y8359-11
Logger:		**Date:**	
Weather conditions:			
Site personnel:			

Time	Field Activities
9:58	~~Arrival Time~~ TEG collects sample ~~at~~ from deep probe
	at SG-04. High vacuum observed. Only 25 ml
	sample collected.
10:15	The sample from the deep probe contained target
	compounds at concentrations outside the range of the
	instrument. TEG running a blank sample to
	clear the instrument.
10:35	TEG collected another sample from the deep probe.
	TEG collected about 10 ml of sample volume.
	The sample will be diluted to quantify the
	compounds.
10:50	Vicky from ACPWA arrived. None of the borings
	are ~~a~~ ready to be grouted.
10:55	TEG collected duplicate sample from shallow probe at SG-04
	TEG sets up to grout both borings at SG-04
11:10	TEG grouts both borings at SG-04 with neat
	cement.
11:18	Vicky left.
	TEG ~~leaking~~ testing ^ shallow probe at SG-05
11:25	TEG advancing ^ shallow vapor probe at SG-06 at 5' bgs.
	The probes removed from ^ SG-04 were decontaminated
	in soapy water ~~followed by~~ then rinsed with
	water.
	TEG collected sample from deep probe at SG-05
11:42	TEG installed deep vapor probe at SG-06 at
	8' bgs
	~~Departure Time~~ Sun comes out.

Project name:	751-785 7th Street, Oakland	**Project no.:**	Y8359-11
Logger:		**Date:**	
Weather conditions:			
Site personnel:			

Time	Field Activities
12:05	~~Arrival Time~~ TEG collected sample from shallow probe
	at SG-06 after installing shroud and spraying
	tracer compound.
12:10	TEG removed probes from SG-05 and abandoned
	both borings with ~~neem~~ neat cement
12:~~47~~ 17	TEG collected sample from deep probe at SG-06.
	Rig moved to SG-01.
12:31	shallow probe at SG-01 installed at 4' bgs.
12:38	Deep probe at SG-01 installed at 8'bgs
12:54	TEG collected sample from shallow probe at
	SG-01.
	Rig moved to SG-06 to remove probes and
	abandon boreholes.
13:05	TEG abandoning boreholes at SG-06 using neat
	cement grout
13:09	TEG collecting sample from deep probe at
	SG-01
13:21	Installation of shallow probe at SG-03 at 5' bgs
13:26	Installation of deep probe at SG-03 at 8'bgs
13:42	TEG removing probes at SG-01. The probes
	are decontaminated using triple rinse method.
	TEG collected sample from shallow probe at SG-03
13:48	Boreholes at SG-01 were abandoned with neat
	cement grout
13:54	TEG used rotohammer to core through pavement
	at SG-02. shallow probe was ~~raise~~ installed at
	~~Departure Time~~ 5' bgs.

Project name:	751-785 7th Street, Oakland	**Project no.:**	Y8359-11
Logger:		**Date:**	
Weather conditions:			
Site personnel:			

Time	Field Activities
	~~Arrival Time~~ Deep probe at SG-02 was raised to
	9' bgs.
14:32	Sample collected from shallow probe at SG-02.
14:42	Drill rig moved to SG-03 to remove and
	decontaminate probes and abandon boreholes.
	Probes were decontaminated using triple rinse
	method. The boreholes were abandoned using
	neat cement grout.
15:07	Removal and decontamination of probes at SG-02
	The probes were decontaminated using triple rinse
	method.
15:15	Grouted boreholes with neat cement
~~15:45~~	
15:45	Departure Time

PHOTOGRAPHS FROM SOIL GAS SURVEY NOVEMBER 29, 2011

Figure 1

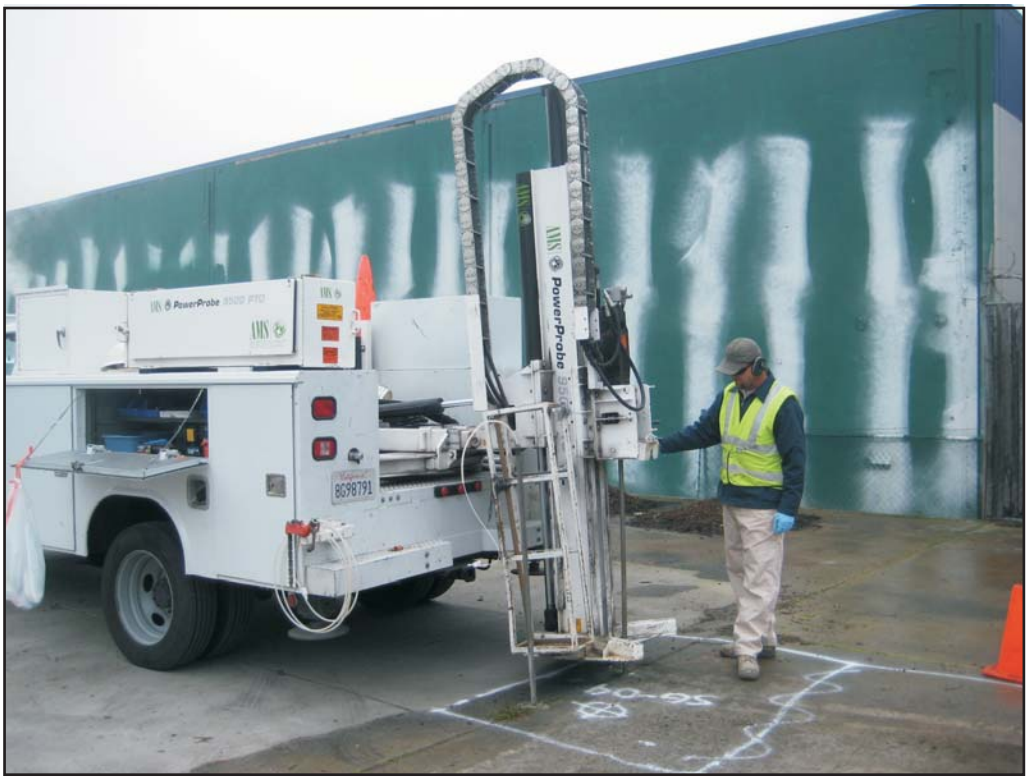
Photograph 1: TEG's direct-push rig.

Photograph 2: TEG's mobile laboratory.

751 - 785 Seventh Street
Oakland, California

BASELINE

Photograph 3: TEG inserting tubing into vapor probe advanced at SG-04 to 5 feet bgs.



Photograph 4: TEG advancing vapor probe at SG-04 to 10 feet bgs.

Photograph 5: Bentonite seal at ground surface at SG-04.

Photograph 6: TEG setting up for leak test at the shallow probe at SG-04.

Photograph 7: TEG setting up to advance probe at SG-05.

Photograph 8: TEG setting up for shallow probe at SG-05.

Photograph 9: TEG sealing deep probe at SG-05 with hydrated bentonite.

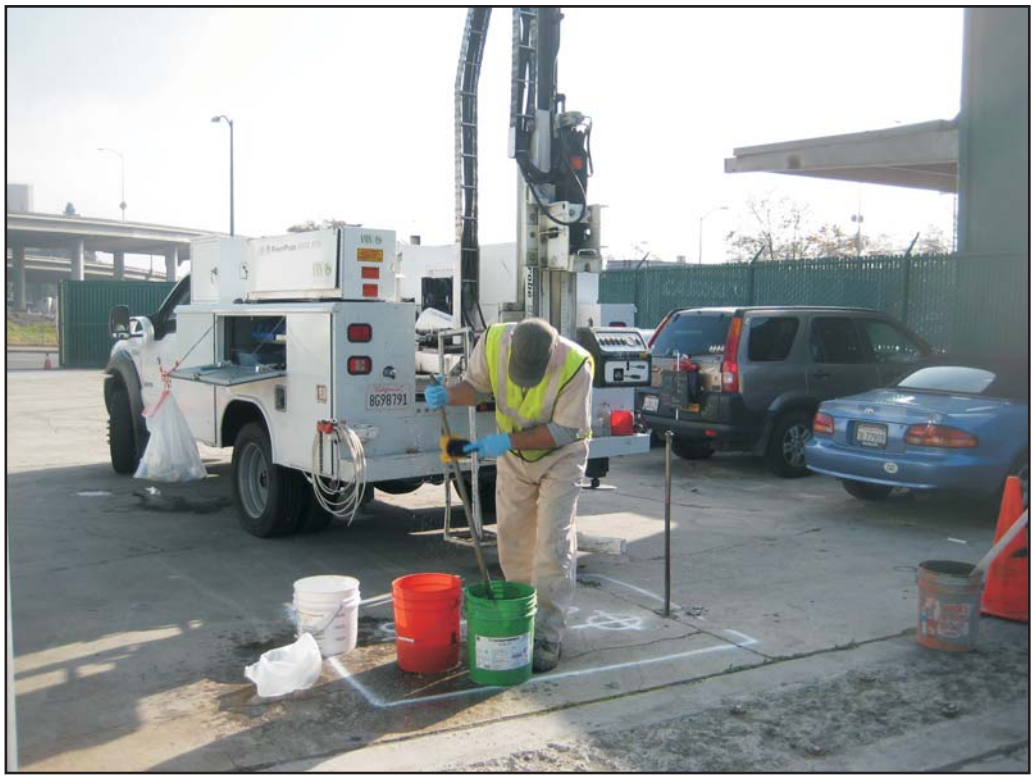
Photograph 10: TEG decontamination of probes removed from SG-04.

Photograph 11: Leak test at shallow probe at SG-05.

Photograph 12: TEG setting up for advancing shallow probe at SG-06.

Photograph 13: TEG installing deep probe at SG-06.

Photograph 14: Leak test at deep probe at SG-05.



Photograph 15: TEG decontamination of probes removed from SG-05.

Photograph 16: TEG grouting of deep boring at SG-05.

Photograph 17: TEG grouting of shallow boring at SG-05.

Photograph 18: TEG advancing shallow probe at SG-01.

Photograph 19: TEG advancing deep probe at SG-01.

Photograph 20: TEG decontamination of probes at SG-06.

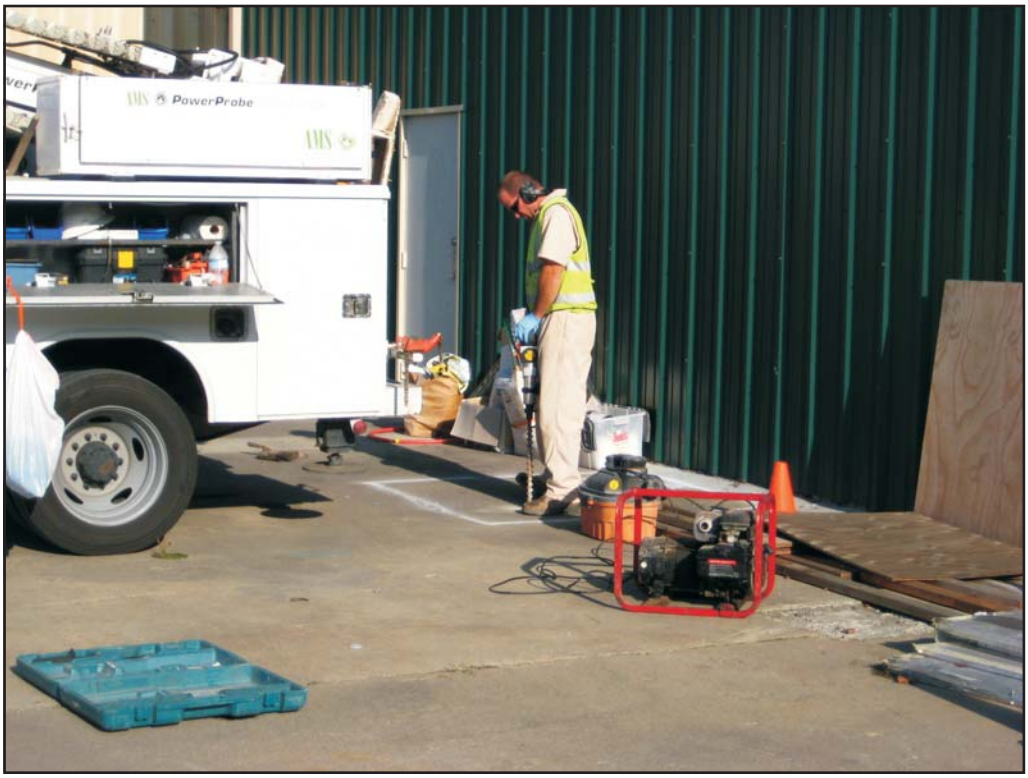
Photograph 21: Abandonment of boreholes at SG-06.

Photograph 22: TEG installing shallow probe at SG-03.

Photograph 23: TEG installing deep probe at SG-03.

Photograph 24: TEG removing decontamination of probes from SG-01.

Photograph 25: TEG abandoning of boreholes at SG-01.



Photograph 26: TEG coring through pavement at SG-02.

Photograph 27: TEG installing shallow probe at SG-02.

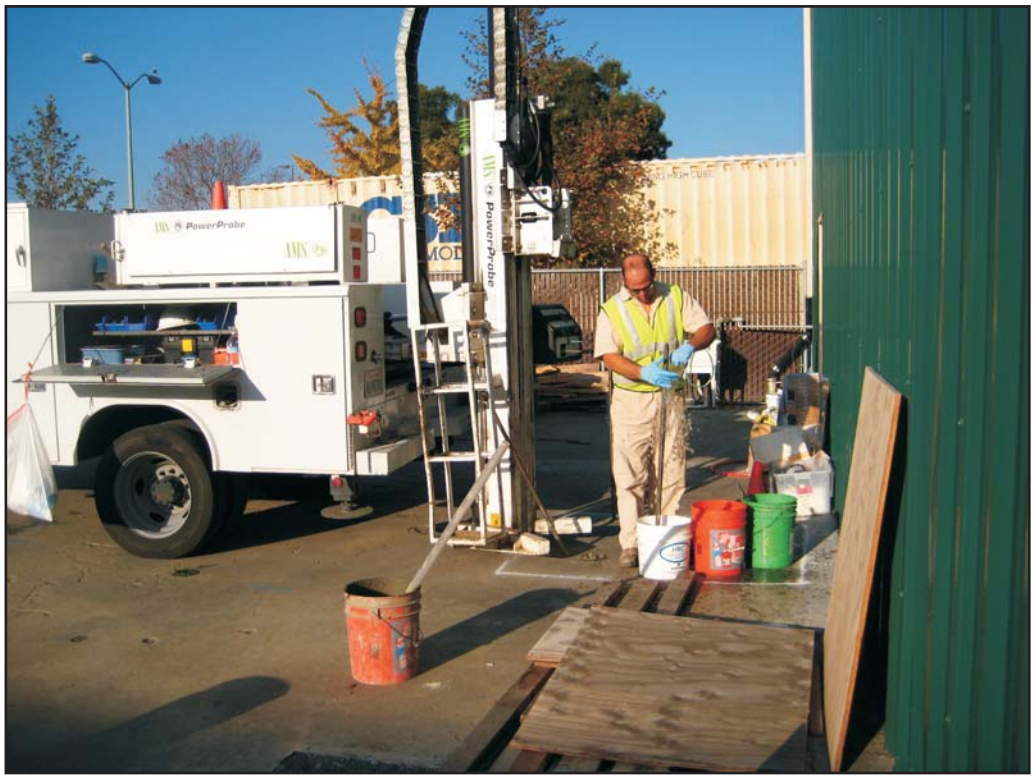
Photograph 28: TEG installing deep probe at SG-02.

Photograph 29: TEG decontamination of probes at SG-03.

Photograph 30: Completion of abandonment borehole at SG-03.

PHOTOGRAPHS FROM SOIL GAS SURVEY NOVEMBER 29, 2011

Figure 16



Photograph 31: TEG performing removal and decontamination of probes at SG-02.

Photograph 32: TEG performing abandonment of boreholes at SG-02.

APPENDIX D
QUALITY CONTROL CHECKLIST AND LABORATORY ANALYTICAL REPORT

QUALITY CONTROL CHECKLIST
FOR REVIEW OF LABORATORY REPORT

Job No.	Y8359-11.0803	**Site:**	751-785 7th St, Oakland, CA
Laboratory:	TEG Northern California Inc.	**Laboratory Report No.:**	11129EF
Report Date:	15 December 2011	**BASELINE Reviewer:**	JM

	Yes	No	NA
GENERAL QUESTIONS **(Describe "no" responses below in "comments" section. Contact the laboratory, as required, for further explanation or action on "no" responses; document discussion in comments section.)**			
1a. Does the report include a case narrative? *(A case narrative MUST be prepared by the lab for all analytical work requested by BASELINE)*	X		
1b. Is the number of pages for the lab report as indicated on the case narrative/lab transmittal consistent with the number of pages that are included in report?		X	
1c. Does the case narrative indicate which samples were analyzed by a subcontractor and the subcontractor's name?			X
1d. Does the case narrative summarize subsequent requests not shown on the chain-of-custody (e.g., additional analyses requested, release of "hold" samples)?			X
1e. Does the case narrative explain why requested analyses could not be performed by the laboratory (e.g., insufficient sample)?			X
1f. Does the case narrative explain all problems with the QA/QC data as identified in the checklist (as applicable)?			X
2a. Is the laboratory report format consistent and legible throughout the report?	X		
2b. Are the sample and reported dates shown in the laboratory report correct?	X		
3a. Does the lab report include a copy of the original chain-of-custody form?		X	
3b. Were all samples appropriately analyzed as requested on the chain-of-custody form?	X		
4. Was the lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel? (Some lab reports have signature spaces for each page). (This requirement also applies to any analyses subcontracted out by the laboratory)	X		
5a. Are preparation methods, cleanup methods (if applicable), and laboratory methods indicated for all analyses?	X		
5b. If additional analytes were requested as part of the reporting of the data for an analytical method, were these included in the lab report?			X
6. Are the units in the lab report provided for each analysis consistent throughout the report?	X		

Quality Control Checklist *- continued*

	Yes	No	NA
7. Are the detection limits (DL) appropriate based on the intended use of the data (e.g., DL below applicable MCLs for water quality issues)? See comments on page 4 of this checklist.		X	
8a. Are detection limits appropriate based on the analysis performed (i.e., not elevated due to dilution effects)?	X		
8b. If no, is an explanation provided by the laboratory?			X
9a. Were the samples analyzed within the appropriate holding time (generally 2 weeks for volatiles, and up to 6 months for total metals)?	X		
9b. If no, was it flagged in the report?			X
10. If samples were composited prior to analysis, does the lab report indicate which samples were composited for each analysis?			X
11a. Do the chromatograms confirm quantitative laboratory results (petroleum hydrocarbons)?			X
11b. Is a standard chromatogram(s) included in the laboratory report?			X
11c. Do the chromatograms confirm laboratory notes, if present (e.g., sample exhibits lighter hydrocarbon than standard)?			X
12. Are the results consistent with previous analytical results from the site? *(If no, contact the lab and request review/reanalysis of data, as appropriate.)*			X
13a. REVISED LAB REPORTS ONLY. Is the revised lab report or revised pages to a lab report signed and dated as being reviewed by the laboratory director, QA manager, or other appropriate personnel?			X
13b. REVISED LAB REPORTS ONLY. Does the case narrative indicate the date of revision and provide an explanation for the revision?			X
13c. REVISED LAB REPORTS ONLY. Does the revised lab report adequately address the problem(s) that triggered the need for a revision?			X
13d. REVISED LAB REPORTS ONLY. Are the data included in the revised report the same as the data reported in the original report, except where the report was revised to correct incorrectly reported data?			X
QA/QC Questions Field/Laboratory Quality Control - Groundwater Analyses			
14. Are field blanks reported as "ND" (groundwater samples)? *A field blank is a sample of DI water that is prepared in the field using the same collection and handling procedures as the other samples collected, and used to demonstrate that the sampling procedure has not contaminated the sample.*			X
14a. Are rinsate blanks reported as "ND" (soil samples)? *A rinsate blank is a sample of DI water that is prepared in the field by collecting DI rinse water after it has been poured over decontaminated sampling equipment. The rinsate blank is collected to demonstrate that the decontamination procedure has removed all the contaminants from the sampling equipment and that the sampling equipment has not contaminated*			X

Quality Control Checklist *- continued*

	Yes	No	NA
the sample.			
15. Are trip blanks reported as "ND" (groundwater samples/volatile analyses)? *A trip blank is a sample of contaminant free matrix placed in an appropriate container by the lab and transported with the field samples collected. Provides information regarding positive interference introduced during sample transport, storage, preservation, and analysis. The sample is NOT opened in the field.*			X
16. Are duplicate sample results consistent with the original sample (groundwater samples)? *Field duplicates consist of two independent samples collected at the same sampling location during a single sampling event. Used to evaluate precision of the analytical data and sampling technique. (Differences between the duplicate and sample results may also be attributed to environmental variability.)*	X		
Batch Quality Control (Samples are batched together by matrix [soil, water] and analyses requested. A batch generally consists of 20 or fewer samples of the same matrix type, and is prepared using the same reagents, standards, procedures, and time frame as the samples. QC samples are run with each batch to assess performance of the entire measurement process.)			
17. Do the sample batch numbers and corresponding laboratory QA/QC batch numbers match?			X
18a. Are method blanks (MB) for the analytical method(s) below the laboratory reporting limits? *Used to assess lab contamination and prevent false positive results.*	X		
18b. If no, is an explanation provided in the case narrative to validate the data?			X
18c. Are analytes that may be considered laboratory contaminants reported below the laboratory reporting limit? *Common lab contaminants include acetone, methylene chloride, 2-butanone, diethylhexyl phthalate, and di-n-octyl phthalate.*	X		
18d. If no, was the laboratory contacted to determine whether the reported analyte could be a potential laboratory contaminant and was an explanation included in the case narrative?			X
19. Are laboratory control samples (LCS) and LCS duplicate (LCSD) [a.k.a., Blank Spike (BS) and BS duplicates (BSD)] within laboratory reporting limits? Limits should be provided on the report. *LCS is a reagent blank spike with a representative selection of target analyte(s) and prepared in the same manner as the samples analyzed. The LCS should be spiked with the same analytes as the matrix spike (below). The LCS is free from interferences from the sample matrix and demonstrates the ability of the lab instruments to recover the target analytes. Accuracy (recovery information) is generally reported as % spike recovery; precision (reproducibility of results) between the LCS and LCSD is generally reported as the relative percent difference (RPD). LCS/LCSD can be run in addition to or in lieu of matrix QC data.*			X
20a. Are the Matrix QC data (i.e., MS/MSD) within laboratory limits? Limits should be provided on the lab report. *The lab selects a sample from the batch and analyzes a spike and a spike duplicate of that sample. Matrix QC data is used to obtain precision and accuracy information and is reported in the same manner as LCS/LCSD. If the MS/MSD fails, the results may still be considered valid if the MB and either the LCS/LCSD or BS/BSD is within the lab's limits (failure is probably due to matrix interference).*			X

Quality Control Checklist *- continued*

	Yes	No	NA
20b. If no, is the MB and either LCS/LCSD or BS/BSD within lab limits to validate the data?			X
Sample Quality Control			
21a. Are the surrogate spikes reported within the lab's acceptable recovery limits? *A surrogate is a non-target analyte, which is similar in chemical structure to the analyte(s) being analyzed for, and which is not commonly found in environmental samples. A known concentration of the surrogate is spiked into the sample or QA "sample" prior to extraction or sample preparation. Results are usually reported as % recovery of the spike. Failure to meet lab's limits for primary and secondary surrogates results in rebatching and reanalysis of the sample; failure of only the primary or the secondary surrogate may be acceptable under certain circumstances. Failure generally is due to coelution with the sample matrix.*			X
21b. If no, is an explanation given in the case narrative to validate the data?			X

Comments:

The transmittal letter does not indicate the number of pages for the laboratory report. Although the number of pages is not indicated, the laboratory report provides all necessary information, including results for all samples and laboratory calibration and quality control. Therefore, no further action is required.

The laboratory report does not include a copy of the original chain of custody; however, a copy of the original chain of custody is included in Appendix D. Therefore, no further action is required.

The laboratory reporting limit for carbon tetrachloride (100 µg/m^3) is above the soil gas screening level (63 µg/m^3) for commercial/industrial land use. Although the laboratory detection limit is above the screening level, the compound is unlikely to be present unless other volatile organic compounds are also identified in the sample. Therefore, no further action is required.

15 December 2011

Mr. James McCarty
Baseline Environmental Consulting
5900 Hollis Street, Suite D
Emeryville, CA 94608

SUBJECT: DATA REPORT - Baseline Environmental Consulting Project #Y8359-11
751-785 7th Street, Oakland, California

TEG Project # 11129E

Mr. McCarty:

Please find enclosed a data report for the samples analyzed from the above referenced project for Baseline Environmental Consulting. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 15 analyses on 15 soil vapor samples.

-- 15 analyses on soil vapors for selected volatile organic hydrocarbons by EPA method 8260B.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

1,1 difluoroethane was used as a leak check compound around the probe rods during the soil vapor sampling. No 1,1 difluoroethane was detected in any of the vapor samples reported at or above the DTSC recommended leak check compound reporting limit of 10 µg/L of vapor.

TEG appreciates the opportunity to have provided analytical services to Baseline Environmental Consulting on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California

teg

Baseline Environmental Consulting Project # Y8359-11
751-785 7th Street, Oakland, California

TEG Project #11129E

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		Probe Blank	SG-01@ 4	SG-01@ 8	SG-02 @ 5	SG-02 @ 9	SG-03 @ 4.5
SAMPLE DEPTH (feet):			4.0	8.0	5.0	9.0	4.5
PURGE VOLUME:			3	3	3	3	3
COLLECTION DATE:		11/29/11	11/29/11	11/29/11	11/29/11	11/29/11	11/29/11
COLLECTION TIME:		08:02	12:52	13:14	14:32	14:57	13:45
DILUTION FACTOR:		1	1	1	1	1	1
	RL						
Dichlorodifluoromethane	100	nd	nd	nd	nd	nd	nd
Vinyl Chloride	100	nd	nd	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	270	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	510	270	nd	nd	780
Carbon Tetrachloride	100	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd	nd
Benzene	80	nd	nd	120	nd	nd	nd
Trichloroethene	100	nd	7200	320	420	nd	1300
Toluene	200	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd	nd	nd
Ethylbenzene	100	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
1,1-Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		75%	80%	81%	79%	80%	78%
Surrogate Recovery (Toluene-d8)		83%	83%	83%	85%	81%	84%
Surrogate Recovery (1,4-BFB)		68%	82%	82%	78%	78%	82%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Leif Jonsson

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

teg

Baseline Environmental Consulting Project # Y8359-11
751-785 7th Street, Oakland, California

TEG Project #11129E

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		SG-03 @ 8	SG-04 @ 4	SG-04 @ 4	SG-04 @ 4 dup	SG-04 @ 4	SG-04 @ 8
SAMPLE DEPTH (feet):		8.0	4.0	4.0	4.0	4.0	8.0
PURGE VOLUME:		3	1	3	3	7	3
COLLECTION DATE:		11/29/11	11/29/11	11/29/11	11/29/11	11/29/11	11/29/11
COLLECTION TIME:		14:08	08:37	08:59	10:55	09:22	09:57
DILUTION FACTOR:		1	1	1	1	1	2.5
	RL						
Dichlorodifluoromethane	100	nd	nd	nd	nd	nd	nd
Vinyl Chloride	100	nd	nd	nd	nd	nd	3000
Chloroethane	100	nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	140	160	150	150	nd
1,1-Dichloroethene	100	nd	nd	nd	nd	nd	3300
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	100	110	100	110	12000
1,1-Dichloroethane	100	nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	1700	1900	1700	1900	150000
Chloroform	100	nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	130	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd	nd
Benzene	80	100	nd	nd	nd	nd	nd
Trichloroethene	100	1000	21000	23000	21000	23000	160000
Toluene	200	nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd	nd	nd
Ethylbenzene	100	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd	nd
1,1-Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		81%	78%	80%	78%	79%	77%
Surrogate Recovery (Toluene-d8)		75%	83%	84%	84%	84%	84%
Surrogate Recovery (1,4-BFB)		82%	81%	78%	87%	77%	80%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Leif Jonsson

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

TEG Project #11129E

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		SG-05 @ 5	SG-05 @ 10	SG-06 @ 5	SG-06 @ 8
SAMPLE DEPTH (feet):		5.0	10.0	5.0	8.0
PURGE VOLUME:		3	3	3	3
COLLECTION DATE:		11/29/11	11/29/11	11/29/11	11/29/11
COLLECTION TIME:		11:15	11:36	12:05	12:27
DILUTION FACTOR:		1	1	1	1
	RL				
Dichlorodifluoromethane	100	nd	nd	nd	nd
Vinyl Chloride	100	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	260	nd	680
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd
1,1,1-Trichloroethane	100	250	470	490	690
Carbon Tetrachloride	100	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd
Benzene	80	nd	nd	nd	120
Trichloroethene	100	1400	6800	nd	1400
Toluene	200	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	nd	nd
Ethylbenzene	100	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd
1,1-Difluoroethane (leak check)	10000	nd	nd	nd	nd
Surrogate Recovery (DBFM)		81%	79%	77%	80%
Surrogate Recovery (Toluene-d8)		81%	85%	83%	82%
Surrogate Recovery (1,4-BFB)		83%	80%	83%	77%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Mr. Leif Jonsson

11350 Monier Park Place, Rancho Cordova, CA 95742 Phone: (916) 853-8010 Fax: (916) 853-8020

TEG Project #11129E

CALIBRATION STANDARDS - Initial Calibration / LCS

Instrument: Agilent 5975B MSD

COMPOUND	INITIAL CALIBRATION RF	INITIAL CALIBRATION %RSD	LCS RF	LCS %DIFF
Dichlorodifluoromethane*	0.409	7.8%	0.423	3.4%
Vinyl Chloride*	0.412	7.9%	0.431	4.6%
Chloroethane*	0.239	14.6%	0.261	9.2%
Trichlorofluoromethane*	0.537	9.8%	0.547	1.9%
1,1-Dichloroethene	0.288	7.8%	0.295	2.4%
1,1,2-Trichloro-trifluoroethane*	0.339	7.0%	0.357	5.3%
Methylene Chloride	0.310	7.0%	0.321	3.5%
trans-1,2-Dichloroethene	0.307	6.3%	0.330	7.5%
1,1-Dichloroethane	0.560	8.4%	0.609	8.7%
cis-1,2-Dichloroethene	0.325	6.8%	0.356	9.5%
Chloroform	0.543	15.1%	0.551	1.5%
1,1,1-Trichloroethane	0.429	16.5%	0.486	13.3%
Carbon Tetrachloride	0.404	5.7%	0.423	4.7%
1,2-Dichloroethane	0.389	13.8%	0.408	4.9%
Benzene	1.229	10.1%	1.327	8.0%
Trichloroethene	0.309	6.7%	0.334	8.1%
Toluene	0.776	6.5%	0.831	7.1%
1,1,2-Trichloroethane	0.193	18.5%	0.214	10.9%
Tetrachloroethene	0.280	3.8%	0.293	4.6%
Ethylbenzene	0.563	17.5%	0.596	5.9%
1,1,1,2-Tetrachloroethane	0.376	8.3%	0.380	1.1%
m,p-Xylene	0.736	9.4%	0.733	0.4%
o-Xylene	0.706	5.9%	0.712	0.8%
1,1,2,2-Tetrachloroethane	0.677	8.5%	0.713	5.3%
Acceptable Limits		20.0%		15.0%

'*' Indicates RSD not to exceed 30% & LCS not to exceed 25%

BASELINE Environmental Consulting

5900 Hollis Street, Suite D
Emeryville, CA 94608
Tel: (510) 420-8686 Fax: (510) 420-1707

CHAIN OF CUSTODY RECORD

Turn-Around-Time Standard
Laboratory TEG
BASELINE Contact Person James McCarty

Project Number Y8359-11
Project Name: 751 - 785 7th Street, Oakland CA

Samplers Signature

Sample ID No. Station	Date	Time	Media	Containers Type: No.	Stainless Steel	Brass liner	Macrocore	Syringe	Presv.: Ice		VOC's (EPA 8260)									Comments
SG-01@5 4	11/29/11	1252	GAS	1				X			X									
SG-01@10 8		1314	GAS	1				X			X									
SG-02@5		1432	GAS	1				X			X									
SG-02@10 9		1457	GAS	1				X			X									
SG-03@5 4.5		1345	GAS	1				X			X									
SG-03@10 8		1408	GAS	1				X			X									
SG-04@5'		0837	GAS	1				X			X									
SG-04@10 3'		957	GAS	1				X			X									
SG-05@5		1115	GAS	1				X			X									
SG-05@10		1136	GAS	1				X			X									
SG-06@5 8'		1205	GAS	1				X			X									
SG-06@10		1227	GAS	1				X			X									
SG-04@5 (Duplicate)	↓	1055	GAS	1				X			X									

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Remarks:
			11/29/11 1500	

APPENDIX E
SUB-SLAB VAPOR SAMPLE REPORT

BASELINE
ENVIRONMENTAL CONSULTING

6 March 2012
Y0323-04.01842

Mr. Tom McCoy
The Brush Street Group, LLC
1155 Third St. Suite 230
Oakland, CA 94607

Subject: Sub-Slab Vapor Sample, 785 Seventh Street, Oakland, California

Dear Mr. McCoy:

This letter presents the results of sub-slab vapor sampling conducted by BASELINE Environmental Consulting ("BASELINE") at 785 Seventh Street, Oakland, California ("site") (Figure 1). BASELINE performed this sampling within the building currently occupied by the Brush Street Group's tenant, the Kinetic Arts Center. The site was formerly occupied by Francis Plating and has been the subject of environmental cleanup and investigations since Francis Plating abandoned it in 1998. The existing building sits on a shallow slab-on-grade foundation from one of Francis Plating's original buildings.

On 29 November 2011, TEG Northern California, Incorporated ("TEG"), under BASELINE's supervision, collected soil gas samples from six locations (SG-01 through SG-06) at 751-785 Seventh Street (Figure 2). At SG-01, located outside the southeast corner of the existing building, trichloroethene ("TCE") was reported in the soil gas sample collected from 4 to 5 feet below ground surface at a concentration exceeding the San Francisco Regional Water Quality Control Board's Environmental Screening Levels ("ESLs") for soil gas.[1] The presence of a chemical at concentrations in excess of an ESL does not necessarily indicate that adverse impacts to human health or the environment are occurring; this simply indicates that a potential for adverse risk may exist and that additional evaluation is warranted.[2]

[1] California Regional Water Quality Control Board, San Francisco Bay Region, 2008, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, May, Table E-2, Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns.

[2] Ibid.

At the request of the Brush Street Group, LLC, BASELINE installed a sub-slab vapor probe, collected a vapor sample and a duplicate, and submitted the samples for volatile organic compound ("VOC") analysis by Air Toxics, LTD of Folsom, California, as described below.

Probe Installation

On 31 January 2012, BASELINE installed a stainless-steel sub-slab vapor probe in the southeastern corner of the building (Figure 2). Figure 3 presents a construction diagram of the vapor probe. Using a rotary hammer, BASELINE drilled a 1-inch hole through the slab. The slab was approximately 6 inches thick at the sample location. The vapor probe was placed in the hole with the top of the probe slightly below grade and the annular space was filled with quick-drying cement. A stainless steel cap was screwed into the top of the probe until flush with the floor surface.

Vapor Sample Collection

On 2 February 2012, BASELINE collected a vapor sample and a duplicate vapor sample from beneath the building foundation slab using the vapor probe. The two vapor samples were designated "Sub-slab-1a" and "Sub-slab-1b". The vapor samples were collected in 6-liter Summa canisters supplied by Air Toxics, LTD. The canisters were arranged in parallel allowing simultaneous sample collection (Figure 4). The canisters were equipped with regulators limiting the flow rate to 167 milliliters per minute.

Prior to sampling, the sample tubing was purged using a photoionization detector ("PID"), which measures organic vapors. The PID was calibrated to 100 parts-per-million ("ppm") isobutylene. The tubing was purged until the VOC concentration reach equilibrium at 4.3 ppm, which was also the maximum concentration measured. Note that the PID does not distinguish between different VOCs and is only used as a screening tool.

The Summa canisters initially had a vacuum of approximately 30 inches of mercury ("in Hg"). The valves on the two canisters were opened simultaneously and allowed to draw vapors from beneath the foundation slab into the Summa canisters for 30 minutes. Dust-Off®, which contains 60 to 100 percent 1,1-difluoroethane,[3] was used for leak detection. The top of the probe and the Summa canister connections were sprayed at 5-minute intervals. After 30 minutes, the Summa canisters' valves were closed. An approximate 6-in-Hg vacuum remained on the Summa canisters.

The Summa canisters were submitted to Air Toxics LTD for VOC analyses by Modified TO-15/2. The attached Table 1 presents the VOC analytical results for the vapor samples, which are summarized below:

[3] Dust-Off® Material Safety Data Sheet.

- TCE was reported in the vapor samples at 18 and 19 micrograms per cubic meter ("µg/$m^{3"}$);
- 1,1,1-trichloroethane was reported at 19 and 18 µg/m^3;
- Toluene was reported at 0.91 and 1.4 µg/m3; and
- Tetrachloroethene, m,p-xylene, and o-xylene were reported in sample "Sub-slab-1a" at 0.79, 0.36, and 0.20 µg/m3, respectively, but below the reporting limits in "Sub-slab-1b".

Leak detection agent 1,1-difluorethane was reported in both samples indicating the results are biased low. Because the two samples contain similar amounts of 1,1-dichloroethane, the leak was likely around the annular space or fittings of the vapor probe rather than around the fitting on either of the individual Summa canisters.

Evaluation of Analytical Results

The results of the sub-slab vapor sampling were evaluated by comparing the reported concentrations against the ESLs for ambient and indoor air.[4] The ESLs are based on the lowest chemical-specific value that would be expected to represent an adverse cancer or non-cancer health risk, using conservative exposure assumptions. The ESLs assume an unacceptable health risk to be an excess cancer risk over one in a million (10^{-6}) or a non-cancer Hazard Index over 1.0.[5]

Sub-slab vapor concentrations exceeding the ambient and indoor air screening values do not necessarily indicate that indoor air concentrations represent an unacceptable health risk to existing users of the building, since vapors entering the building from beneath the sub-slab would be significantly diluted. The California Environmental Protection Agency Department of Toxic Substances Control ("DTSC") recommends using an attenuation factor of 0.05 for estimating indoor air concentrations from sub-slab vapor measurement to account for this dilution.[6]

The estimated indoor air concentrations of detected VOCs, using DTSC's recommended attenuation factor, were below the health–based ambient and indoor air ESLs for both residential and commercial/industrial land uses (Table 1).

[4] California Regional Water Quality Control Board, San Francisco Bay Region, 2008, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, May, Table E-3, Ambient and Indoor Air Screening Levels.

[5] The ESLs use a chemical-specific Hazard Quotient of 0.2 to account of exposure of up to five separate chemicals. The Hazard Index is a sum of the chemical-specific Hazard Quotients.

[6] Department of Toxic Substance Control ("DTSC"), 2011, Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), October.

Conclusion

Based on the results of the sub-slab sampling and chemical analysis, the vapors beneath the slab do not appear to represent an unacceptable health risk to the current users of the building.

Because leak detection agent 1,1-difluoroethane was detected in both samples collected at the site, the reported concentrations may be biased low and corrective action, such as providing additional surface sealant, is recommended prior to collecting additional samples. Additional sampling following re-sealing of the top of the vapor sample probe would provide more conclusive data regarding the potential indoor air concentrations at the site.

Sincerely,

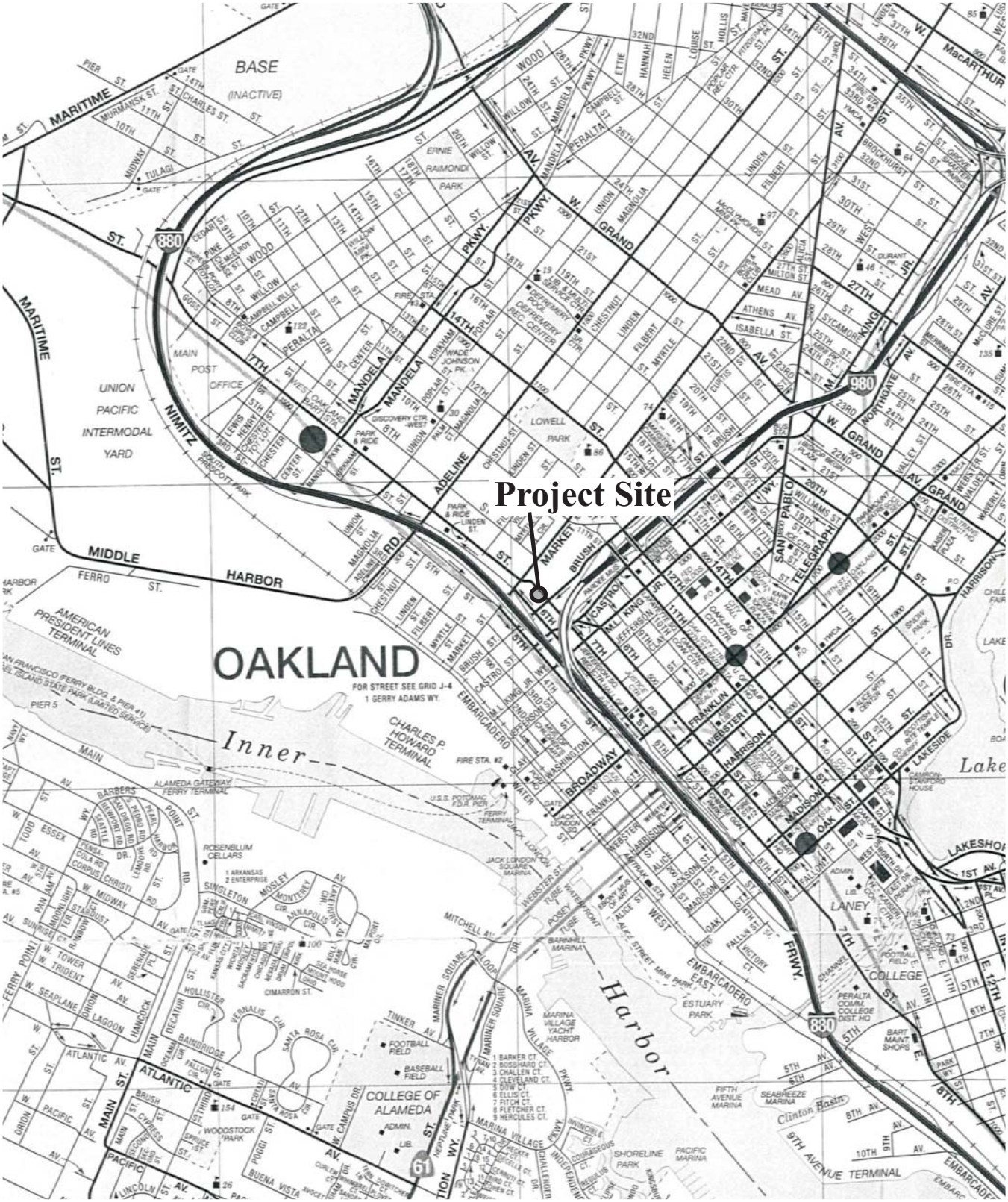
James McCarty, P.E.
Project Engineer

Attachments:
Figures 1 through 4
Table 1
Air Toxics Laboratory Report

cc: Marcus Niebanck, AMICUS

REGIONAL LOCATION

Figure 1



751-785 Seventh Street
Oakland, California

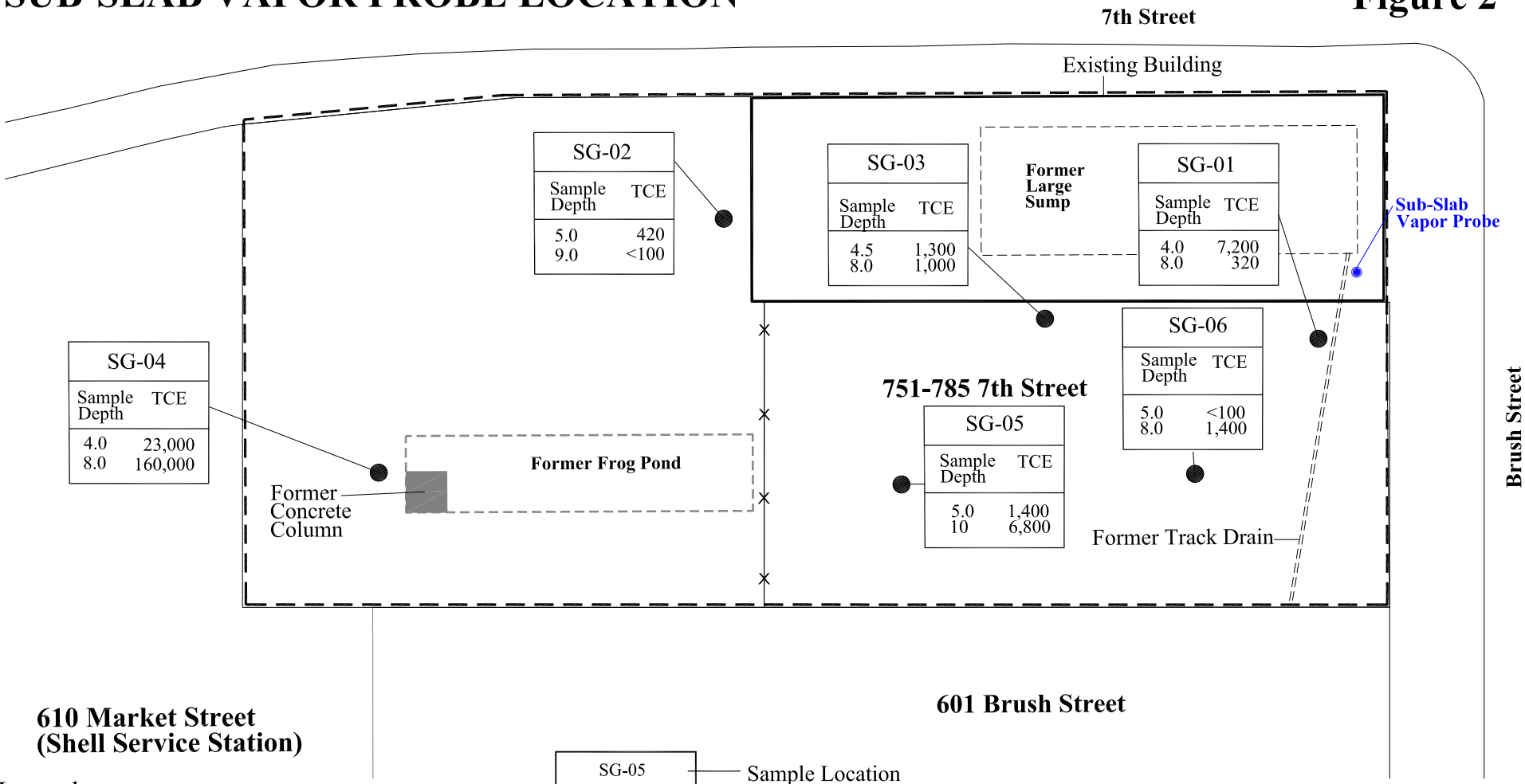
0 2000 Feet

BASELINE

Y0323-04.01842.Fig1.cdr 03/06/12

SUB-SLAB VAPOR PROBE LOCATION

Figure 2



Legend

- Site Boundary
- Fence
- Sub-Slab Vapor Probe
- Soil Gas Sample Location (29 November 2011).
- Shallow Groundwater Monitoring Well
- Deep Groundwater Monitoring Well

SG-05	
Sample Depth	TCE
5.0	1,400
8.0	6,800

Sample Location

TCE Concentration in micrograms per cubic meter

Top of probe in feet below ground surface

(Deep samples were advanced to 10 feet below ground surface and shallow samples were advanced to 5 feet below ground surface, then pulled back to the depth indicated.)

TCE = Trichloroethene

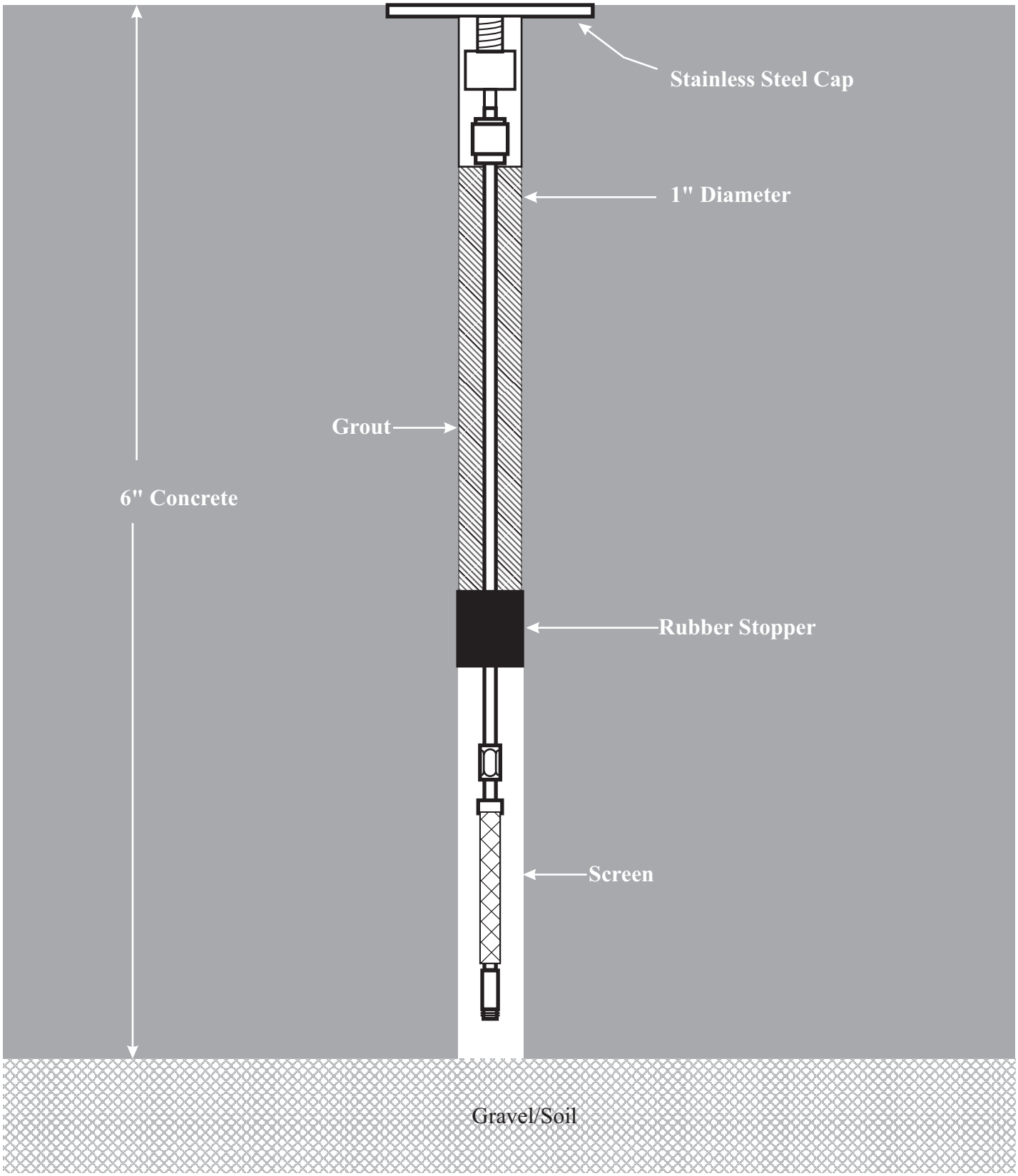
0 30 Feet

BASELINE

751 - 785 Seventh Street
Oakland, California

\\Vault\volume_1\DGraph\Y0323 Brush St\Y0323-04\01842 Vapr Probe\Y0323-04.01842.dwg, 3/6/2012 10:55:53 AM

VAPOR PROBE CONSTRUCTION DIAMGRAM Figure 3



785 Seventh Street
Oakland, California

BASELINE

Y0323-04.01842.Fig3.cdr 03/06/12

SUB-SLAB VAPOR SAMPLE COLLECTION
FEBRUARY 2, 2012

Figure 4

785 Seventh Street
Oakland, California

BASELINE

Y0323-04.01842.Fig4.cdr 03/06/12

Table 1: Sub-Slab Vapor Analytical Results (µg/m^3)
785 7th Street
Oakland, CA

Analyte	Sub-Slab Sample Results Sub-slab-1a	Sub-Slab Sample Results Sub-slab-1b	Estimated Indoor Air Concentration Sub-Slab-1a [1]	Estimated Indoor Air Concentration Sub-Slab-1b [1]	Residential Ambient and Indoor Air ESL [2]	Commercial/ Industrial Ambient and Indoor Air ESL [2]
Vinyl Chloride	<0.040	<0.40	<0.0020	<0.020	0.031	0.052
1,1-Dichloroethene	<0.062	<0.62	<0.0031	<0.031	42	58
1,1-Dichloroethane	<0.13	<1.3	<0.0065	<0.065	1.5	2.6
cis-1,2-Dichloroethene	<0.12	<1.2	<0.0060	<0.060	7.3	10
1,1,1-Trichloroethane	**19**	**18**	**0.95**	**0.90**	460	640
Benzene	<0.25	<2.5	<0.013	<0.13	0.084	0.14
1,2-Dichloroethane	<0.13	<1.3	<0.0065	<0.065	0.094	0.16
Trichloroethene	**18**	**19**	**0.90**	**0.95**	1.2	2.0
Toluene	**0.91**	**1.4**	**0.046**	**0.070**	63	88
1,1,2-Trichloroethane	<0.17	<1.7	<0.0085	<0.085	0.15	0.26
Tetrachloroethene	**0.79**	<2.1	0.040	<0.11	0.41	0.69
Ethylbenzene	<0.14	<1.4	<0.0070	<0.070	0.98	1.6
m,p-Xylene	**0.36**	<2.7	0.018	<0.14	21 [3]	29 [3]
o-Xylene	**0.20**	<1.4	0.010	<0.070	21 [3]	29 [3]
1,1,2,2-Tetrachloroethane	<0.22	<2.1	<0.011	<0.11	0.042	0.070
trans-1,2-Dichloroethene	<0.62	<6.2	<0.031	<0.31	15	20
Methyl tert-butyl ether	<0.57	<5.6	<0.029	<0.28	9.4	16
1,1-Difluoroethane (leak check)	**1,300 E**	**1,100 E**	NA	NA	NA	NA

Notes:
µg/m^3 = micrograms per cubic meter.
Vapor samples collected on 2 February 2012.
Sample location shown on Figure 2.
Samples were collected simultaneously with Summa canisters arranged in parallel.
Laboratory report is attached.
ESLs = Environmental Screening Levels.
NA = not applicable since analyte is tracer compound.
<x.x = Compound was not identified above laboratory reporting limit of x.x.
Values reported above the laboratory reporting limits are shown in bold font.
E = Concentration exceeded instrument calibration range.

[1] Results multiplied by 0.05 attenuation factor as recommended by the Cal/EPA Department of Toxic Substances Control.
Department of Toxic Substances Control California Environmental Protection Agency, 2011, Final Guidance for the Evaluation And Mitigation Of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). Available on the internet at:http://www.dtsc.ca.gov/SiteCleanup/Vapor_Intrusion.cfm

[2] California Regional Water Quality Control Board, San Francisco Bay Region, 2008,*Screening for Environmental Concerns at Sites with Contaminated Soil* and Groundwater, Interim Final, May, Table E-3, Ambient and Indoor Air Screening Levels

[3] Based on ESL for total xylenes.

Air Toxics LTD.
Laboratory Services Since 1989

2/17/2012
Mr. Jim McCarty
Baseline Environmental Consultants
5900 Hollis Street
Suite D
Emeryville CA 94608

Project Name: Brush Street Group
Project #: Y0323-04
Workorder #: 1202095

Dear Mr. Jim McCarty

The following report includes the data for the above referenced project for sample(s) received on 2/3/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15/2 Lists are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

WORK ORDER #: 1202095

Work Order Summary

CLIENT:	Mr. Jim McCarty Baseline Environmental Consultants 5900 Hollis Street Suite D Emeryville, CA 94608	**BILL TO:**	Mr. Jim McCarty Baseline Environmental Consultants 5900 Hollis Street Suite D Emeryville, CA 94608
PHONE:	510-420-8686	**P.O. #**	
FAX:	510-420-1707	**PROJECT #**	Y0323-04 Brush Street Group
DATE RECEIVED:	02/03/2012	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	02/17/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Sub-slab-1a	Modified TO-15/2 Lists	4.4 "Hg	5 psi
01B	Sub-slab-1a	Modified TO-15/2 Lists	4.4 "Hg	5 psi
02A	Sub-slab-1b	Modified TO-15/2 Lists	4.2 "Hg	5 psi
02B	Sub-slab-1b	Modified TO-15/2 Lists	4.2 "Hg	5 psi
03A	Lab Blank	Modified TO-15/2 Lists	NA	NA
03B	Lab Blank	Modified TO-15/2 Lists	NA	NA
03C	Lab Blank	Modified TO-15/2 Lists	NA	NA
03D	Lab Blank	Modified TO-15/2 Lists	NA	NA
04A	CCV	Modified TO-15/2 Lists	NA	NA
04B	CCV	Modified TO-15/2 Lists	NA	NA
04C	CCV	Modified TO-15/2 Lists	NA	NA
04D	CCV	Modified TO-15/2 Lists	NA	NA
05A	LCS	Modified TO-15/2 Lists	NA	NA
05AA	LCSD	Modified TO-15/2 Lists	NA	NA
05B	LCS	Modified TO-15/2 Lists	NA	NA
05BB	LCSD	Modified TO-15/2 Lists	NA	NA
05C	LCS	Modified TO-15/2 Lists	NA	NA

Continued on next page

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1202095

Work Order Summary

CLIENT:	Mr. Jim McCarty Baseline Environmental Consultants 5900 Hollis Street Suite D Emeryville, CA 94608	**BILL TO:**	Mr. Jim McCarty Baseline Environmental Consultants 5900 Hollis Street Suite D Emeryville, CA 94608
PHONE:	510-420-8686	**P.O. #**	
FAX:	510-420-1707	**PROJECT #**	Y0323-04 Brush Street Group
DATE RECEIVED:	02/03/2012	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	02/17/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
05CC	LCSD	Modified TO-15/2 Lists	NA	NA
05D	LCS	Modified TO-15/2 Lists	NA	NA
05DD	LCSD	Modified TO-15/2 Lists	NA	NA

CERTIFIED BY: Linda D. Frumarn DATE: 02/17/12

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Baseline Environmental Consultants
Workorder# 1202095

Two 6 Liter Summa Canister (SIM Certified) samples were received on February 03, 2012. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV and/or LCS.

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: Sub-slab-1a

Lab ID#: 1202095-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Difluoroethane	0.78	470 E	2.1	1300 E

Client Sample ID: Sub-slab-1a

Lab ID#: 1202095-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.031	3.4	0.17	19
Trichloroethene	0.031	3.3	0.17	18
Toluene	0.031	0.24	0.12	0.91
Tetrachloroethene	0.031	0.12	0.21	0.79
m,p-Xylene	0.063	0.084	0.27	0.36
o-Xylene	0.031	0.046	0.14	0.20

Client Sample ID: Sub-slab-1b

Lab ID#: 1202095-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Difluoroethane	7.8	420 E	21	1100 E

Client Sample ID: Sub-slab-1b

Lab ID#: 1202095-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.31	3.2	1.7	18
Trichloroethene	0.31	3.6	1.7	19
Toluene	0.31	0.37	1.2	1.4

Air Toxics LTD.
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Client Sample ID: Sub-slab-1a

Lab ID#: 1202095-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021516**	**Date of Collection: 2/2/12 10:03:00 AM**	
Dil. Factor:	**1.57**	**Date of Analysis: 2/15/12 09:18 PM**	

Compound	**Rpt. Limit (ppbv)**	**Amount (ppbv)**	**Rpt. Limit (ug/m3)**	**Amount (ug/m3)**
1,1-Difluoroethane	0.78	470 E	2.1	1300 E

E = Exceeds instrument calibration range.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	90	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Sub-slab-1a

Lab ID#: 1202095-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021516sim**	**Date of Collection: 2/2/12 10:03:00 AM**	
Dil. Factor:	**1.57**	**Date of Analysis: 2/15/12 09:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	3.4	0.17	19
Benzene	0.078	Not Detected	0.25	Not Detected
1,2-Dichloroethane	0.031	Not Detected	0.13	Not Detected
Trichloroethene	0.031	3.3	0.17	18
Toluene	0.031	0.24	0.12	0.91
1,1,2-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	0.12	0.21	0.79
Ethyl Benzene	0.031	Not Detected	0.14	Not Detected
m,p-Xylene	0.063	0.084	0.27	0.36
o-Xylene	0.031	0.046	0.14	0.20
1,1,2,2-Tetrachloroethane	0.031	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	129	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Sub-slab-1b

Lab ID#: 1202095-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021607**	**Date of Collection: 2/2/12 10:03:00 AM**	
Dil. Factor:	**15.6**	**Date of Analysis: 2/16/12 12:24 PM**	

Compound	**Rpt. Limit (ppbv)**	**Amount (ppbv)**	**Rpt. Limit (ug/m3)**	**Amount (ug/m3)**
1,1-Difluoroethane	7.8	420 E	21	1100 E

E = Exceeds instrument calibration range.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	88	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Sub-slab-1b

Lab ID#: 1202095-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021607sim**	**Date of Collection: 2/2/12 10:03:00 AM**	
Dil. Factor:	**15.6**	**Date of Analysis: 2/16/12 12:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
1,1-Dichloroethane	0.31	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.31	Not Detected	1.2	Not Detected
1,1,1-Trichloroethane	0.31	3.2	1.7	18
Benzene	0.78	Not Detected	2.5	Not Detected
1,2-Dichloroethane	0.31	Not Detected	1.3	Not Detected
Trichloroethene	0.31	3.6	1.7	19
Toluene	0.31	0.37	1.2	1.4
1,1,2-Trichloroethane	0.31	Not Detected	1.7	Not Detected
Tetrachloroethene	0.31	Not Detected	2.1	Not Detected
Ethyl Benzene	0.31	Not Detected	1.4	Not Detected
m,p-Xylene	0.62	Not Detected	2.7	Not Detected
o-Xylene	0.31	Not Detected	1.4	Not Detected
1,1,2,2-Tetrachloroethane	0.31	Not Detected	2.1	Not Detected
trans-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Methyl tert-butyl ether	1.6	Not Detected	5.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	93	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1202095-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021510**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 03:37 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Difluoroethane	0.50	Not Detected	1.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	87	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1202095-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021510sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 03:37 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	93	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1202095-03C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021606a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 11:23 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Difluoroethane	0.50	Not Detected	1.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	87	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1202095-03D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021606sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 11:23 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	93	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1202095-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021506a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 11:56 AM**	

Compound	**%Recovery**
1,1-Difluoroethane	102

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	90	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1202095-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021502sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 08:08 AM**	

Compound	%Recovery
Vinyl Chloride	89
1,1-Dichloroethene	100
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	101
1,1,1-Trichloroethane	108
Benzene	94
1,2-Dichloroethane	108
Trichloroethene	102
Toluene	92
1,1,2-Trichloroethane	113
Tetrachloroethene	103
Ethyl Benzene	99
m,p-Xylene	93
o-Xylene	91
1,1,2,2-Tetrachloroethane	105
trans-1,2-Dichloroethene	101
Methyl tert-butyl ether	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1202095-04C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021605**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 10:24 AM**	

Compound	**%Recovery**
1,1-Difluoroethane	106

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	89	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1202095-04D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021602sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 08:05 AM**	

Compound	%Recovery
Vinyl Chloride	89
1,1-Dichloroethene	99
1,1-Dichloroethane	103
cis-1,2-Dichloroethene	100
1,1,1-Trichloroethane	109
Benzene	94
1,2-Dichloroethane	109
Trichloroethene	101
Toluene	92
1,1,2-Trichloroethane	112
Tetrachloroethene	103
Ethyl Benzene	98
m,p-Xylene	90
o-Xylene	88
1,1,2,2-Tetrachloroethane	106
trans-1,2-Dichloroethene	100
Methyl tert-butyl ether	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1202095-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 09:07 AM**	

Compound	**%Recovery**
1,1-Difluoroethane	Not Spiked

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	89	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1202095-05AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 09:43 AM**	

Compound	**%Recovery**
1,1-Difluoroethane	Not Spiked

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	94	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1202095-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 09:07 AM**	

Compound	%Recovery
Vinyl Chloride	91
1,1-Dichloroethene	106
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	110
Benzene	95
1,2-Dichloroethane	106
Trichloroethene	101
Toluene	91
1,1,2-Trichloroethane	112
Tetrachloroethene	101
Ethyl Benzene	97
m,p-Xylene	93
o-Xylene	90
1,1,2,2-Tetrachloroethane	107
trans-1,2-Dichloroethene	114
Methyl tert-butyl ether	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1202095-05BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/15/12 09:43 AM**	

Compound	%Recovery
Vinyl Chloride	90
1,1-Dichloroethene	105
1,1-Dichloroethane	104
cis-1,2-Dichloroethene	102
1,1,1-Trichloroethane	110
Benzene	94
1,2-Dichloroethane	105
Trichloroethene	100
Toluene	91
1,1,2-Trichloroethane	110
Tetrachloroethene	100
Ethyl Benzene	97
m,p-Xylene	93
o-Xylene	90
1,1,2,2-Tetrachloroethane	107
trans-1,2-Dichloroethene	113
Methyl tert-butyl ether	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1202095-05C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 09:09 AM**	

Compound	**%Recovery**
1,1-Difluoroethane	Not Spiked

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	88	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1202095-05CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 09:48 AM**	

Compound	**%Recovery**
1,1-Difluoroethane	Not Spiked

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	90	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1202095-05D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021603sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 09:09 AM**	

Compound	%Recovery
Vinyl Chloride	89
1,1-Dichloroethene	104
1,1-Dichloroethane	102
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	108
Benzene	92
1,2-Dichloroethane	105
Trichloroethene	98
Toluene	88
1,1,2-Trichloroethane	108
Tetrachloroethene	98
Ethyl Benzene	94
m,p-Xylene	88
o-Xylene	85
1,1,2,2-Tetrachloroethane	100
trans-1,2-Dichloroethene	110
Methyl tert-butyl ether	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1202095-05DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**a021604sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/16/12 09:48 AM**	

Compound	%Recovery
Vinyl Chloride	89
1,1-Dichloroethene	104
1,1-Dichloroethane	102
cis-1,2-Dichloroethene	99
1,1,1-Trichloroethane	109
Benzene	92
1,2-Dichloroethane	105
Trichloroethene	99
Toluene	89
1,1,2-Trichloroethane	108
Tetrachloroethene	98
Ethyl Benzene	94
m,p-Xylene	89
o-Xylene	85
1,1,2,2-Tetrachloroethane	102
trans-1,2-Dichloroethene	110
Methyl tert-butyl ether	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager James McCarty

Collected by: (Print and Sign) James McCarty

Company Baseline Env Consult Email jim@baseline-env.com

Address 5900 Hollis St, D City Emeryville State CA Zip 94608

Phone 510 420-8686 Fax 510 420-1707

Project Info:
P.O. #
Project # Y0323-04
Project Name Brush St Group

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01AB	Sub-Slab-1a	2527	2/2/12	10:03	TO-15	-30	6.0		
02AB	~~Sub-Slab-2~~ Sub-Slab-1b	4242	2/2/12	10:03	TO-15	-30	6.5		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
James McCarty 02/02/12 11:30	[illegible] ATL 2/3/12 1030
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:
Test 10:03 - 10:33

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	UPS		NA	(ice)	Yes No (None)	1202095

Form 1293 rev.11

APPENDIX F
HEALTH AND SAFETY PLAN

SITE HEALTH AND SAFETY PLAN

PROJECT/CLIENT INFORMATION

Project No:	Project Manager:	Site Health and Safety Manager:	Field Activities Date:
Y0323-04	James McCarty	William Scott	July 2011

Client: Brush Street Group 1155 3rd Street, No. 230 Oakland, CA 94607 Contact Person: Tom McCoy x206 Phone: (510) 286-8200	Site Address: 751-785 Seventh Street Oakland, CA Subcontractor: TEG

PROJECT DESCRIPTION:
TEG Northern California Inc. of Rancho Cordova, under the direction of BASELINE, will advance 16 shallow soil borings using a direct push technique for collecting soil gas samples. Soil gas samples will be collected by advancing a probe to the target depth; 5 or 10 ft below ground surface (bgs). After the probes have been driven to the target sample depth and the outer rod will be pulled back to expose the inlet to the soil gas probe. Hydrated bentonite will be used to seal around the drive rod at the surface to prevent ambient air intrusion from occurring. The soil gas will be collected using calibrated glass syringes and analyzed on-site using a mobile California-certified analytical laboratory operated by TEG. The soil gas samples will be analyzed for VOCs, in accordance with EPA Method 8260B by TEG mobile lab.

SITE HISTORY: The site has been used as a plating facility from about 1957 to 1998. Hazardous materials storage and use has been associated with this past land. Soils underlying the site contained elevated levels of chromium, copper, lead, nickel, and zinc; polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons as diesel, and VOCs (primarily trichloroethylene).

TRAINING REQUIREMENTS: Yane Nordhav, P.G., is the Principal-in-Charge. James McCarty is the Project Manager. Other BASELINE personnel include: William Scott, P.G., C.E.G., Field Geologist. TEG is a subcontractor to BASELINE Environmental, and will work under the direction of BASELINE personnel.

Responsibilities of BASELINE personnel include the following: James McCarty is the Project Manager and Yane Nordhav is the Principal-in-Charge. The project manager or principal-in-charge shall be: 1) present by telephone at all times during on-site work; 2) have overall responsibility for preparation, implementation, and modifications to this Plan; and 3) designate a BASELINE Site Health and Safety Officer to carry out the requirements of this Plan during all sampling activities. The responsibilities of William Scott, the designated BASELINE Site Health and Safety Officer/Project Supervisor, include: 1) being present at all times during on-site work; 2) enforcing this Site Health and Safety Plan (including the Emergency Response Plan, below); 3) stopping field operations if personnel safety and health may be jeopardized; 4) requesting site evacuation, if necessary; 5) designating other qualified personnel to work under the direction of Site Health and Safety Officer, as necessary, for purposes of implementing this Plan; and 6) overseeing completion of the sampling activities as described above, and supervising the work of subconsultants.

All on-site workers, including subcontractors and regulatory agency personnel, entering into the contamination reduction (warm), exclusion (hot), or any other areas of the site with potential or suspected contamination must be 40-hour trained in accordance with the federal and state OSHA HAZWOPER standard (including 3 days of supervised field experience and annual refresher training). All visitors entering the contamination reduction or

exclusion area or other areas of the site with potential or suspected contamination must at a minimum have 24-hour HAZWOPER training. The Site Health and Safety Manager will inquire whether each visitor is trained.

A copy of this site-specific Health and Safety Plan will be provided at the site and will be reviewed by the Site Health and Safety Manager prior to the start of work at the site, as part of a tailgate safety meeting. This site-specific Plan applies to all BASELINE employees engaged in hazardous materials activities on-site. This Plan, or an equally protective Plan, shall be adopted by the subcontractors as a supplement to their existing health and safety programs. All on-site personnel will be asked to sign a consent form included in this Plan, prior to each day of field activities, indicating that they have read the Plan, have participated in the tailgate safety meeting, meet the training requirements, and agree to all Plan conditions.

This Site Health and Safety Plan is intended to act as an extension of BASELINE's in-house Health and Safety Program including a Medical Surveillance Program, Hazard Communication Program, Hearing Conservation Program, Respiratory Protection Program, Personal Protective Equipment Program, Injury and Illness Program, Emergency Action Plan, and Fire Prevention Plan. BASELINE employees receive initial and refresher training in these programs.

CHEMICAL HAZARDS

The following known/suspected chemical hazards identified below may potentially be encountered by site personnel during sampling or other on-site activities.

Chemical	Description	Health and Safety Standards	Persons Exposed** and Potential Routes of Exposure	Target Organs	Symptoms of Acute Exposure
Petroleum hydrocarbons	Combustible liquid, may contain carcinogenic middle distillates LEL=0.7% UEL=5.0% (diesel)	PEL = NA REL = NA IDLH = NA	Dermal, eyes, ingestion	Eyes, skin, respiratory system	Minor eye/skin irritation
Metals (lead, arsenic, chromium, and nickel are provided as examples)					
Lead	odorless solid LEL=NA UEL=NA	PEL = 0.05 mg/m^3 REL = 0.1 mg/m^3 IDLH = 100 mg/m^3	Inhalation, eyes, ingestion	Eyes, GI tract, central nervous system, kidneys, blood, gingival tissue	Weakness, insomnia, abdominal pain, constipation, anemia, tremor, eye irritation
Chromium	Metal, odorless solid LEL=NA UEL=NA	PEL = 0.5 mg/m^3 REL = 0.5 mg/m^3 IDLH = 250 mg/m^3	Inhalation, eyes, ingestion	Eyes, skin, respiratory system	Eye and skin irritation, lung changes
Copper	odorless solid d LEL=NA UEL=NA	PEL = 0.1 mg/m^3 TWA REL = 0.1 mg/m^3 TWA IDLH = 100 mg/m^3	Inhalation, skin and/or eye contact	Eyes, skin, respiratory system	Irritation eyes, upper respiratory system; metal fume fever: chills, muscle ache, nausea, fever, dry throat, cough, lassitude (weakness, exhaustion); metallic or sweet taste; discoloration skin, hair

Chemical	Description	Health and Safety Standards	Persons Exposed** and Potential Routes of Exposure	Target Organs	Symptoms of Acute Exposure
Nickel	Metal, odorless solid, carcinogen LEL=NA UEL=NA	PEL = 1mg/m^3 REL = 0.015 mg/m^3 IDLH = 10 mg/m^3	Inhalation, eyes ingestion, dermal	Nose, lung, skin	Skin allergy, lung irritation, coughing respiratory problems
Zinc	Metal, odorless solid, carcinogen LEL=NA UEL=NA	PEL = 15 mg/m^3 REL = 10 mg/m^3 IDLH = NA	Inhalation, ingestion, skin and/or eye contact	Eyes, skin, respiratory system	Irritation eyes, skin, upper respiratory system; cough
Polynuclear aromatic hydrocarbons					
Polynuclear aromatic hydrocarbon (aka coal tar pitch volatiles)	Carcinogen, reproductive toxin, combustible LEL=NA UEL=NA	PEL = 0.2 mg/m^3 REL = 0.1 mg/m^3 IDLH = 80 mg/m^3	Inhalation, eyes	Respiratory system, skin, bladder, kidneys	Dermatitis, bronchitis
Naphthalene (polynuclear aromatic hydrocarbon)	Colorless to brown solid with a moth-ball odor, combustible LEL= 0.9% UEL=5.9%	PEL = 10 ppm REL = 10 ppm IDLH = 250 ppm	Inhalation, dermal, eyes, ingestion	Eyes, skin, blood, liver, kidneys, central nervous system	Eye irritation, headache, confusion, malaise, profuse sweating, dermatitis, blood in the urine, jaundice, bladder irritation
Volatile organic compounds					
Trichloroethyene (TCE)	Colorless liquid with a chloroform-like odor, solvent, carcinogen	PEL = 25 ppm TWA REL = 100 ppm TWA IDLH = 1000 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system.	Eye and skin irritation, headache, vertigo, visual problems, fatigue, giddiness, tremor, nausea, vomiting, dermatitis, heart problems
1,2-dichloroethene (1,2-DCE)	Solvent	PEL = 350 ppm TWA REL = 200 ppm TWA IDLH = 1000 ppm	Inhalation, ingestion, skin and/or eye contact	Eyes, respiratory system, central nervous system.	Irritation eyes, respiratory system; central nervous system depression.
Vinyl Chloride	Solvent	PEL = 1 ppm TWA REL = LFC IDLH = 1000 ppm	Inhalation, skin and/or eye contact (liquid)	Liver, central nervous system, blood, respiratory system, lymphatic system	lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]

Notes:
ppm = parts per million
PEL = Permissible exposure limit. Time-weighted average concentrations for a normal 8-hour work period for a 40-hour work week;
REL = Recommended exposure limit. Time-weighted average concentrations for up to a 10-hour day during a 40-hour work week.
IDLH = Immediately dangerous to life and health; a condition from which one cannot escape within 30 minutes without permanent damage or death.

LFC = Lowest feasible concentration.
UEL = Upper explosive limit.
LEL = Lower explosive limit.
NA = Not available or not applicable.

PHYSICAL HAZARDS:

Fire and explosion, heavy equipment, traffic, heat or cold stress, noise, aboveground and underground utilities, and tripping and falling hazards. Traffic control will be provided by BASELINE personnel. BASELINE employees will follow standard operating procedures (SOPs) for sampling and quality assurance/control, as found in BASELINE's Quality Assurance Program Plan.

Heavy equipment safety requirements are the responsibility of the operator. The contractor shall be responsible for complying with all OSHA requirements and accepted industry practices for protection of employee health and safety. The contractors shall ensure that all equipment is in good working order prior to starting work and shall ensure that proper housekeeping is maintained around the work area at all times.

BASELINE employees, subcontractors, and other personnel shall observe the following precautions:
1) Watch for slippery ground;
2) Keep safe distance from side of excavation;
3) Keep out of the path of the drill rig while moving;
4) Wear required personal protective equipment (PPE) at all times (see below);
5) Prevent strain injuries by using small sampling shipping containers and/or material handling aids.;
6) Avoid heat/cold stress by taking regular work breaks, liquids intake, and appropriate attire, as needed; and

PERSONAL PROTECTIVE EQUIPMENT REQUIRED: The rationale for selection of the PPE is based on the known and/or suspected hazardous materials at the site, the anticipated amount of contact with potentially contaminated materials as part of site-specific tasks, and PPE performance characteristics. On-site workers must be trained, as provided by their employer, in PPE use and care. All PPE must be properly maintained and stored to ensure it is in good working condition at the time of use. All PPE must be inspected prior to and following use.

Potential chemical hazards consist primarily of dermal contact with contaminated materials during sampling events. The risk of inhalation and ingestion of hazardous materials is negligible since sampling will occur insitu and personal hygiene measures will minimize dermal contact. Hard hats, nitrile gloves, safety glasses, steel toed footwear, water supply for washing, decontamination, and for drinking, first aid-kit, noise protection (ear plugs), traffic safety vests, and fire extinguisher (to be provided by contractor).

SITE CONTROL MEASURES: The site is surrounded by a chain link fence. There are two gates, one on 7th Street and one on Brush Street. The 7th Street gate will remain closed during the field work. The Site Health and Safety Officer will define and demarcate exclusion, decontamination, and clean zones for each activity; the need for multiple exclusion/decontamination zones will be determined in the field. The Site Health and Safety Officer will control access onto the site.

No eating or drinking shall be permitted in the exclusion zone; workers may go through partial decontamination (wash gloves, hands, and arms) to consume fluids in the warm zone. Avoid skin and eye contact with soil to the maximum extent possible.

DECONTAMINATION PROCEDURES (PERSONAL AND EQUIPMENT): Decontaminate with Alconox wash any sampling equipment that will be reused between boring locations. Antiseptic towelettes may also be

used for cleaning hands, arms, and face. All personnel should shower as soon as possible after leaving the site. Decontamination procedures shall be monitored by the Site Health and Safety Manager to determine their effectiveness. If decontamination procedures are found to be ineffective, the Site Health and Safety Manager should take appropriate action to immediately correct any deficiencies.

OTHER: The location of the nearest restroom will be identified by the Site Health and Safety Manager prior to sampling during the daily tailgate safety meeting. Drinking water and antiseptic towelettes will be provided by BASELINE for personal hygiene.

On-site personnel shall avoid heat/cold stress by taking regular work breaks, monitoring sufficient liquids intake, and wearing appropriate attire, if needed.

Any deficiencies in this Site Health and Safety Plan, identified by the Site Health and Safety Manager, shall be immediately corrected. On-site workers, identifying any deficiencies in this Plan, shall immediately notify the Site Health and Safety Manager of such deficiencies.

EMERGENCY PROCEDURES: A cellular phone is carried by BASELINE personnel. In the event of a major emergency (e.g., fire, major spill, medical, explosion), the Site Health and Safety Manager or his designee shall use the cellular phone to contact "911," James McCarty/Yane Nordhav (510 420-8686), the client (phone number listed above), and other emergency numbers listed below, as applicable. The designated BASELINE Site Health and Safety Manager shall verbally request evacuation of site personnel (personnel must first go through decontamination prior to evacuation).

In the event of a minor (incidental) release of a hazardous material, the spill will be immediately cleaned up by on-site BASELINE personnel, and spill cleanup materials placed in labeled drums. Salvage drums and absorbent materials (i.e., bentonite) shall be provided by drilling contractors. In the event of a larger than incidental (major) spill of hazardous materials, follow emergency procedures below.

Evacuation shall be requested by repeatedly honking the horn of a vehicle for personnel who are not within voice range. The honking will continue until personnel can be verbally notified of the emergency and the need for evacuation. Personnel shall evacuate the site to the reassembly area. The Site Health and Safety officer will be responsible for notifying personnel and any visitors of an appropriate evacuation route and reassembly area prior to the fieldwork during the tailgate safety meeting. The notification of the evacuation route and reassembly area will be made during the daily tailgate safety meeting and should be documented in the field log. An evacuation route and reassembly area are therefore not included herein. Any injured personnel shall be brought to the decontamination area prior to evacuation, and shall be assisted in decontamination, according to the procedures above, unless the transport or decontamination may cause further injury, where transport and decontamination shall be requested by the paramedics. The designated Site Health and Safety Manager shall account for all on-site personnel following evacuation.

Rescue and medical duties (other than first aid/CPR by trained personnel), as required, shall be provided by off-site emergency responders (e.g., paramedics, fire fighters). Injured personnel may only be transported to the Hospital Emergency Room if the injury is non-threatening and does not require immediate attention (e.g., scrapes, minor cuts). The hospital emergency route is included.

Following evacuation, the designated BASELINE Health and Safety Manager, shall request on-site personnel to maintain security of the site (by preventing unauthorized entry) until the site has been released to off-site emergency responders (fire fighters, police, etc.). Evacuated personnel will direct emergency responders to the emergency and inform them of site hazards and the emergency. Other emergency notifications may be required,

emergency and inform them of site hazards and the emergency. Other emergency notifications may be required, for example, the Emergency Management System (911), the Office of Emergency Services (800 852-7550), Oakland Fire Department, Hazardous Materials Management Program (510 238-3938), and U.S. Environmental Protection Agency, Region IX (415 744-2000). The need for emergency notifications will be determined by the designated BASELINE Health and Safety Manager and Project Manager(s), based on the emergency at hand. All notifications will be documented.

Following the emergency, the designated Site Health and Safety Officer shall be responsible for preparing a post-incident critique, for the purpose of identifying the cause of the emergency, response initiated, and need for additional training, procedures, or equipment. The designated Site Health and Safety Manager and Project Manager(s) shall take corrective action to prevent reoccurrence of the emergency. At any time if any deficiencies in these Emergency Procedures are identified, they shall be immediately corrected by the Site Health and Safety Manager. On-site workers identifying any deficiencies in the emergency procedures shall immediately notify the Site Health and Safety Manager of such deficiencies.

Prepared by:	Date:	Reviewed/Approved by:	Date:
James McCarty, P.E.	5/10/11		5/10/11

Read by: /Date:

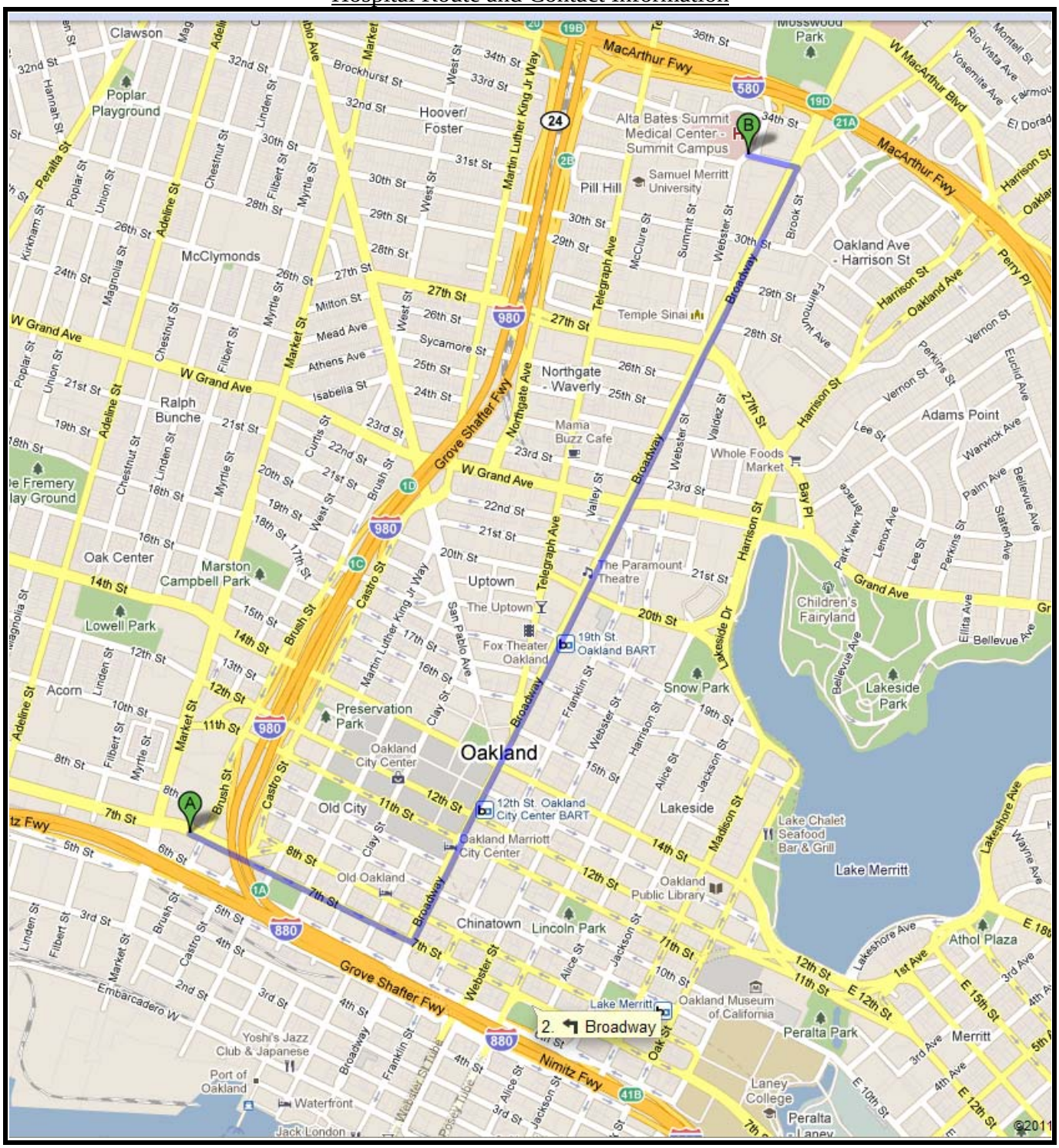
Reginald Fanning BASELINE / 11-29-11

/ 11/29/11

/ 11-29-11

/ 11/29/2011

Hospital Route and Contact Information



Hospital/Clinic Name and Address:	Hospital Phone:	Paramedic/Fire & Police Dept.
Summit Medical Center, Emergency Room 350 Hawthorne Avenue, Oakland, CA	(510) 655-4000	Phone: 911

From site proceed southward on 7th Street to Broadway, turn left onto Broadway, follow Broadway to 30th Street, turn left on 30th Street, then right onto Webster Street. At the end of Webster is Hawthorne Ave. Emergency Room is on left.