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March 13, 2009

Mr. Steven Plunkett Alameda County Department of Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502 RECEIVED

2:27 pm, Mar 24, 2009

Alameda County Environmental Health

SUBJECT:

SUBSURFACE INVESTIGATION WORK PLAN CERTIFICATION

Fuel Leak Case RO 337

California Linen Rental Company

989 41<sup>st</sup> Street Oakland, CA

Dear Mr. Plunkett:

You will find enclosed one copy of the following document prepared by RGA Environmental, Inc.

• Subsurface Investigation Work Plan dated March 13, 2009 (document 0304.W6).

I declare, under penalty of perjury, that the information and/or recommendations contained in the above-mentioned report for the subject site is true and correct to the best of my knowledge.

Please direct all future correspondence to:

California Linen Supply Co., Inc. c/o Donald J. Miller, President 2104 Magnolia Way Walnut Creek, CA 94595

Should you have any questions, please do not hesitate to call me at (925) 938-2491.

Cordially,

California Linen Supply Co.

Donald J. Miller

President

LeRoy Griffin, Oakland Fire Department, Office of Emergency Services, 250 Frank Ogawa

Plaza, Suite 3341, Oakland, CA 94612

0304.L90

March 13, 2009 Work Plan 0304.W6



Mr. Steven Plunkett Alameda County Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

SUBJECT:

SUBSURFACE INVESTIGATION WORK PLAN

County File # RO 337

California Linen Rental Company

989 41<sup>st</sup> Street Oakland, CA

Dear Mr. Plunkett:

RGA Environmental, Inc. (RGA) is pleased to present this subsurface investigation work plan in response to a request in a letter from Mr. Steven Plunkett at the Alameda County Environmental Health Department (ACDEH) dated January 30, 2009. This work plan addresses topics identified in your January 30, 2009 letter as follows.

- 1. Post Remediation Soil Vapor Sampling
- Dissolved Contaminant Plume Migration 2.
- Down Gradient Soil Contamination 3.
- 4. Soil Excavation and Removal

The proposed scope of work includes the collection of 17 soil gas samples at the subject site; the collection of one soil sample for evaluation of residual Volatile Organic Compounds (VOCs) in soil; evaluation of three soil resistivity geophysical transects in the vicinity of the subject site; and collection of 16 shallow groundwater grab samples.

The objective of the soil gas sample collection is to determine if residual petroleum hydrocarbon vapors are present in soil gas at the subject site. All of the proposed sample collection locations are where elevated concentrations of Total Petroleum Hydrocarbons as Gasoline (TPH-G) and/or benzene, toluene, ethylbenzene and xylenes (BTEX) were historically detected in soil, groundwater, or soil gas at concentrations exceeding applicable May 2008 SF RWQCB ESL values for residential land use. The proposed geophysical transects in conjunction with the proposed soil borings are intended to evaluate the potential presence of shallow naturally occurring paleo-channels in the vicinity of Linden Street and the associated distribution of petroleum hydrocarbons in shallow groundwater in the vicinity of boreholes B5 and B6.

Your request for a response to comments in your January 30, 2009 letter regarding residual arsenic concentrations in soil associated with soil excavation and removal is addressed under separate cover.

A Site Location Map is attached as Figure 1, and a Site Vicinity Map showing the proposed soil gas sample collection locations is attached as Figure 2. Site Plan Details showing proposed soil gas sample collection locations in the eastern and western portions of the property are attached as Figures 3 and 4, respectively. Site Vicinity Maps showing TPH-G and benzene concentrations in groundwater prior to initiation of dual phase groundwater and soil vapor extraction are shown in Figures 5 and 6, respectively. Additionally, Site Vicinity Maps showing locations of historic detected volatile petroleum hydrocarbons detected in soil, groundwater and soil gas are attached as Figures 7 through 9, respectively. A typical soil gas sample collection manifold is shown in Figure 10.

### BACKGROUND

Detailed discussions of the site history, historic subsurface investigations, and remedial activities are provided in previous reports. To complete the efforts necessary to obtain a No Further Action letter from the ACDEH for unrestricted land use, this work plan has been developed to address each of the following topics.

- Evaluation of locations where volatile petroleum hydrocarbons and associated constituents have been detected during historic investigations and during remedial actions at the site;
- Evaluation of the potential presence of shallow paleo-channels and the extent of shallow petroleum-impacted groundwater downgradient of the site;
- Remediation of soil with residual lead concentrations in the vicinity of Pits 1 and 2 on the west side of the site along with post-remedial confirmation sample collection.

Each of these is discussed below.

### Soil Gas Sample Collection Discussion

Summary tables of all historic soil sample results are provided in Appendix A. Locations where volatile petroleum hydrocarbon concentrations in soil exceeded SFRWQCB May 2008 Table A and Table C ESL values for residential land use are shown on Figure 7 and summarized in Table 1. All of the soil associated with samples collected at locations B41 and B42 was excavated and disposed of. Confirmation soil samples collected from the pit sidewalls and pit bottom at locations Pit4a, d, e, and g contained petroleum concentrations exceeding SFRWQCB May 2008 Table A ESL values for residential land use.

Summary tables of all historic groundwater sample results are provided in Appendix B. Locations where volatile petroleum hydrocarbon concentrations exceeded SFRWQCB May 2008 Table A ESL values are shown on Figure 8 and summarized in Table 2. Table 2 groundwater sample results also include post-remedial groundwater sample concentrations. In addition, SFRWQCB May 2008 Table E-1 ESL values which provide screening levels for potential indoor air vapor intrusion from groundwater are also provided in Table 2. Table E-1 states that for TPH-G, soil gas values should be used to determine if there is the

potential for indoor vapor intrusion. It is therefore necessary to collect soil gas samples at all locations where TPH-G was detected in groundwater to determine if a potential TPH-G vapor intrusion hazard exists. However, comparison of the groundwater sample results that exceeded Table A ESL values with Table E-1 ESL values for all other compounds shows that none of the groundwater samples exceeded available Table E-1 ESL values that would suggest an indoor vapor intrusion issue.

Summary tables of all historic soil gas sample results are provided in Appendix C. Locations where volatile petroleum hydrocarbon concentrations exceeded SFRWQCB May 2008 Table E ESL values for soil gas and for residential land use are shown on Figure 9 and summarized in Table 3. Table 3 includes the highest detected soil vapor concentrations at each location, in addition to the last soil vapor sample collected at each location. The majority of the last vapor samples from individual extraction wells were collected several months before the shut down of the remediation system.

Dual phase groundwater and soil vapor extraction was performed by CalClean from October 12, 2006 through March 19, 2007. Following a two week period of system shut down to evaluate soil vapor concentration rebound, the dual phase extraction system was operated by CalClean from April 2 through May 30, 2007. Dual phase groundwater and soil vapor extraction was continued at the site from June 8, 2007 through August 7, 2007 using a soil vapor extraction system provided by Mako Industries that was operated by RGA personnel. On August 7, 2007 the dual phase extraction system was shut off and subsequently removed from the site because no detectable concentrations of organic vapors were present in the air extracted from the vapor extraction wells.

Air samples were collected periodically from individual wells and from the manifolded inlet to the thermal oxidation unit during dual phase remediation. Review of Appendix C and Table 3 shows that the three soil vapor samples collected from individual extraction wells shortly prior to remediation shut down in August 2007 did not have any detectable concentrations of petroleum hydrocarbons. The presence of petroleum hydrocarbons in soil vapor samples collected by CalClean prior to system shut down in March 2007 and again in May, 2007 is attributed to the dewatering of the zone of petroleum-impacted soil by the dual-phase (soil vapor and groundwater) extraction remedial activities. Following remediation system shut down in May, 2007 the dewatered zone of petroleum-impacted soil (located in the vicinity of extraction wells MW1, EW1 and EW2 based on soil vapor concentrations) became re-saturated as groundwater levels returned to their pre-remediation levels. Once the dewatered zone that had resulted in detectable soil gas concentrations during pre-May remediation became saturated by rising water levels because no groundwater extraction was occurring, no additional petroleum could be removed in the form of soil vapors because the petroleum-impacted zone was below the water table. Subsequent monitoring of groundwater quality has shown that petroleum hydrocarbon concentrations in groundwater have remained not detected or near not detected and have not increased, indicating that the residual petroleum-impacted zone of soil located beneath the water table is not leaching detectable concentrations of petroleum hydrocarbons. Into groundwater.

The January 30, 2009 ACDEH letter states that the elevated concentrations of petroleum hydrocarbons detected in the influent air stream and residual contamination indicate that significantly elevated contamination remains in the vadose zone beneath the site. The objective of the shallow soil gas sampling is to demonstrate that elevated petroleum hydrocarbons are not present in the vadose zone and that the petroleum hydrocarbons detected in soil gas samples in March and May 2007 were related to an impacted zone that had been exposed during dewatering of the site associated with remedial efforts, and that the impacted zone is now located beneath the water table.

Historic TPH-G and benzene concentrations in groundwater collected from borehole groundwater grab samples and from well MW1 prior to performing dual phase groundwater and soil vapor extraction and collected from the extraction wells following initiation of remediation are shown on Figures 5 and 6, respectively. The absence of detected concentrations of petroleum hydrocarbons in well MW6 in the eastern portion of the property indicates that petroleum hydrocarbons detected in shallow soil in the vicinity of well MW6 did not extend to groundwater. Review of boring logs shows that the distribution of TPH-G and benzene in groundwater in the western portion of the property (in the vicinity of the former USTs) corresponds with locations where coarse-grained materials were encountered during drilling. The area surrounding the detected petroleum hydrocarbons where petroleum hydrocarbons were not detected correspond with locations where fine-grained materials were encountered during drilling. The proposed areas of soil gas sample collection in the western portion of the property are located in the coarse-grained materials where petroleum hydrocarbons were historically detected in groundwater and soil gas samples.

Figures 2, 3, and 4 show the locations of proposed soil gas samples SG4 through SG20. Each proposed location corresponds with locations identified in Tables 1 through 3 where volatile petroleum hydrocarbons exceeding ESL values for residential land use were detected (see Figures 7 through 9). Additional soil gas sample collection locations are located in the southwest portion of the property where TPH-G and benzene are shown to be present in groundwater (see Figures 5 and 6) but prior sample collection has not been performed.

The procedures for soil gas sample collection are provided in the scope of work below. Soil gas samples at locations SG4 and SG5 will be collected in the sidewall of the existing pit by driving a soil gas probe at a 45 degree angle beginning at the top of the pit and extending for a distance of 7 feet (resulting in a sample collection location equivalent to 5 feet below the ground surface and 5 feet from the pit wall). The soil gas sample at locations SG6 and SG19 will be collected from the bottom of the existing pits at a depth of approximately 5 feet below the bottom of the pits. The depth to groundwater will be monitored in nearby wells MW6 and E8, respectively, at the time of sample collection to verify that a depth of 5 feet below the bottom of the pit is not below the water table. All other soil gas samples will be collected at a depth of five feet below the ground surface cover.

# <u>Down Gradient Soil Contamination and Dissolved Contaminant Plume Migration</u> <u>Discussion</u>

Based on descriptions of petroleum contaminants in groundwater being confined to gravel paleo-channels measuring 5 to 15 feet in width associated with excavation for the development of the southwest corner of Linden Street and 41<sup>st</sup> Street, and based on maps of paleo-channels associated with the nearby Oak Walk Redevelopment project at 4090 San Pablo Avenue in Emeryville, additional investigation will be performed at locations downgradient from the subject site along Linden Street to ensure that paleo-channels are not located between the borings that have been drilled to date. In addition, the presence of petroleum hydrocarbons in shallow groundwater detected in the vicinity of boreholes B5 and B6 and the possibility of an offsite upgradient source for Stoddard solvent detected in the vicinity of boreholes B5 and B6 are discussed.

Although petroleum hydrocarbons have been historically detected in a groundwater sample collected from borehole B6 at a depth of 24 feet, TPH at 24 feet in groundwater at B6 is interpreted to have originated from the 8 to 10 foot depth (see Figure 16, see also note by field geologist on boring log B6). Repeated sampling of adjacent well E9 shows that there is no TPH at a depth of 24 feet in groundwater.

The horizontal extent of TPH at a depth of 8 to 10 feet at B6 is presently unknown. Based on review of reported odors in boring logs (see Figure 13) and detected TPH in soil samples from a depth of approx 7.5 feet (see Figure 14), TPH does not extend northward as far as B3, and appears to extend southward beyond B8.

Review of boring logs for boreholes shown on geologic cross section B-B' shows that no odors were detected. Review of Figure 15 shows that no TPH-G was detected in any of the geologic cross section B-B' soil samples. Similarly, TPH-G was not detected in the groundwater grab samples from the west side of Linden Street (see Figure 17). This information suggests that the TPH-G detected in shallow groundwater at a depth of approximately 8 to 10 feet on the east side of Linden Street does not extend as far as the west side of Linden Street. The presence of petroleum hydrocarbons in soil on the west side of Linden Street at a depth of approximately 8 to 10 feet will be further evaluated with proposed boreholes located approximately as shown in Figure 21

A sanitary sewer pipe located in Linden Street flows to the south from manhole S1 to manhole S2 (see Figure 11), and flows east from manhole S2. The depth to the bottom of the manhole is approximately 10 feet at each location, with the slope of the sewer almost identical to the slope of the ground surface. A drawing of a typical sewer trench construction is attached as Figure 18. The bottom elevation of the sewer is shown projected on geologic cross section A-A' on Figure 13. The bottom of the trench approximately coincides with a clay layer shown on Figure 13. It is possible that the sanitary sewer trench intercepts TPH above the shallow clay layer, and could even impede the westward flow of shallow TPH.

To evaluate the extent of shallow saturated coarse-grained materials overlying clay at depths ranging from approximately 8 to 10 feet, a total of three geophysical resistivity transects will be surveyed at locations D-D' on the east side of (Linden Street), E-E' (on the west side of Linden Street), and F-F' (parallel to  $40^{th}$  Street on the north side of  $40^{th}$  Street and extending to both the east and the west of Linden Street, see Figure 19).

Based on the results of the geophysical survey, groundwater grab samples will be collected at a depth of approximately 11 feet from approximate locations shown on Figure 21 to confirm the presence or absence of coarse-grained materials and to evaluate the presence of TPH. At least one of the samples will be collected from adjacent to B6 to confirm the shallow presence of TPH, and two samples will be collected on the north side of  $40^{th}$  Avenue to the east of Linden Street to evaluate the presence of TPH in shallow groundwater in the vicinity of borehole B8. In addition, shallow samples will be collected on the west side of Linden Street between boreholes B9 and B10, at former location B10, and between B10 and B11 to verify that TPH has not migrated westward in shallow coarse-grained materials located between the boreholes on the west side of Linden Street.

Although it is possible that petroleum hydrocarbons identified as paint thinner or Stoddard solvent may have originated from offsite upgradient former paint manufacturing facilities located on the opposite side of Linden Street from the subject site, the presence of gasoline-range compounds in the vicinity of boreholes B5 and B6 suggests that any petroleum hydrocarbons from offsite upgradient sources would be co-mingling with petroleum hydrocarbons related to the subject site release. Additional investigation of petroleum hydrocarbons originating from offsite upgradient sources is not warranted, as this investigation is limited to petroleum hydrocarbons related to the subject site. To evaluate the possibility of the sanitary sewer trench being a conduit for the movement of petroleum hydrocarbons to offsite downgradient locations, one borehole will be hand augered in the sanitary sewer trench on the south side of 40<sup>th</sup> Street (see Figure 21) for collection of one groundwater grab sample.

### Soil Excavation and Removal Discussion

The top of the floor slab inside the building in the room adjacent to Linden Street is 49 inches higher than the ground surface outside the building (see Figure 21). The floor slab is approximately 8-inches thick, underlain by fill material. The elevation of the bottom of the fill material approximately corresponds with the ground surface elevation outside the building. Residual soil with elevated lead concentrations at the west side of Pit 1 will be removed by scraping remaining soil from the interior of the building wall beneath the floor slab and disposing of the soil appropriately.

The construction style and materials of the room adjacent to Linden Street is distinctly different from other portions of the building located to the east. Visual evaluation of test pits to the east of this room show that the fill material present beneath the floor slab for the eastern portion of the room is not present beneath the floor slab for adjacent parts of the building to the east of the room located adjacent to Linden Street. The elevated

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concentrations of lead detected at the east side of Pit 2 will be excavated and stockpiled pending appropriate disposal.

Confirmation sidewall samples will be collected from the sidewall and pit bottom at the east end of Pit 2 and at the west end of Pit 1.

### ONSITE SOIL GAS INVESTIGATION SCOPE OF WORK

To evaluate if residual petroleum hydrocarbon vapors are present in soil gas at the site, RGA proposes to perform the following activities.

- Obtain permits.
- Prepare a health and safety plan and mark drilling locations for Underground Service Alert.
- Oversee soil sample collection.
- Oversee soil gas sample collection at 17 locations (SG4 through SG20).
- Arrange for sample analysis.
- Prepare a subsurface investigation report.

Each of these is discussed below.

### Obtain Permits

A permit will be obtained from the Alameda County Public Works Agency for borehole drilling. All necessary permit-related notifications will be made prior to drilling. Notification will also be provided to the ACDEH at least 72 hours prior to drilling.

### Health and Safety Plan

A health and safety plan will be prepared for the scope of work identified in this work plan. In addition, Underground Service Alert will be notified for underground utility location, and traffic control and pedestrian control plans will be prepared. Utility maps used for preparation of the Preferential Pathway Survey Report for the subject site will also be used for identification of underground utilities at the time of drilling.

### Soil Gas Sample Collection

The proposed soil gas samples will be used to evaluate the effectiveness of remedial efforts by soil vapor extraction in the western portion of the property and excavation in the eastern portion of the property for reduction of petroleum hydrocarbon concentrations in soil.

All of the proposed soil gas samples will be collected at a depth of five feet below the ground surface, except for SG4 and SG5.

Soil gas samples will be collected at locations SG-4 through SG-20 shown on Figure 2 to evaluate residual risk posed by petroleum and HVOC soil vapor at the subject site. The

soil gas samples will be collected in accordance with general procedures set forth in the Department of Toxic Substances Control (DTSC) January 13, 2003 Advisory - Active Soil Gas Investigations.

All of the soil gas samples will be collected using temporary soil gas sampling wells. The temporary wells will be constructed by driving a hollow 1-inch diameter Geoprobe rod with an expendable tip to a depth of 5 feet and then inserting a 7-foot length of 0.250-inch outside diameter (0.187-inch inside diameter) Teflon tube to the bottom of the hollow rod. Prior to inserting the Teflon tubing the lowermost 6 inches of the Teflon tube will be perforated at several locations by notching the sides of the tube with a clean razor blade. A #2/16 Lonestar sack sand will then be added to the annular space between the hollow rod and the Teflon tube as the hollow rod is withdrawn from the ground until the lowermost 8 inches of the hole is filled with sand. Granular bentonite (with grains the size of kitty litter) will be placed in the annular space above the sand to the ground surface. The bentonite will be hydrated and the temporary well will be undisturbed for a minimum of 30 minutes prior to purging for sample collection to allow soil gas equilibration.

Prior to purging the soil gas from the temporary soil gas sampling well, the sample canister will be checked for vacuum with a vacuum gauge, followed by a 10 minute leak check of the sampling manifold. The leak check will be performed by closing the valve located between the filter and the pressure gauge and opening the purge canister and recording the manifold system vacuum (see Figure 8 for a picture of a typical soil gas sample collection manifold). Following successful verification of the manifold leak check, the purge volume will be calculated. No purge testing will be done because no mobile laboratory will be at the site. A default of three purge volumes will be extracted prior to sample collection. All purge volume calculation information will be provided in the report documenting field activities. Based on the temporary well construction information provided in this work plan, purge volume calculations are provided in Appendix D of this work plan.

Following completion of purging three purge volumes, the valve to the purge canister will be closed and a tracer gas (2-Propanol) will be placed in a dish adjacent to the purge canister and a clear Rubbermaid bin will be placed over the top of the temporary well, the sampling manifold, and the 1-liter sample canister. The vapor concentration of the 2-Propanol will be monitored with a photoionization detector until 2-Propanol vapor concentrations appear to have equilibrated. The Rubbermaid bin will then be temporarily and partially lifted long enough to open the sample canister valve and the bin will then be replaced over the sampling equipment and the 2-Propanol vapor concentrations will then again be monitored with the PID. Once the vacuum for the sample canister decreases to 5 inches of mercury vacuum, the Rubbermaid lid will be removed and the sample canister valve closed.

One duplicate soil gas sample will be collected into a one-liter Summa canister using procedures described above immediately after the collection of one original sample. The void space and tubing will not be purged of three purge volumes prior to collection of

the duplicate sample. Following soil gas sample collection, the soil gas samples will be stored in a box and promptly shipped to the laboratory for extraction and analysis. The requested laboratory analysis will include the tracer gas 2-Propanol. Soil gas sampling will not be performed during or following a precipitation event.

All drilling rods and associated drilling fittings will be cleaned with an Alconox solution wash and clean water rinse followed by a clean water rinse using steam distilled water. New Teflon tubing will be used at each sample collection location. Clean, unused vacuum gages and stainless steel tee and valve assemblies will be used at each sample collection location. Following soil gas sample collection the Teflon tubing will be pulled from each temporary soil gas sampling well and a 1-inch diameter solid steel rod will be driven through the bentonite and sand to a total depth of 5 feet. The solid steel rod will then be removed, and the borehole filled with neat cement.

### Sample Analysis

All of the groundwater samples will be analyzed at McCampbell Analytical, Inc. (McCampbell) in Pittsburg, California for TPH-G by EPA Method 5030 in conjunction with modified EPA Method 8015; TPH-D by EPA Method 3510 in conjunction with modified EPA Method 8015: and for VOCs, including MBTEX, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride by EPA Method 8260B. McCampbell is a State-accredited hazardous waste testing laboratory. Chain of custody documentation will accompany the samples to the laboratory.

All of the soil gas samples will be analyzed at Air Toxics Limited of Folsom California for TPH-G, MBTEX, TCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride and 2-Propanol (the tracer gas) using EPA Method TO-15.

### Subsurface Investigation Report Preparation

Upon receipt of the laboratory analytical results, a report will be prepared. The report will document soil gas sample collection procedures and sample results. The report will include a site vicinity map showing the drilling locations, tables summarizing the sample results, recommendations based on the results, and the stamp of an appropriately registered professional.

In accordance with the California Code of Regulations Sections 2729 and 2729.1, P & D will submit analytical data, survey coordinates of permanent monitoring points, and an electronic copy of the summary report in PDF format to the State Water Resources Control Board GeoTracker system.

### RESIDUAL TPH IN SOIL INVESTIGATION SCOPE OF WORK

Review of Table 1 shows that all of the detected soil concentrations exceeding ESL values that are located on site and that have not been excavated are the two soil samples from borehole I2, and the Pit 4 confirmation samples. The soil samples collected from borehole

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locations B5 through B8, and E8 and E9 are all located offsite, and the soil associated with borehole B41 and B42 soil samples was excavated as Pit 4. The Pit 4 confirmation sample locations will be evaluated with soil gas (soil gas samples SG4, SG5 and SG6), and the borehole I2 vicinity will be evaluated with one soil gas sample (SG12). SG12 is located inside the building because the I2 boring was a slant boring.

Based on discussions with the ACDEH, soil samples will also be collected at depths of 5 and 10 feet in the vicinity of SG12 for additional confirmation of remediation effectiveness. RGA will perform the following activities. Procedures for permitting and health and safety plan preparation will be performed as described above.

### Soil Sample Collection

Soil samples will be collected from one borehole adjacent to location SG12 following soil gas sample collection. The borehole will be drilled using GeoProbe direct push technology to drive a 2.5-inch outside diameter Geoprobe macrocore barrel sampler lined with transparent PVC sleeves. The soil from the boring will be logged in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. All soil from the boreholes will be evaluated with a Photoionization Detector (PID) equipped with a 10.6 eV bulb and calibrated using a 100 ppm isobutylene standard. Soil will be retained for laboratory analysis by cutting a six-inch long section of the liner at depths corresponding to the sample collection depths of 5.0 and 10.0 feet. The depth to groundwater in nearby groundwater monitoring wells and extraction wells will be monitored and recorded at the time of sample collection.

The ends of the tubes will be sequentially covered with aluminum foil and plastic endcaps. The tubes will then be labeled and stored in a cooler with ice pending delivery to the laboratory. Chain of custody procedures will be observed for all sample handling.

### Sample Analysis

The soil samples will be analyzed at McCampbell Analytical, Inc. (McCampbell) in Pittsburg, California for TPH-G by EPA Method 5030 in conjunction with modified EPA Method 8015; and for MBTEX by EPA Method 8021B.

### **Report Preparation**

A description of the field procedures and the sample results will be included as part of the report documenting soil gas post-remedial confirmation sampling at the site.

### OFFSITE GROUNDWATER INVESTIGATION SCOPE OF WORK

To evaluate down gradient soil contamination and dissolved contaminant plume migration, RGA will perform the following additional scope of work.

- Obtain permits.
- Prepare a health and safety plan and mark drilling locations for Underground Service Alert.
- Perform a geophysical resistivity survey to identify shallow paleo-channels at depths ranging from approximately 8 to 11 feet.
- Oversee groundwater sample collection.
- Arrange for sample analysis.
- Prepare a subsurface investigation report.

### **Obtain Permits**

A permit will be obtained from the Alameda County Public Works Agency for borehole drilling and from the City of Oakland for encroachment and drilling in the public right of way. All necessary permit-related notifications will be made prior to drilling. Notification will also be provided to the ACDEH at least 72 hours prior to drilling.

### Health and Safety Plan and Traffic Control Plan Preparation

A health and safety plan will be prepared for the scope of work identified in this work plan. In addition, Underground Service Alert will be notified for underground utility location, and traffic control and pedestrian control plans will be prepared. Utility maps used for preparation of the Preferential Pathway Survey Report for the subject site will also be used for identification of underground utilities at the time of drilling. Additionally, traffic control plans will be prepared.

### Geophysical Resistivity Survey

Three geophysical resistivity transects will be surveyed at locations as follows: D-D' on the east side of (Linden Street), E-E' (on the west side of Linden Street), and F-F' (parallel to 40<sup>th</sup> Street on the north side of 40<sup>th</sup> Street and extending to both the east and the west of Linden Street, see Figure 19).

The surveys will be used to identify locations for confirmation drilling and shallow groundwater sample collection above the shallow clay layer identified in the vicinity of B6 at a depth of approximately 8 to 11 feet.

### Groundwater Sample Collection

Based on review of the geophysical survey results, groundwater grab samples will be collected from boreholes drilled to a maximum depth of 11 feet at proposed locations in the vicinity of the locations shown on Figure 21 to evaluate the presence of coarse-grained materials and TPH in shallow groundwater at a depth of approximately 11 feet. The boreholes will be drilled using GeoProbe direct push technology methods described above for soil sample collection and for logging purposes. The boreholes in the sanitary sewer trench will be drilled using a hand auger.

First encountered groundwater samples will be collected from the boreholes by placing temporary 1-inch diameter slotted PVC pipe into the boreholes and using disposable polypropylene tubing with a stainless steel footvalve. Groundwater samples will be transferred to 40-millileter VOAs and 1-liter glass amber bottles, all of which will be supplied by the laboratory and contain hydrochloric acid preservative. The sample bottles will be labeled and placed in a cooler with ice pending delivery to the laboratory. Chain of custody procedures will be observed for all sample handling.

### Sample Analysis

All of the soil and groundwater samples will be analyzed at McCampbell Analytical, Inc. (McCampbell) in Pittsburg, California for TPH-G by EPA Method 5030 in conjunction with modified EPA Method 8015; MBTEX, and for TPH-D with silica gel cleanup. Chain of custody documentation will accompany the samples to the laboratory.

### **Report Preparation**

Upon receipt of the laboratory analytical results, a report will be prepared. The report will document soil and groundwater and soil gas sample collection procedures and sample results. The report will include a site vicinity map showing the drilling locations, tables summarizing the sample results, recommendations based on the results, and the stamp of an appropriately registered professional.

### RESIDUAL LEAD IN SOIL REMEDIATION SCOPE OF WORK

To address residual soil with elevated lead concentrations on the sidewalls of Pits 1 and 2, RGA will perform the following activities.

### Health and Safety Plan Preparation

A health and safety plan will be prepared as described above.

### Soil Excavation

Soil at the west end of Pit 1, and the remaining soil on the interior building walls on the perimeter of Pit 1 and Pit 2 will be removed by scraping remaining soil from the interior of the building wall beneath the floor slab and disposing of the soil appropriately.

The construction style and materials of the room adjacent to Linden Street is distinctly different from other portions of the building. Test pits to the east of this room show that the fill material present beneath the floor slab for the eastern portion of the room is not present beneath the floor slab for adjacent parts of the building to the east of the room located adjacent to Linden Street. The elevated concentrations of lead detected at the east side of Pit 2 will be removed and disposed of appropriately.

### Confirmation Sample Collection

Four confirmation sidewall samples will be collected from the pit sidewall at the east end of Pit 2. No soil will remain at the west end of Pit 1 to be sampled.

A total of four confirmation samples will be collected from the sidewall and pit bottom at the east end of Pit 2, and a total of four confirmation samples will be collected from the sidewall and pit bottom at the west end of Pit 1.

### Sample Analysis

The confirmation samples will be analyzed for total lead.

### Excavated Soil Disposal

The excavated soil will be sampled in accordance with disposal facility requirements and the excavated soil disposed of appropriately.

### Report Preparation

A report will be prepared documenting the soil excavation, confirmation sample collection, laboratory sample results, and will include copies of the confirmation sample laboratory reports, manifests and weight tickets for soil disposal, and a summary of the total weight of soil removed from the site.

PAUL H. KING

No. 5901

Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

Sincerely,

RGA Environmental, Inc.

Paul H. King

Professional Geologist #5901

Expires: 12/31/09

Karin Schroeter Project Manager

### Attachments:

Table 1 – Summary of Soil Sample Results Exceeding ESL Values

Table 2 – Summary of Groundwater Sample Results Exceeding ESL Values

Table 3 – Summary of Soil Gas Sample Results Exceeding ESL Values

Table 4 – Summary of Linden Street Cross Section A-A' Borehole Findings

Figure 1 - Site Location Map

Figure 2 - Site Vicinity Map Showing Proposed Soil Gas Sample Collection Locations

Figure 3 – Site Plan Detail Showing Proposed Soil Gas Sample Collection Locations in the Eastern Portion of the Site

Figure 4 – Site Plan Detail Showing Proposed Soil Gas Sample Collection Locations in the Western Portion of the Site

Figure 5 – Site Vicinity map Showing TPH-G in Groundwater

Figure 6 – Site Vicinity map Showing Benzene in Groundwater

Figure 7 - Site Vicinity Map Showing Historic Detected Volatile Hydrocarbons in Soil

Figure 8 - Site Vicinity Map Showing Historic Detected Volatile Hydrocarbons in Groundwater

Figure 9 - Site Vicinity Map Showing Historic Detected Volatile Hydrocarbons in Soil Gas

Figure 10 - Typical Soil Gas Sample Collection Manifold

Figure 11 – Site Vicinity Map Showing Geologic Cross Section Locations

Figure 12 – Geologic Cross Sections A-A' and B-B'

Figure 13 – Geologic Cross Section A-A' Showing Petroleum Odors in Soil

Figure 14 – Geologic Cross Section A-A' Showing TPH-G in Soil

Figure 15– Geologic Cross Section B-B' Showing TPH-G in Soil

Figure 16 – Geologic Cross Section A-A' Showing TPH-G in Groundwater

Figure 17– Geologic Cross Section B-B' Showing TPH-G in Groundwater

Figure 18 – Typical trench cross section.

Figure 19 – Site Vicinity Map Showing Proposed Geophysical Transect Locations

Figure 20 – Site Vicinity Map Showing Storm Drain and Sanitary Sewer Trenches

Figure 21 – Site Vicinity Map Showing Proposed Groundwater Sample Collection Locations

Figure 22 – Building Wall and Floor slab Cross Section

Appendix A – Historic Soil Sample Results

Appendix B – Historic Groundwater Sample Results

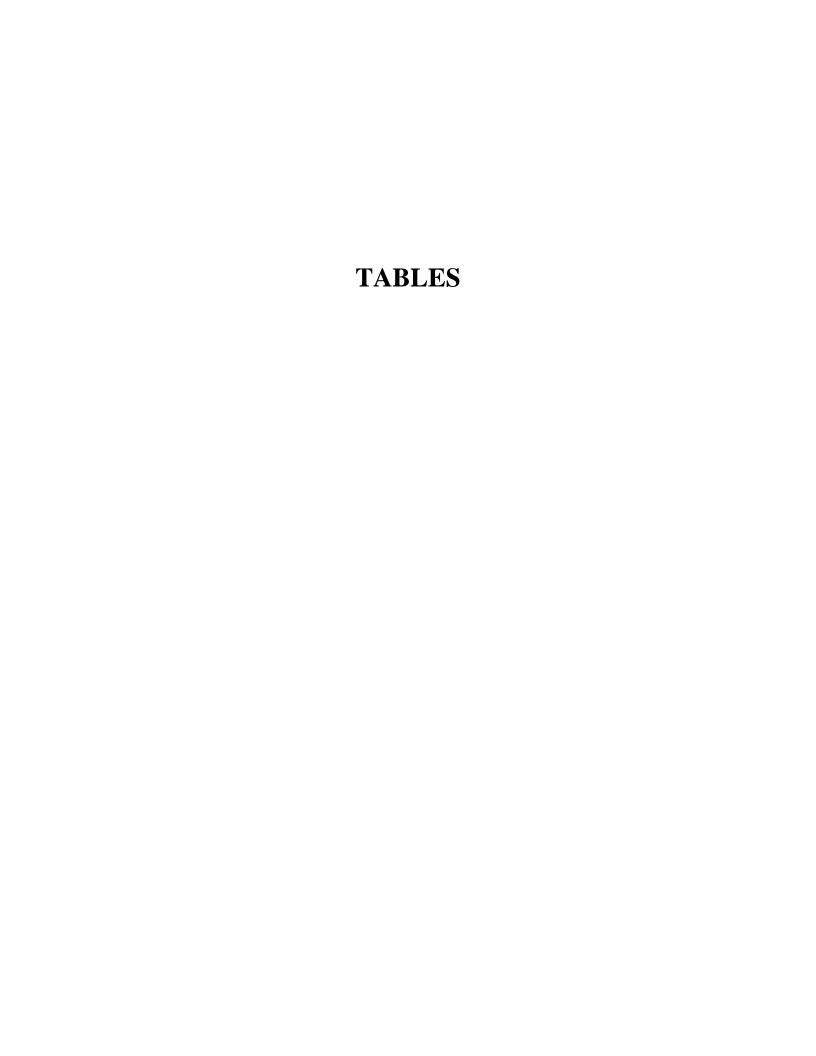
Appendix C – Historic Soil Gas Sample Results

Appendix D - Soil Gas Purge Volume Calculations

Cc: Donald Miller, California Linen Rental Company

PHK

0304.W6



Sample Medium	Sample Location	Sample ID	Sample Date	Detections Exceeding ESLs (mg/Kg)	Table A (Residential) (mg/Kg). <sup>a</sup>	Table C (Residential) (mg/Kg).b	Confirmation Soil Gas Sample Designation	Additional Comments	Reported in
soil	B5	B5-7.5	9/13/2005	TPH-G = <b>590</b> , xylenes = <b>4.0</b>	TPH-G = 83, xylenes = 2.3		SG18	ND at 5',11', 19.5'	0304.R3
soil	В6	B6-7	9/13/2005	TPH-G = <b>240</b> , xylenes = <b>9.2</b>	TPH-G = 83, xylenes = 2.3		SG18	ND at 5', 10, and 19.0'	0304.R3
soil	В8	B8-7.5	10/11/2005	TPH-G = <b>230</b>	TPH-G = 83		SG18	ND at 5', 10', 12.5', &19.5'	0304.R3
soil	I2	12-5.0	Sep-06	benzene = <b>0.052</b>	benzene = 0.044		SG11		0304.R5
soil	I2	I2-10.0	Sep-06	$\begin{array}{c} \text{TPH-G} = 1,\!900,\\ \text{benzene} = 4.3,\\ \text{toluene} = 25,\\ \text{ethylbenzene} = 33,\\ \text{xylenes} = 180 \end{array}$		TPH-G = 83, benzene = 0.044 toluene = 2.9, ethylbenzene = 3.3, xylenes = 2.3	SG11	All ND @ 15'	0304.R5
soil	B41	B41-0.5	10/26/2006	TPH-G = <b>630</b> ,	TPH-G = 83		SG4	BTEX below ESLs	0304.R5
soil	B41	B41-2.5	10/27/2006	TPH-G = <b>750</b> , 1-methylnaphthalene = 1.4, 2-methylnaphthalene = <b>2.3</b> , naphthalene = <b>2.5</b>	TPH-G = 83, 1-methylnaphthalene = None, 2-methylnaphthalene = 0.25, naphthalene = 1.3		SG4	BTEX below ESLs;	0304.R5
soil	B41	B41-3.0	10/27/2006	TPH-G = $1,100$ , naphthalene = $2.2$	TPH-G = 83, naphthalene = 1.3		SG6	BTEX below ESLs;	0304.R5
soil	B42	B42-0.5	10/26/2006	TPH-G = <b>640</b> ,	TPH-G = 83		SG5	BTEX below ESLs;	0304.R5
soil	B42	B42-3.0	10/26/2006	TPH-G = <b>450</b> ,	TPH-G = 83		SG5	BTEX below ESLs;	0304.R5
soil	E8	E8-7.0	3/26/2007	TPH-G = <b>1,300</b> , benzene = <b>0.54</b> , xylenes = <b>43</b>	TPH-G = 83 mg/Kg, benzene = 0.044, xylenes = 2.3		SG17		0304.R9
soil	E9	E9-7.0	3/22/2007	TPH-G = <b>450</b> , xylenes = <b>15</b>	TPH-G = 83, xylenes = 2.3		SG18		0304.R9
soil	Pit4d	Pit4d-4.0	5/6/2008	TPH-G = <b>190</b>	TPH-G = 83		SG4	BTEX below ESLs	0304.R14
soil	Pit4e	Pit4e-4.0	5/6/2008	TPH-G = <b>90</b> ,	TPH-G = 83		SG5	BTEX below ESLs;	0304.R14
soil	Pit4g	Pit4g-5.0	5/6/2008	TPH-G = <b>170</b> ,	TPH-G = 83		SG6	BTEX below ESLs;	0304.R14

Notes:

**BOLD** = Concentration in excess of applicable ESL.

Results given in mg/Kg, unless otherwise noted.

<sup>&</sup>lt;sup>a</sup> = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use).

<sup>&</sup>lt;sup>b</sup> = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table C – Deep Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use).

# ${\bf TABLE~2}$ Summary of Groundwater Sample Results Exceeding ESL Values

Sample Medium	Sample Location	Sample ID	Sample Date	Detections Exceeding ESL (ug/L)	Table A (Residential) (ug/L), a	Table E-1 (Residential) (ug/L) <sup>c</sup>	Confirmation Soil Gas Sample Designation	Additional Comments	Reported in
groundwater	В3	В3	7/21/2004	TPH-G = <b>500</b> , xylenes = <b>44</b>	TPH-G = 100, xylenes = 20	TPH-G = (use soil gas), xylenes = 160,000	SG17	benzene ND	0304.R2
groundwater	В4	B4-28.0	9/13/2005	TPH-G = <b>120</b>	TPH-G = 100	TPH-G = (use soil gas)	SG17		0304.R3
groundwater	B5	B5-28.0	9/13/2005	TPH-G = <b>120</b> , benzene = <b>1.0</b>	TPH-G = 100, benzene = 1.0	TPH-G = (use soil gas), benzene = 540	SG18		0304.R3
groundwater	В6	B6-24.0	9/13/2005	TPH-G = <b>1,900</b> , TPH-SS = <b>1,400</b> , benzene = <b>23</b> , ethylbenzene = <b>62</b> , xylenes = <b>240</b> , naphthalene = <b>24</b>	TPH-G = 100, TPH-SS = 100, benzene = 1.0, ethylbenzene = 30, xylenes = 20, naphthalene = 17	TPH-G = (use soil gas), TPH-SS = (use soil gas), benzene = 540, ethylbenzene = 170,000, xylenes = 160,000, naphthalene = 3,200	SG18		0304.R3
groundwater	B13	B13-9.0	1/12/2006	TPH-G = <b>16,000</b> , benzene = <b>21</b> , ethylbenzene = <b>250</b> , xylenes = <b>27</b>	TPH-G = 100, benzene = 1.0, ethylbenzene = 30, xylenes = 20	TPH-G = (use soil gas), benzene = 540, ethylbenzene = 170,000, xylenes = 160,000	SG7		0304.R4
groundwater	B15	B15-19.0	1/11&12/2006	TPH-G = <b>160</b> ,	TPH-G = 100	TPH-G = (use soil gas)	SG16	BTEX below Table A ESLs	0304.R4
groundwater	B17	B17-18.0	1/12/2006	TPH-G = <b>220</b> , benzene= <b>2.5</b>	TPH-G = 100, benzene = 1.0	TPH-G = (use soil gas), benzene = 540	SG14		0304.R4
groundwater	B24	B24-25.0	8/9/2006	TPH-G = <b>6,600</b> , benzene = <b>1,000</b> , ethylbenzene = <b>260</b> , xylenes = <b>41</b>	TPH-G = 100, benzene = 1.0, ethylbenzene = 30, xylenes = 20	TPH-G = (use soil gas), benzene = 540, ethylbenzene = 170,000, xylenes = 160,000	SG9		0304.R5
groundwater	E2-W	E2-W	11/1/2006	TPH-G = <b>1,900</b> , xylenes = <b>150</b>	TPH-G = 100, xylenes = 20	TPH-G = (use soil gas), xylenes = 160,000	SG8		0304.R5

## TABLE 2 Summary of Groundwater Sample Results Exceeding ESL Values

Sample Medium	Sample Location	Sample ID	Sample Date	Detections Exceeding ESL (ug/L)	Table A (Residential) (ug/L), a	Table E-1 (Residential) (ug/L) c	Confirmation Soil Gas Sample Designation	Additional Comments	Reported in
groundwater	E3-W	E3-W	11/1/2006	TPH-G = <b>2,600</b> , ethylbenzene = <b>44</b> , xylenes = <b>350</b>	TPH-G = 100, ethylbenzene = 30, xylenes = 20	TPH-G = (use soil gas), ethylbenzene = 170,000, xylenes = 160,000	SG13		0304.R5
groundwater	E6-W	E6-W	11/1/2006	TPH-G = <b>310</b> , benzene = <b>4.9</b>	TPH-G = 100, benzene = 1.0	TPH-G = (use soil gas), benzene = 540	SG10		0304.R5
groundwater	MW1-W	MW1-W	11/1/2006	TPH-G = <b>8,500</b> , ethylbenzene = <b>69</b> , xylenes = <b>1,000</b>	TPH-G = 100, ethylbenzene = 30, xylenes = 20	TPH-G = (use soil gas), ethylbenzene = 170,000, xylenes = 160,000	SG11		0304.R5
groundwater	E4-W	E4-W	4/6/2007	TPH-G = <b>1,100</b> , benzene = <b>6.3</b>	TPH-G = 100, benzene = 1.0	TPH-G = (use soil gas), benzene = 540	SG12/13	other petroleum VOCs below Table A ESLs	0304.R9
groundwater	E8-W	E8-W	4/6/2007	TPH-G = <b>110</b>	TPH-G = 100	TPH-G = (use soil gas)	SG18	MBTEX below Table A ESLs	0304.R9
groundwater	E9-W	E9-W	4/6/2007	TPH-G = <b>110</b>	TPH-G = 100	TPH-G = (use soil gas)	SG18	MBTEX below Table A ESLs	0304.R9

### Notes:

### **BOLD** = Concentration in excess of Table A ESL.

Italicized = Concentration in excess of Table E-1 ESL.

Results given in mg/Kg, unless otherwise noted.

<sup>&</sup>lt;sup>a</sup> = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use).

<sup>&</sup>lt;sup>c</sup> = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table E1 – Groundwater Screening Levels, For evaluation of potential vapor intrusion concerns (volatile chemicals only).

# TABLE 3 Summary of Soil Gas Sample Results Exceeding Residential ESL Values

Sample Medium	Sample Location	Sample ID	Sample Date	Detections Exceeding ESL	Concentration (ug/m3)	Table E (Shallow Soil Gas,  Residential) (ug/m3), d	Confirmation Soil Gas Sample Designation	Additional Comments	Reported in
air	SG1	SG1	7/23/2004	TPH-G = 130,000, ug/m3 benzene = 1,700 ug/m3	TPH-G = <b>130,000</b> , benzene = <b>1,700</b>	TPH-G = 10,000, benzene = 84	SG12	on loading dock near fromer UST	0304.R2
air	MW1	MW-1	10/12/2006	TPH-G = 8,800 Vppm, MTBE = 101 Vppm, benzene = 68 Vppm, toluene = 228 Vppm, ethylbenzene = 73 Vppm, xylenes = 225 Vppm	TPH-G = 36,666,666.7, MTBE = 370,964.6, benzene = 221,311.7, toluene = 875,330, ethylbenzene = 322,903.3, xylenes = 995,250	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG11	Beginning of Cal- Clean Extraction	0304.R6
air	MW1	MW-1	4/2/2007	TPH-G = 350 Vppm, MTBE = 4.0 Vppm, benzene = 3.6 Vppm, toluene = 18 Vppm, ethylbenzene = 6.9Vppm, xylenes = 19 Vppm	TPH-G = 1,458,333.3, MTBE = 14,691.7, benzene = 11,716.5, toluene = 69,105, ethylbenzene = 30,521, xylenes = 84,043.3	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG11	28 Days Before End of Cal-Clean Extraction	0304.R6
air	EI	E-1	10/13/2006	TPH-G = 2,650 Vppm,  * MTBE = 12 Vppm, benzene = 18 Vppm, toluene = 87 Vppm, ethylbenzene = 62 Vppm, xylenes = 276 Vppm	TPH-G = 11,041,666.7, MTBE = 44,075, benzene = 58,582.5, toluene = 334,007.5, ethylbenzene = 274,246.7, xylenes = 1,220,840	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG7	Beginning of Cal- Clean Extraction	0304.R6
air	Ei	E-1	4/2/2007	TPH-G = 362 Vppm, MTBE = 4.4 Vppm, benzene = 3.8 Vppm, toluene = 19 Vppm, ethylbenzene = 7.0 Vppm, xylenes = 18 Vppm	TPH-G = 1,508,333.3, MTBE = 16,160.8, benzene = 12,367.4, toluene = 72,944.2, ethylbenzene = 30,963.3, xylenes = 79,620	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG7	28 Days Before End of Cal-Clean Extraction	0304.R6
air	E2	E-2	11/1/2006	TPH-G = 860 Vppm, MTBE = 1.6 Vppm, benzene = 0.39 Vppm, toluene = 2.2 Vppm, ethylbenzene = 11 Vppm, xylenes = 38 Vppm	TPH-G = <b>3,583,333.3</b> , MTBE = 5,876.7, benzene = <b>1,269.3</b> , toluene = 8,446.2, ethylbenzene = <b>48,656.7</b> , xylenes = <b>168,086.7</b>	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG8	Beginning of Cal- Clean Extraction	0304.R6

Sample Medium	Sample Location	Sample ID	Sample Date	Detections Exceeding ESL	Concentration (ug/m3)	Table E (Shallow Soil Gas, Residential) (ug/m3), <sup>d</sup>	Confirmation Soil Gas Sample Designation	Additional Comments	Reported in
air	E2	E-2	4/2/2007	TPH-G = 225 Vppm, MTBE = 2.4 Vppm, benzene = 1.7 Vppm, toluene = 8.9 Vppm, ethylbenzene = 4.3 Vppm, xylenes = 11 Vppm	TPH-G = <b>937,500</b> , MTBE = 8,815, benzene = <b>5,532.8</b> , toluene = <b>34,</b> 168.6, ethylbenzene = <b>19,020.3</b> , xylenes = <b>48,656.7</b>	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG8	28 Days Before End of Cal-Clean Extraction	0304.R6
air	E3	E-3	10/13/2006	TPH-G = 2,370 Vppm,  MTBE = 20 Vppm,  benzene = 23 Vppm,  toluene = 53 Vppm,  ethylbenzene = 20 Vppm,  xylenes = 69 Vppm	TPH-G = 9,875,000, MTBE = 73,458.3, benzene = 74,855.4, toluene = 203,475.8, ethylbenzene = 88,466.7, xylenes = 305,210	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG12/13	Beginning of Cal- Clean Extraction	0304.R6
air	E3	E-3	4/2/2007	TPH-G = 17 Vppm, MTBE = ND<0.10 Vppm, benzene = ND<0.01 Vppm, toluene = 0.09 Vppm, ethylbenzene = 0.07 Vppm, xylenes = 0.16 Vppm	TPH-G = <b>70,833.3</b> , MTBE = ND<367.3, benzene = ND<32.5, toluene = 345.5, ethylbenzene = 309.6, xylenes = 707.7	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG12/13	28 Days Before End of Cal-Clean Extraction	0304.R6
air	E6	E-6	10/13/2006	TPH-G = 3,700 Vppm, MTBE = 3.0 Vppm, benzene = 20 Vppm, toluene = 115 Vppm, ethylbenzene = 78 Vppm, xylenes = 330 Vppm	TPH-G = 15,416,666.7, MTBE = 11,018.8, benzene = 65,091.7, toluene = 441,504.2, ethylbenzene = 345,020, xylenes = 1,459,700	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG10	Beginning of Cal- Clean Extraction	0304.R6
air	E6	E-6	4/2/2007	TPH-G = 307 Vppm, MTBE = 3.8 Vppm, benzene = 2.9 Vppm, toluene = 16 Vppm, ethylbenzene = 5.8 Vppm, xylenes = 15 Vppm	TPH-G = 1,279,166.7, MTBE = 13,957.1, benzene = 9,438.3, toluene = 61,426.7, ethylbenzene = 25,655.3, xylenes = 66,350	TPH-G = 10,000, MTBE = 9,400, benzene = 84, toluene = 63,000, ethylbenzene = 980, xylenes = 21,000	SG10	28 Days Before End of Cal-Clean Extraction	0304.R6

Notes:

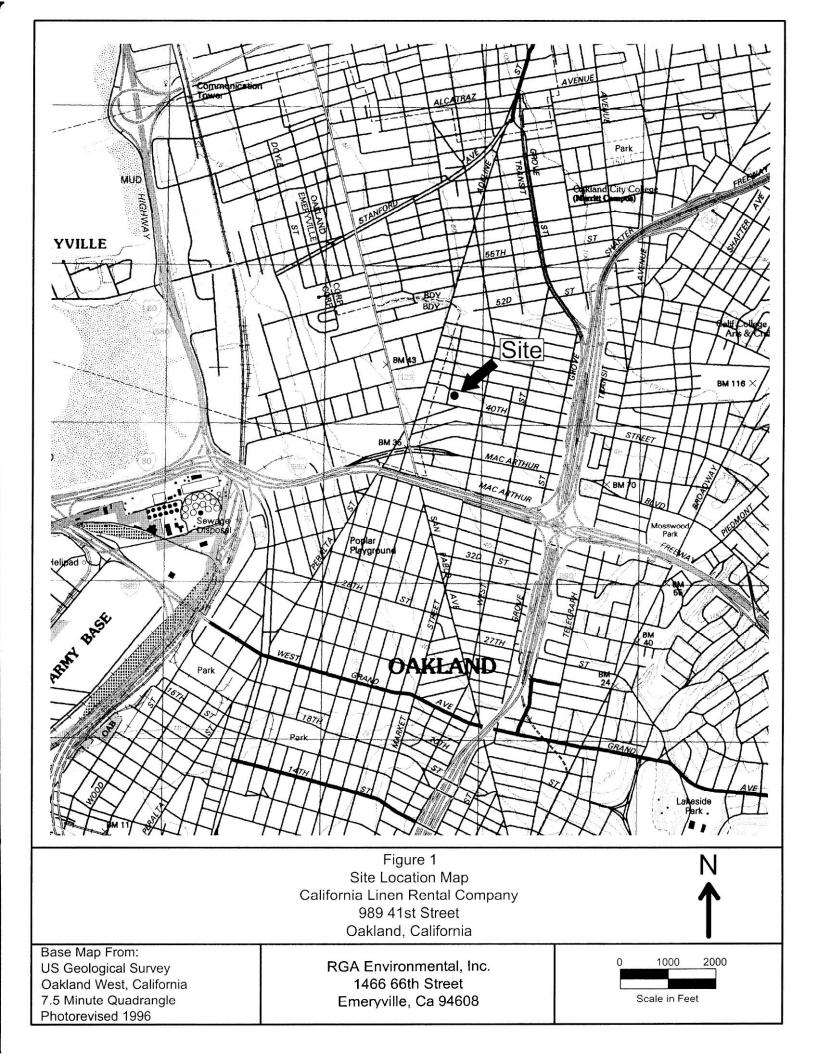
MTBE = Methyl Tertiary Butyl Ether.

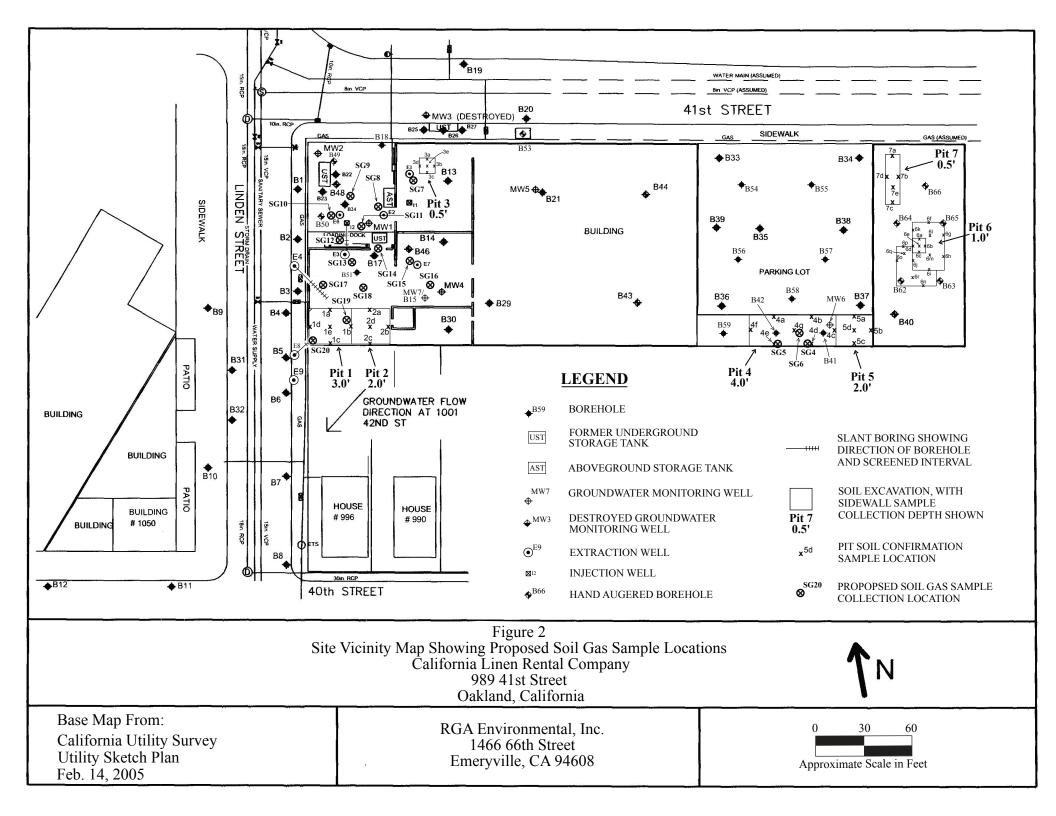
**BOLD** = Concentration in excess of ESL.

<sup>\* =</sup> MTBE concentration taken from 11/1/2006 sample results.

<sup>&</sup>lt;sup>d</sup> = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table E – Shallow Soil Gas Screening Levels For Evaluation of Potential Vapor Intrusion Concerns, volatile chemicals only.

# **FIGURES**

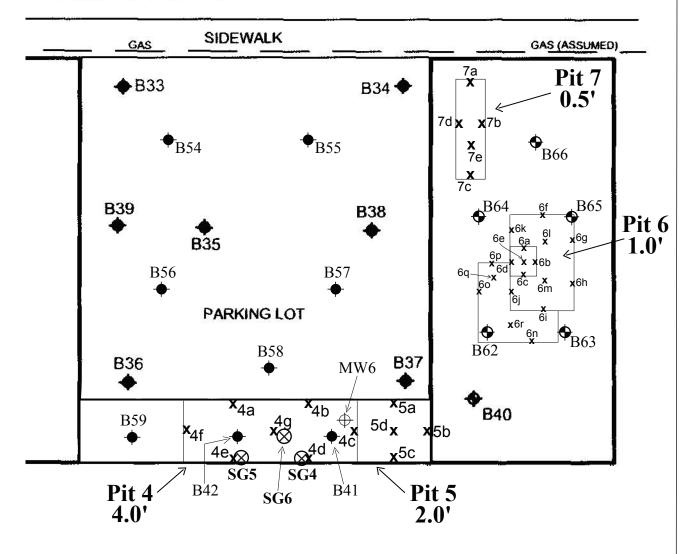




WATER MAIN (ASSUMED)

8in VCP (ASSUMED)

# 41st STREET



### **LEGEND**

◆<sup>B59</sup> B

BOREHOLE

⊕MW6 B66

GROUNDWATER MONITORING WELL

◆<sup>B66</sup>

Pit 7 0.5'

HAND AUGERED BOREHOLE SOIL EXCAVATION, WITH SIDEWALL SAMPLE COLLECTION DEPTH SHOWN **x** <sup>5d</sup>

PIT SOIL CONFIRMATION SAMPLE LOCATION

 $\otimes_{\mathcal{S}^{G}}$ 

PROPOSED SOIL GAS SAMPLE COLLECTION LOCATION

Figure 3
Site Plan Detail Showing Proposed Soil Gas Sample Locations in the Eastern Portion of the Site California Linen Rental Company 989 41st Street

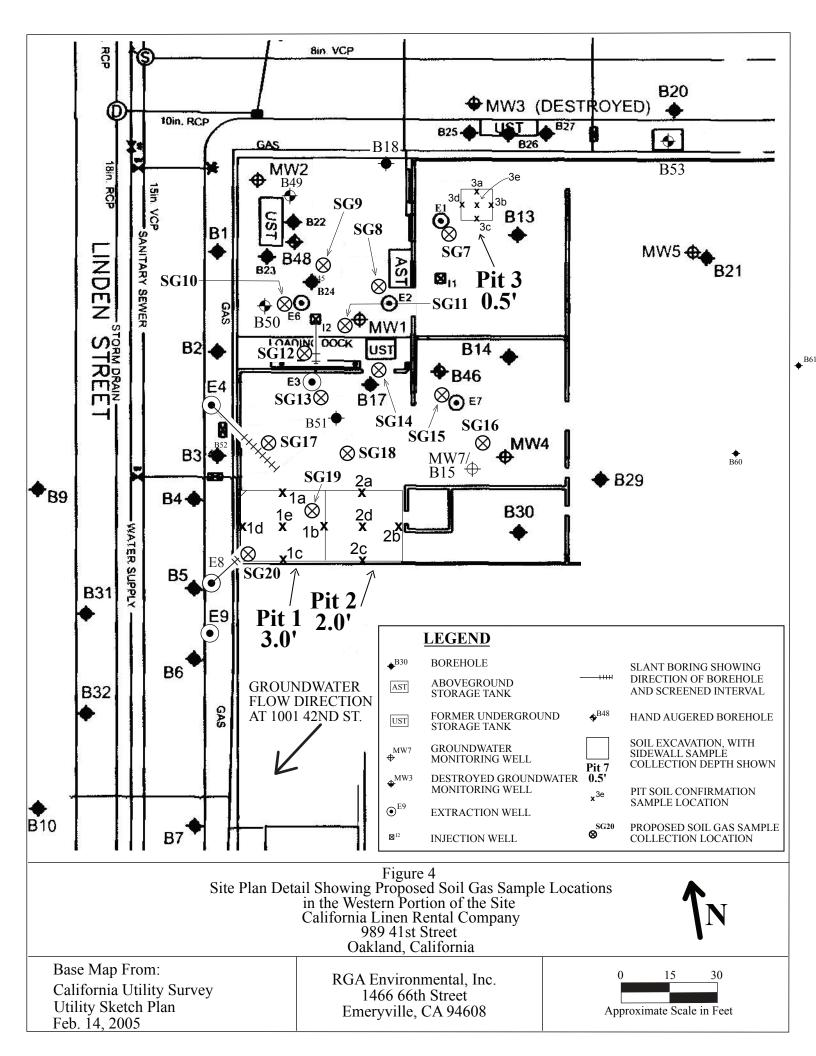
Oakland, California

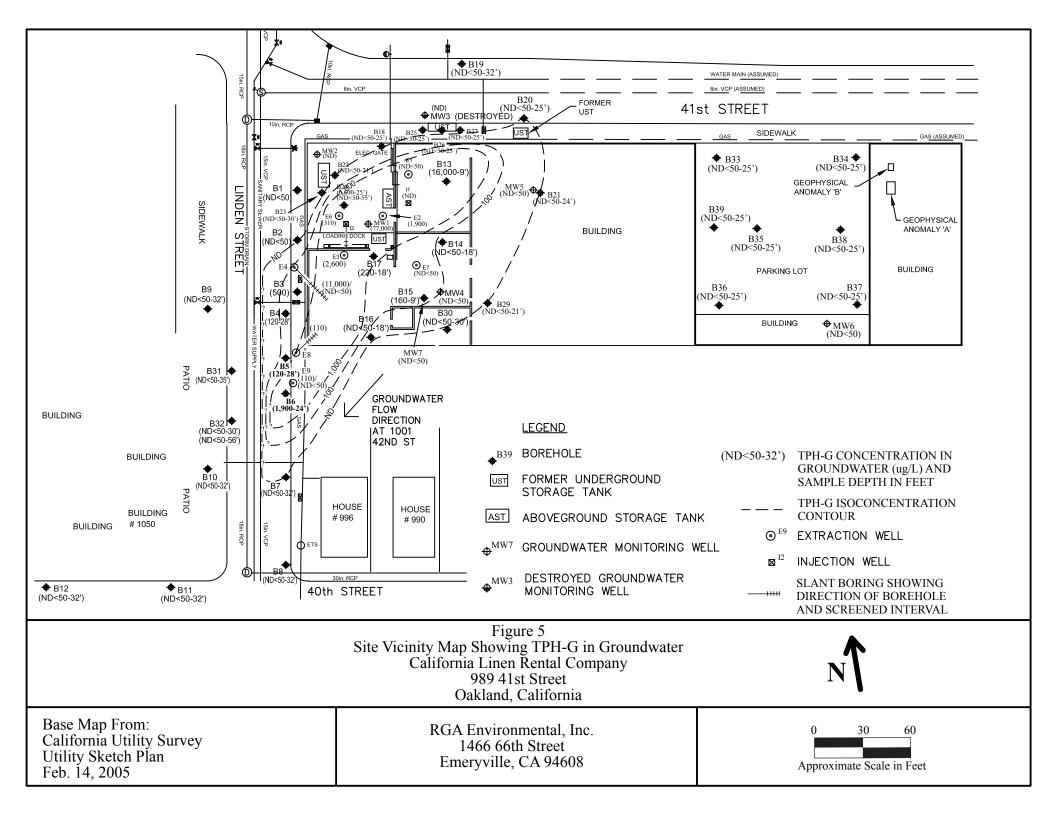


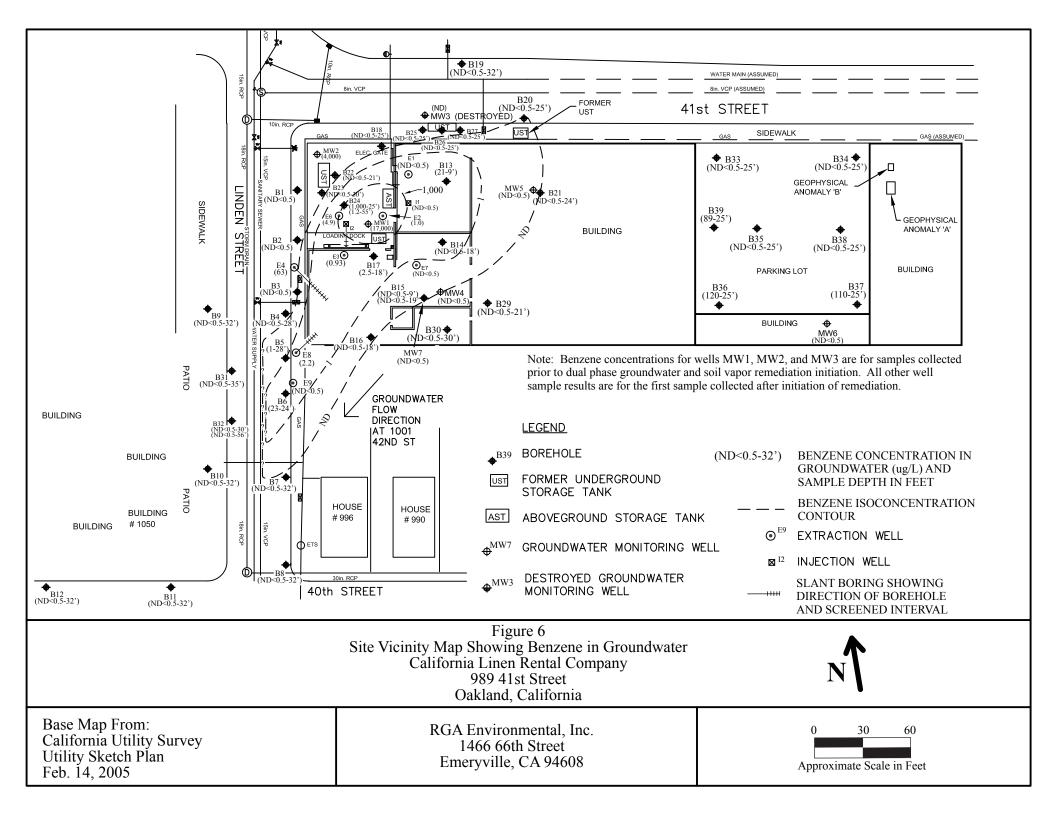
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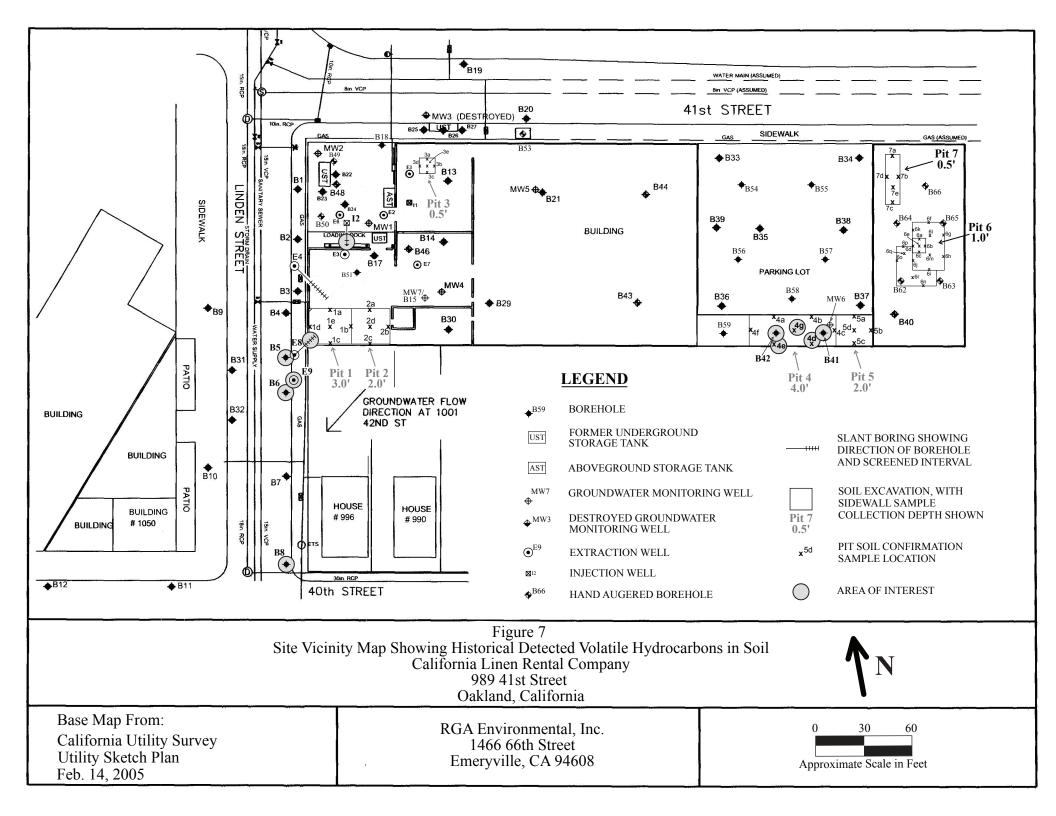
RGA Environmental, Inc. 1466 66th Street Emeryville, CA 94608

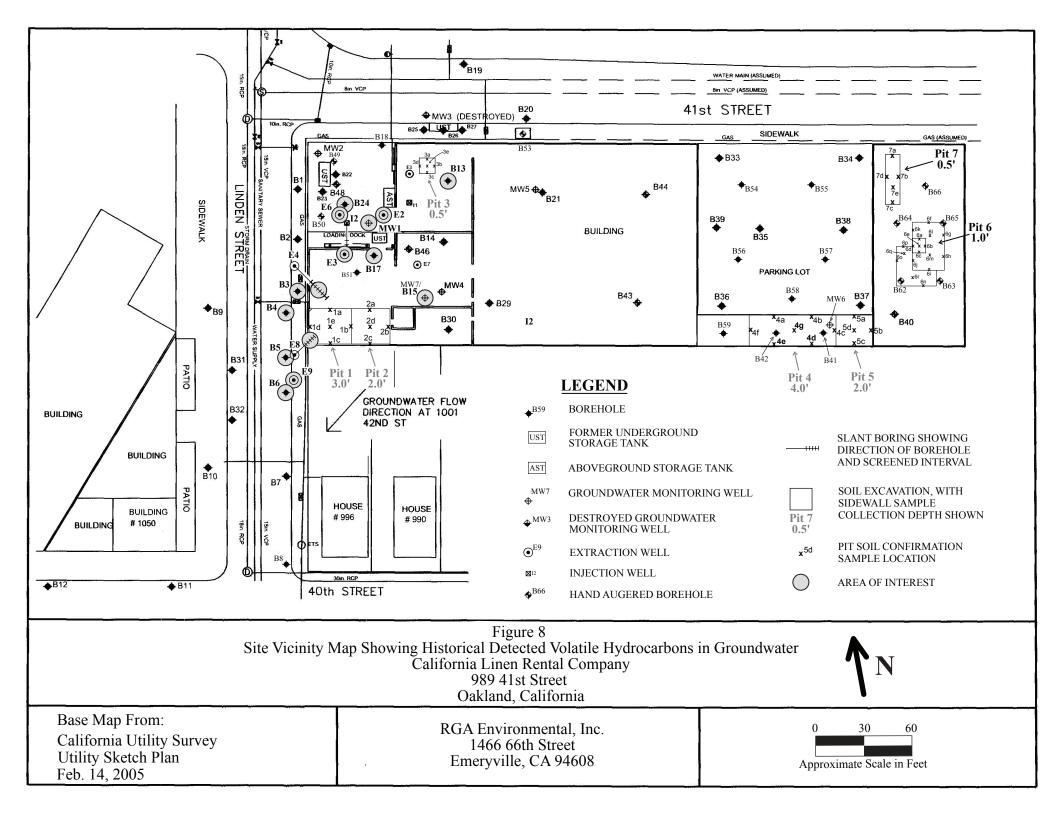












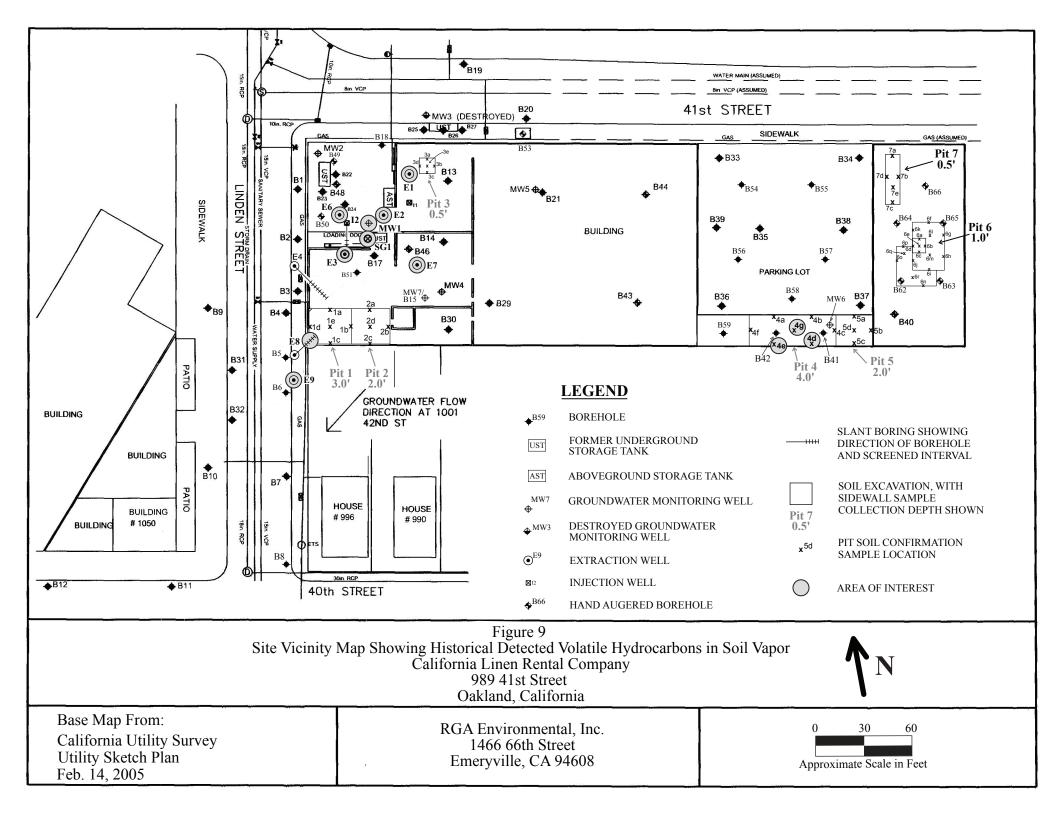
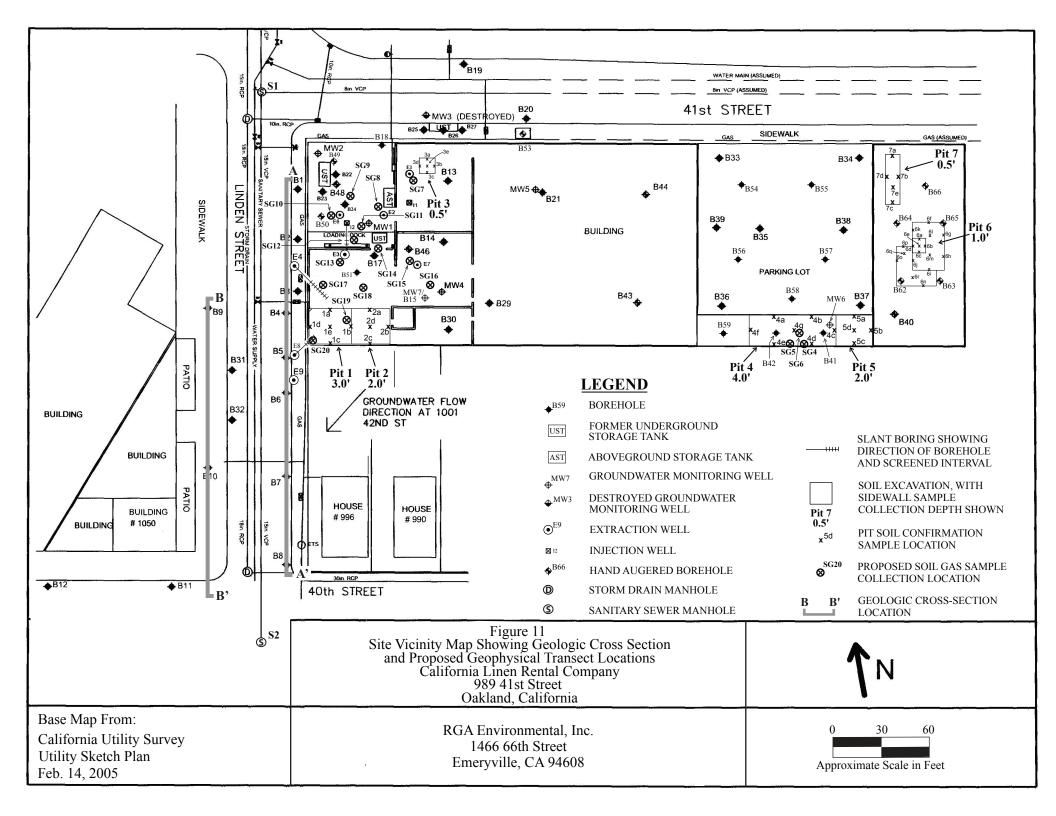
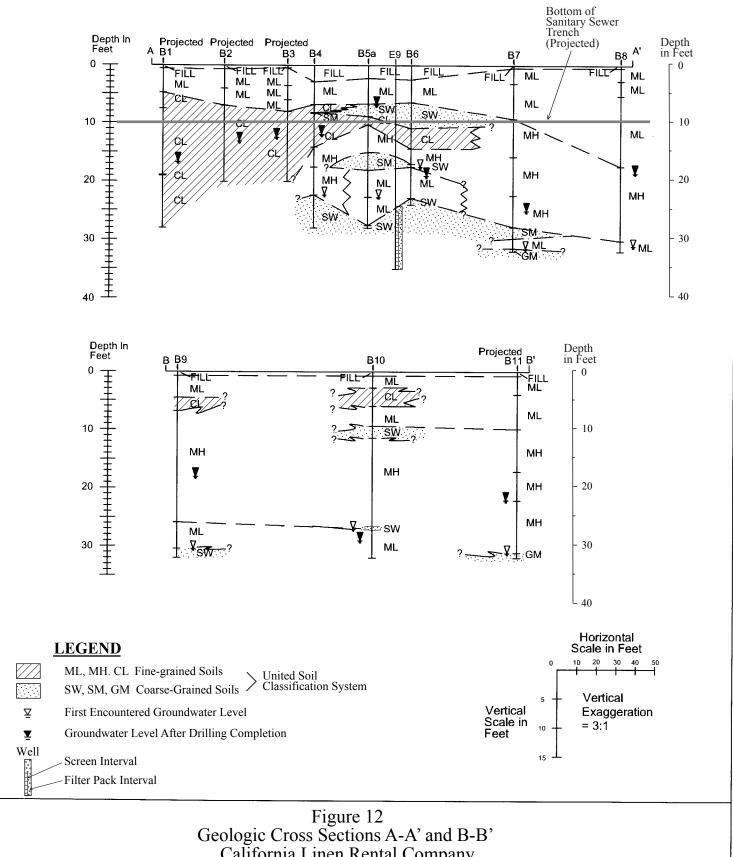




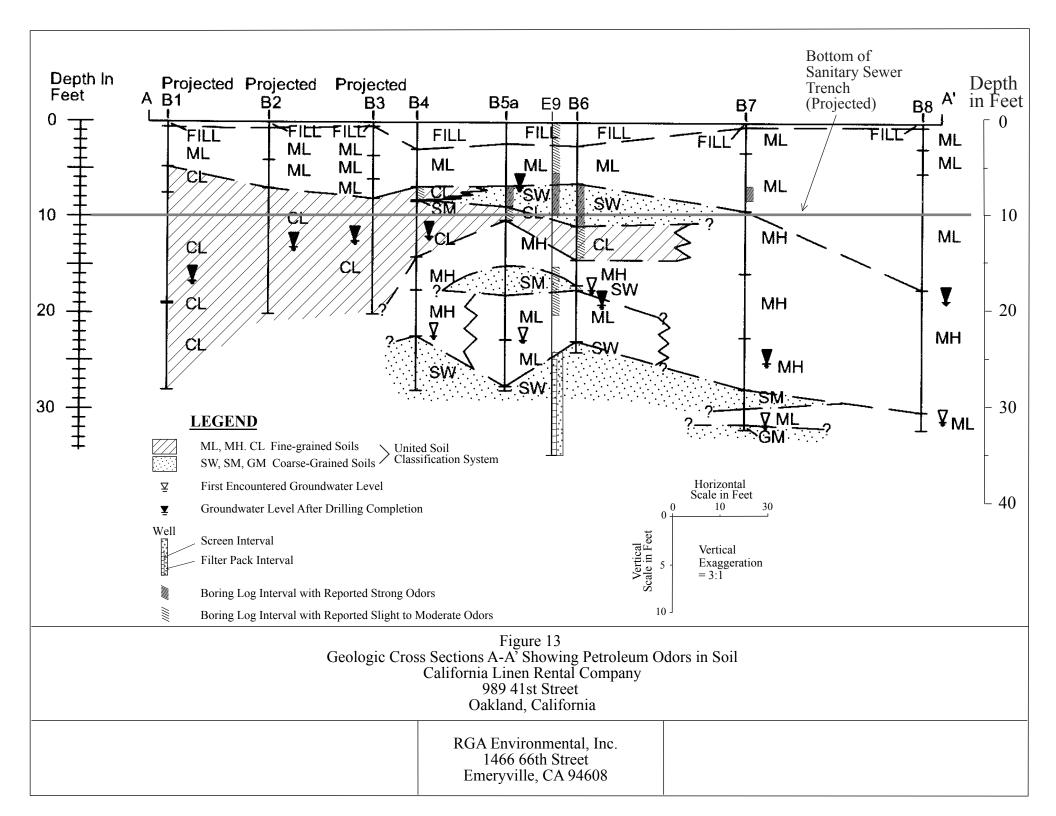
Figure 10. Typical Soil Gas Sample Collection Manifold

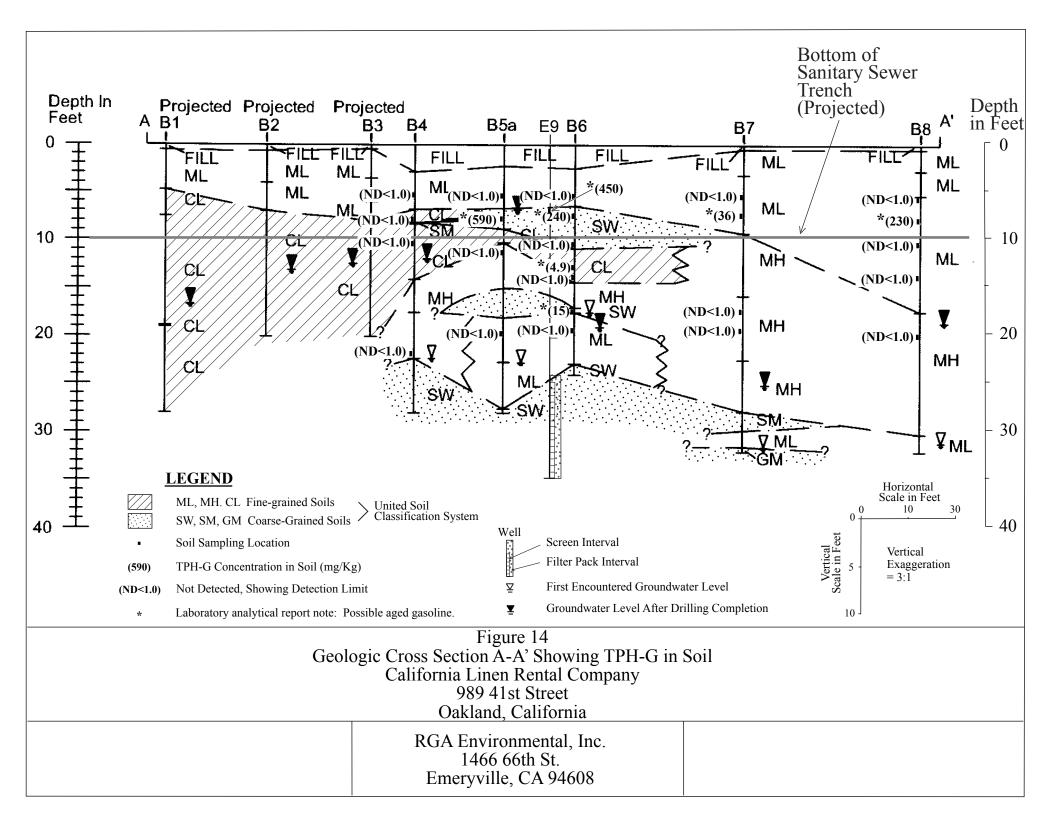


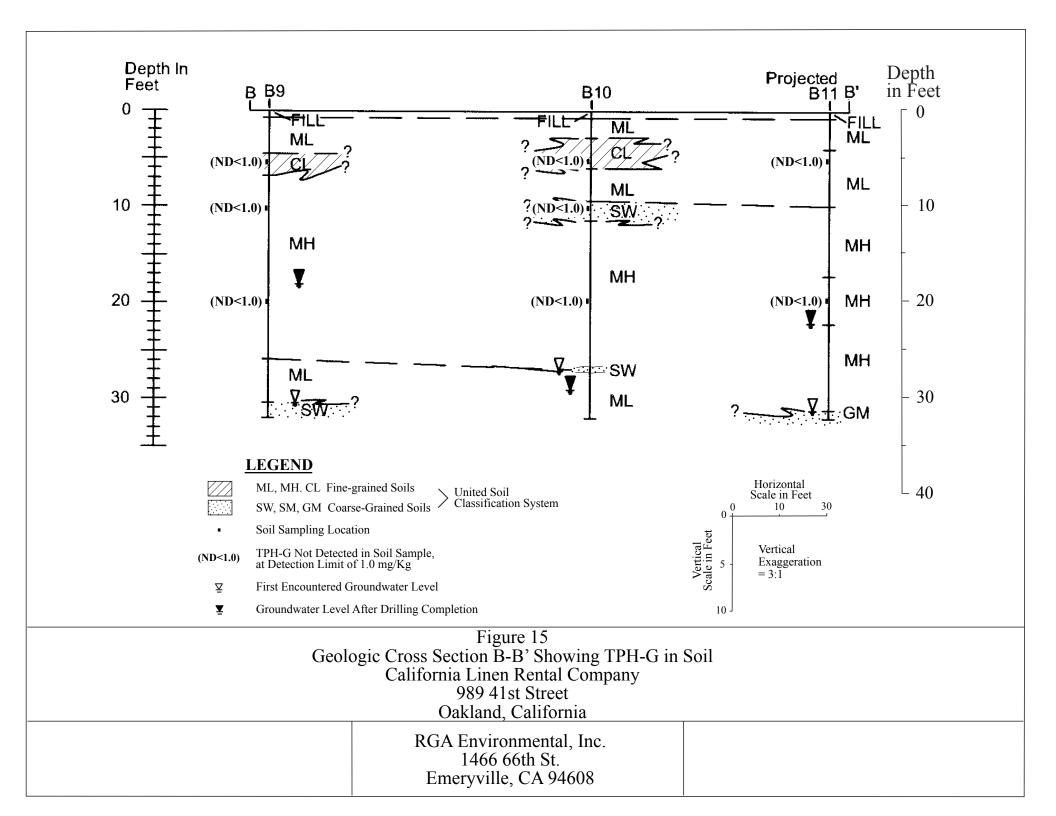


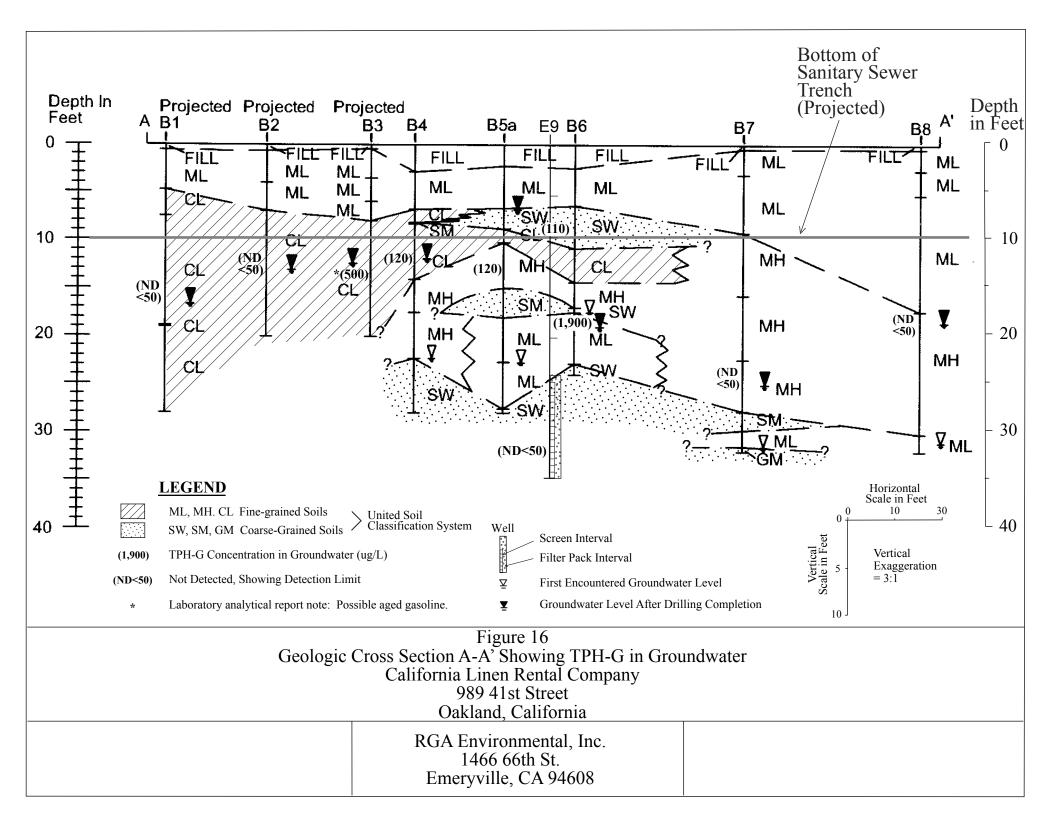
Geologic Cross Sections A-A' and B-B'
California Linen Rental Company
989 41st Street
Oakland, California

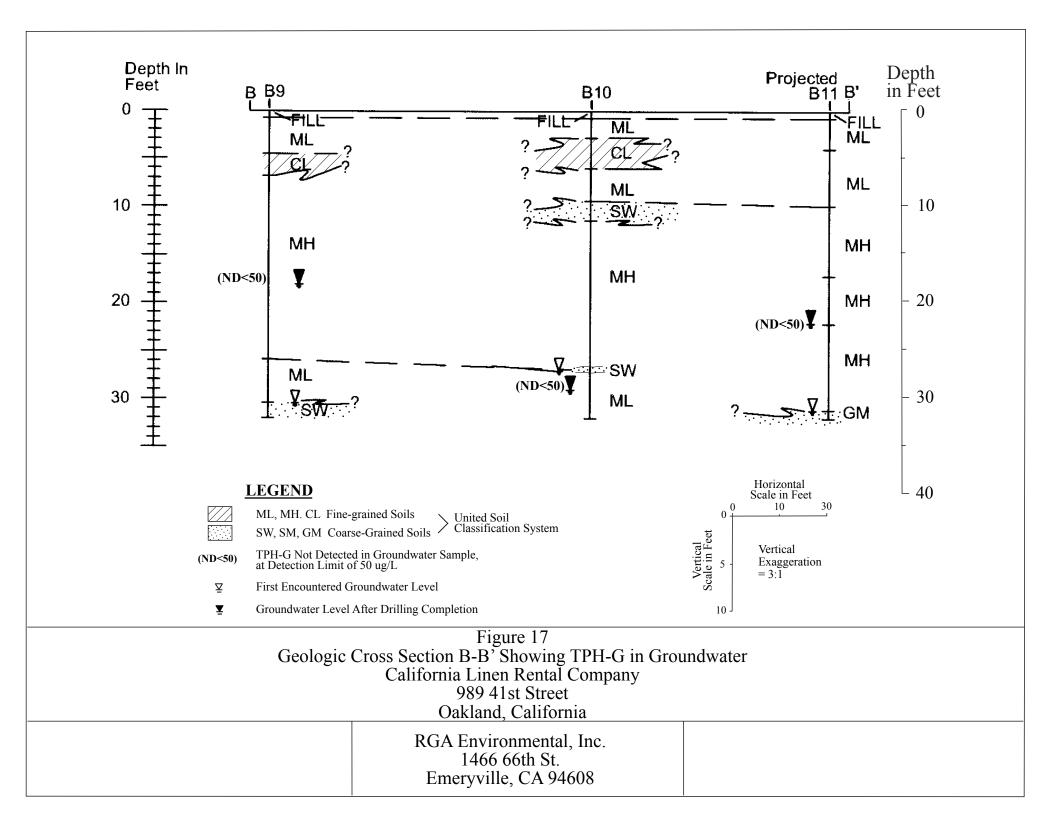
RGA Environmental, Inc. 1466 66th St. Emeryville, CA 94608











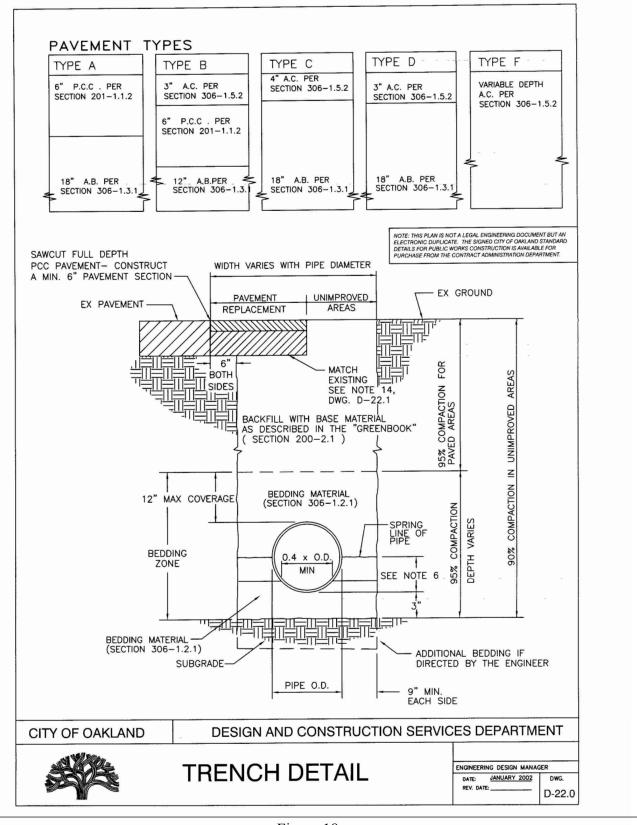
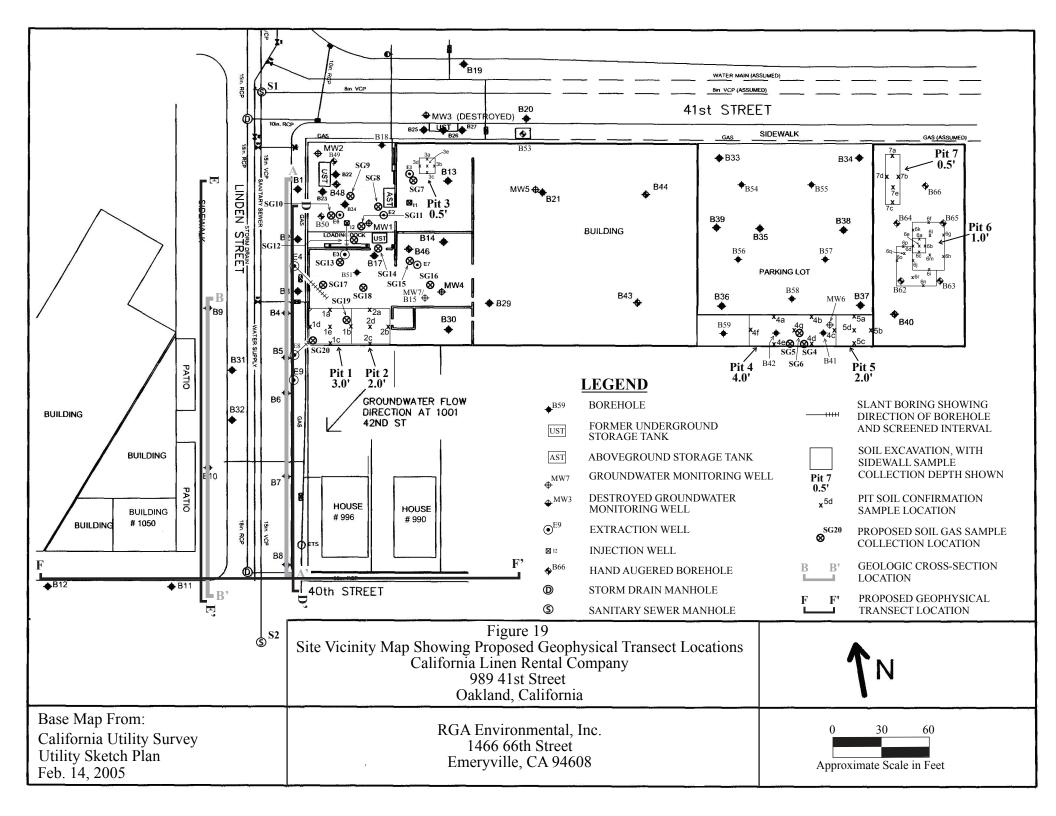
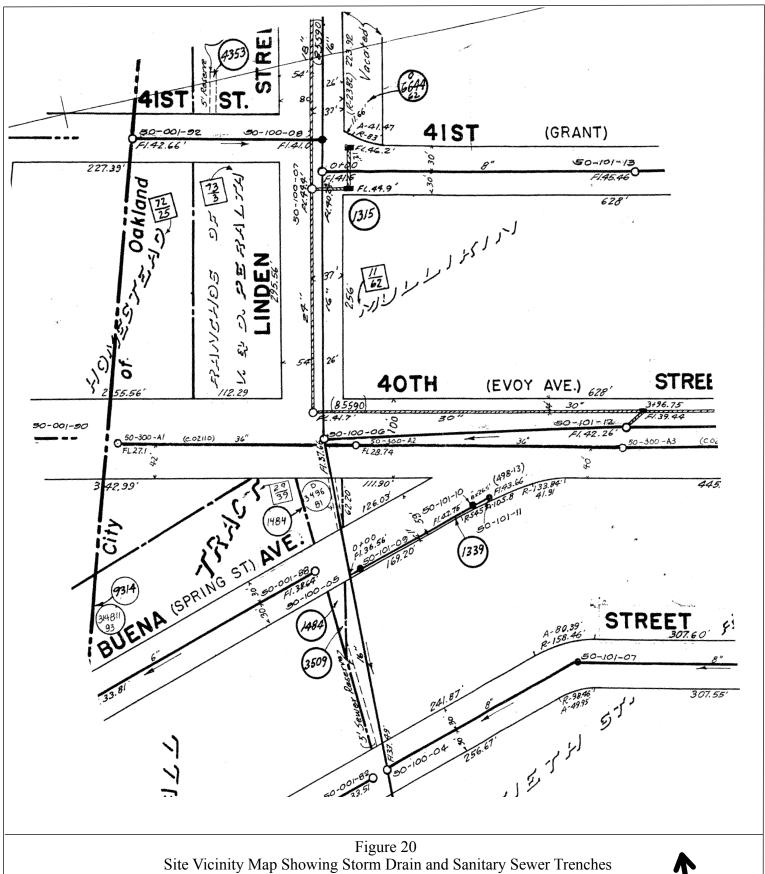


Figure 18
Typical Trench Cross Section
California Linen Rental Company
989 41st Street
Oakland, California

Illustration From City of Oakland

RGA Environmental, Inc. 1466 66th Street Emeryville, CA 94608

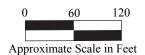




Site Vicinity Map Showing Storm Drain and Sanitary Sewer Trenches
California Linen Rental Company
989 41st Street
Oakland, California

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Map From City of Oakland RGA Environmental, Inc. 1466 66th Street Emeryville, CA 94608



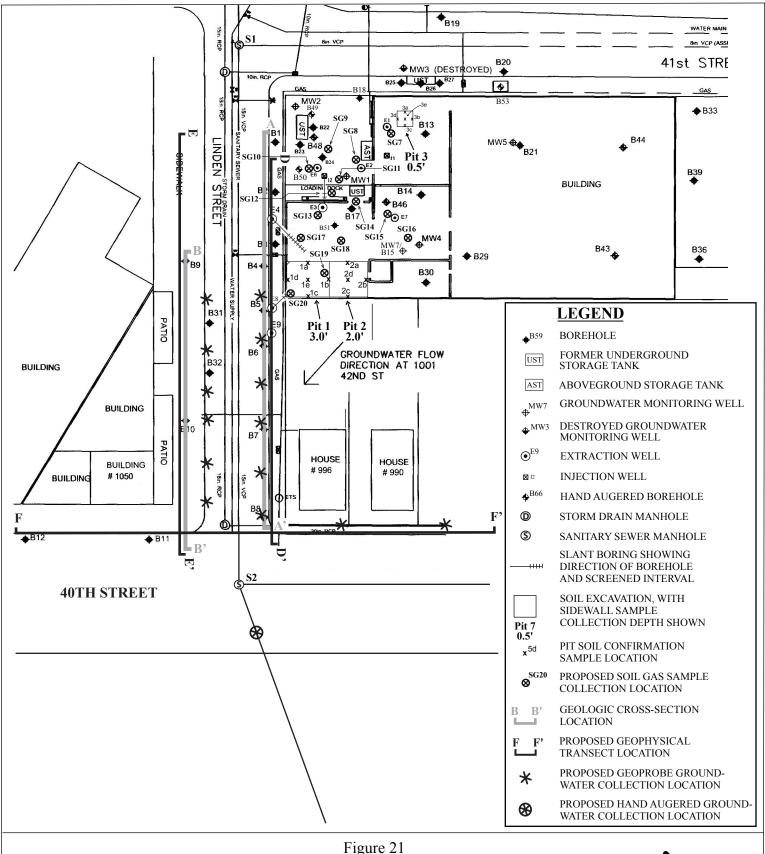
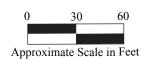
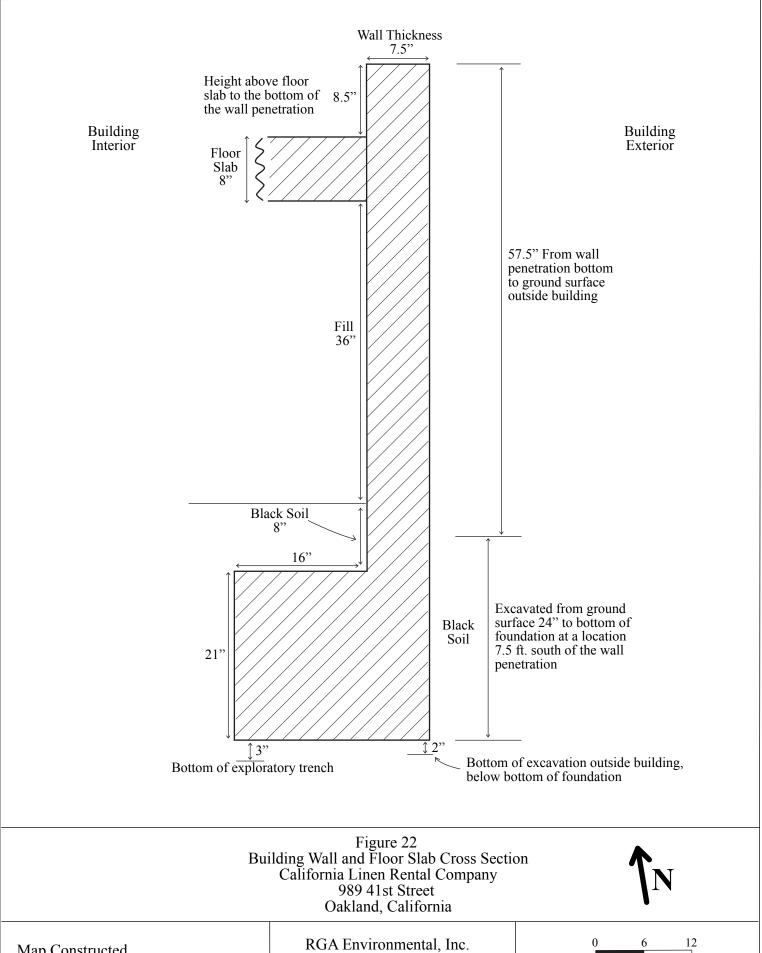


Figure 21
Site Plan Detail Showing Proposed Groundwater Sample Collection Locations
California Linen Rental Company
989 41st Street
Oakland, California

Base Map From: California Utility Survey Utility Sketch Plan Feb. 14, 2005

RGA Environmental, Inc. 1466 66th Street Emeryville, CA 94608





Map Constructed Using Steel Tape

RGA Environmental, Inc 1466 66th Street Emeryville, CA 94608



# APPENDIX A Historic Soil Sample Results

Sample No.	TPH-G/ TPH-SS	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE and Other VOCs
B4-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B4-7.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B4-10.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B4-21.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B5-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B5-7.5	<b>590,a,b</b> / NA	ND<0.20	0.20	0.66	4.0	ND<2.0/NA
B5-11.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B5-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B6-5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B6-7	<b>240</b> ,b,c/ NA	ND<0.20	ND<0.20	1.7	9.2	ND<2.0/NA
B6-10	ND<1.0/ ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
ESL	100	0.044	2.9	3.3	2.3	

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

ND = Not Detected.

NA = Not Analyzed.

a = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.

b = Laboratory analytical report note: no recognizable pattern.

c = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?). Results are in milligrams per kilogram (mg/kg).

	TPH-G/					MTBE and Other
Sample No.	TPH-SS	Benzene	Toluene	Ethylbenzene	Xylenes	VOCs
B6-12.5	4.9/ 5.1	ND<0.005	0.020	0.040	0.23	ND<0.05/ND<0.005,
						except
						n Butyl benzene =
						0.0097,
						Ethylbenzene =
						0.021,
						1,2,4-
						Trimethylbenzene =
						0.085,
						Naphthalene =
						0.0085,
						n-Propyl benzene =
						0.018,
						1,3,5-
						Trimethylbenzene =
						0.026,
						xylenes = 0.093
B6-13.5	ND<1.0/ ND<1.0	ND<0.005	ND<0.005	ND<0.005	0.019	ND<0.05/NA
ESL	100	0.044	2.9	3.3	2.3	

#### Notes:

 $\overline{\text{TPH-G}}$  = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

ND = Not Detected.

NA = Not Analyzed.

a = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.

b = Laboratory analytical report note: no recognizable pattern.

c = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?). Results are in milligrams per kilogram (mg/kg).

Sample No. B6-17.0	TPH-G/ TPH-SS 15/12	Benzene 0.0085	Toluene ND<0.005	Ethylbenzene 0.17	Xylenes 0.84	MTBE and Other VOCs ND<0.05/ND<0.005, except n Butyl benzene = 0.045, Ethylbenzene = 0.081, Isopropylbenzene = 0.021, 1,2,4- Trimethylbenzene = 0.41, sec-Butyl benzene = 0.011, 4-Isopropyl toluene = 0.013, Naphthalene = 0.042, n-Propyl benzene = 0.078, 1,3,5- Trimethylbenzene = 0.11, xylenes = 0.38
B6-19.0	ND<1.0/ ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/ND<0.005
B7-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B7-7.0	36,a,b/ NA	ND<0.25	ND<0.25	ND<0.25	0.049	ND<0.25/NA
B7-17.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B7-19.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
ESL	100	0.044	2.9	3.3	2.3	

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

ND = Not Detected.

NA = Not Analyzed.

a = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.

b = Laboratory analytical report note: no recognizable pattern.

c = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?). Results are in milligrams per kilogram (mg/kg).

Sample No. B8-5.0	TPH-G/ TPH-SS ND<1.0/ NA	Benzene ND<0.005	Toluene ND<0.005	Ethylbenzene ND<0.005	Xylenes ND<0.005	MTBE and Other VOCs ND<0.05/NA
B8-7.5	230,a/ NA	ND<5.0	ND<0.50	ND<0.50	0.81	ND<0.50/NA
B8-10.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B8-12.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B8-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B9-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B9-10.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B9-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B10-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B10-10.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B10-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B11-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B11-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B12-5.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B12-10.0	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
B12-19.5	ND<1.0/ NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05/NA
ESL	100	0.044	2.9	3.3	2.3	

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

ND = Not Detected.

NA = Not Analyzed.

a = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.

b = Laboratory analytical report note: no recognizable pattern.

c = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?). Results are in milligrams per kilogram (mg/kg).

Sample No. B13-5.0	TPH-G/ TPH-SS 1.5,b	Benzene ND<0.005	Toluene ND<0.005	Ethylbenzene ND<0.005	Xylenes ND<0.005	MTBE and Other VOCs ND<0.05
D13-3.0	1.5,0	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.03
B13-8.5	62,c,b	0.021	0.064	ND<0.017	0.15	ND<0.17
B14-5.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B14-10.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B15-5.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B15-10.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B16-5.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B16-10.0	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B17-5.0	5.1,b	ND<0.005	0.022	ND<0.005	0.021	ND<0.05
B17-8.5	1.2,b	ND<0.005	0.0076	ND<0.005	ND<0.005	ND<0.05
B17-17.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
ESL	100	0.044	2.9	3.3	2.3	

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

ND = Not Detected.

NA = Not Analyzed.

a = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.

b = Laboratory analytical report note: no recognizable pattern.

c = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?). Results are in milligrams per kilogram (mg/kg).

#### SOIL SAMPLE RESULTS – B18 THROUGH B32

(Samples B18-B32 Collected on August 8 Through 11, 2006) (Continued)

Sample No.	TPH-G	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
B18-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B18-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B18-19.5	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B19-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B19-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B19-20.0	ND<1.0	1.4,f	26	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B20-7.0	14,a	130,g,f	56	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B20-10.0	3.2,a	31,g	15	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B20-15.0	ND<1.0	2.1,g	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B20-20.0	41,a,f,b	330,g,f	130	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B21-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B21-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B21-22.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B22-10.0	ND<1.0	2.8,f,h	6.9	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B22-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B22-20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
ESL	100	100	500	0.044	2.9	3.3	2.3	0.023

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. Values in **bold** exceed the ESL.

ND = Not Detected.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

f = oil range compounds are significant.

g = unmodified or weakly modified diesel is significant.

h = diesel range compounds are significant; no recognizable pattern.

#### SOIL SAMPLE RESULTS – B18 THROUGH B32

(Samples B18-B32 Collected on August 8 Through 11, 2006) (Continued)

Sample No.	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
						Ž		
B23-10.0	ND<1.0	3.5,f	47	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B23-15.0	2.2,a,b	1.2,d	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B23-20.0	ND<1.0	1.9,f,h	12	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B24-10.0	14,b, c	2.4,d,h	ND<5.0	0.0055	0.019	0.013	0.051	ND<0.05
B24-15.0	2.3,i	4.0,f,d	19	0.021	0.0081	0.049	0.015	ND<0.05
B24-20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B25-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B25-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B25-22.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B26-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B26-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B26-20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B27-10.0	ND<1.0	8.2,f,h	24	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B27-15.0	ND<1.0	7.8.f,h	13	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
ESL	100	100	500	0.044	2.9	3.3	2.3	0.023

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. Values in **bold** exceed the ESL.

ND = Not Detected.

- a = strongly aged gasoline or diesel range compounds are significant.
- b = no recognizable pattern.
- c = Laboratory analytical report note: heavier gasoline range compounds are significant (aged gasoline?).
- d = gasoline range compounds are significant.
- f = oil range compounds are significant.
- h = diesel range compounds are significant; no recognizable pattern.
- i = unmodified or weakly modified gasoline is significant.

#### SOIL SAMPLE RESULTS – B18 THROUGH B32

(Samples B18-B32 Collected on August 8 Through 11, 2006) (Continued)

Sample No.	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
B27-22.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B29-6.5	ND<1.0	9.3,f,h	53	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B29-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B29-15.0	ND<1.0	1.5,f,h	8.3	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B29-20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B30-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B30-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B30-20.0	ND<1.0	2.1,f	13	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B31-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B31-15.0	ND<1.0	1.7,f,h	6.4	ND<0.005	ND<0.005	ND<0.005	0.015	ND<0.05
B31-20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B32-10.0	ND<1.0	8.1,f,h	25	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B32-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
B32-20.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	0.0050	ND<0.05
ESL	100	100	500	0.044	2.9	3.3	2.3	0.023

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. Values in **bold** exceed the ESL.

ND = Not Detected.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

f = oil range compounds are significant.

g = unmodified or weakly modified diesel is significant.

h = diesel range compounds are significant; no recognizable pattern.

#### SOIL SAMPLE RESULTS – B33 THROUGH B39

(Samples B33-B39 Collected on October 18 and 19, 2006) (Continued)

Sample	TPH-		TPH-							PAHs/
No.	G	TPH-D	MO	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	VOCs	PNAs
B33-0.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B33-3.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B34-0.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B34-3.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B35-0.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B35-3.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B36-0.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B36-3.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B36-7.5	43a,b	140g,m	84	NA	NA	NA	NA	NA	ND	NA
ESL	100	100	500						Variable	

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

VOCs = Volatile Organic Compounds

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

g = unmodified or weakly modified diesel is significant.

m = aged diesel? is significant.

ESL = February 2005 Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold exceed the ESL**. Results are in milligrams per kilogram (mg/kg).

#### SOIL SAMPLE RESULTS – B33 THROUGH B39

(Samples B33-B39 Collected on October 18 and 19, 2006) (Continued)

Sample	TPH-	TPH-	TPH-							PAHs/
No.	G	D	MO	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	VOCs	PNAs
B37-0.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B37-3.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B38-0.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B38-3.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B39-0.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
B39-3.5	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
ESL	100	100	500						Variable	

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

VOCs = Volatile Organic Compounds

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

g = unmodified or weakly modified diesel is significant.

m = aged diesel? is significant.

ESL = February 2005 Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold exceed the ESL**. Results are in milligrams per kilogram (mg/kg).

#### SOIL SAMPLE RESULTS – B33 THROUGH B39

(Samples B33-B39 Collected on October 18 and 19, 2006)

(Continued)

Sample ID	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
B33-0.5	2.6	9.8	110	ND<0.5	0.49	28	7.6	100	53	1.7	1.2	28	ND<0.5	ND<0.5	ND<0.5	43	210
B33-3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B34-0.5	0.72	7.4	160	0.70	ND<0.25	49	5.0	22	7.8	0.058	1.9	42	ND<0.5	ND<0.5	ND<0.5	57	45
B34-3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B35-0.5	ND<0.5	5.1	160	0.55	ND<0.25	43	9.9	22	6.5	ND<0.05	0.90	42	ND<0.5	ND<0.5	ND<0.5	46	42
B35-3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B36-0.5	0.70	5.5	160	ND<0.5	0.29	33	8.6	23	34	0.12	1.4	39	ND<0.5	ND<0.5	ND<0.5	35	64
B36-3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B36-7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B37-0.5	0.68	6.4	100	ND<0.5	0.41	54	9.2	24	59	0.12	0.70	70	0.59	ND<0.5	ND<0.5	44	130
B37-3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B38-0.5	0.75	4.1	150	0.64	0.26	51	8.3	26	7.5	0.062	0.50	53	ND<0.5	ND<0.5	ND<0.5	50	60
B38-3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B39-0.5	0.68	9.0	160	0.61	ND<0.25	50	10	25	8.1	ND<0.05	1.9	47	ND<0.5	ND<0.5	ND<0.5	52	47
B39-3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ESL	6.1	5.5	750	4.0	1.7	58	10	230	150	3.7	40	150	10	20	1.0	110	600

#### Notes:

 $\overline{Sb} = Antimony$  Cd = Cadmium Pb = Lead Se = Selenium Zn = Zinc

ESL = Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold equal or exceed the ESL.** 

ND = Not Detected.

NA = Not Analyzed

#### SOIL SAMPLE RESULTS – B40 THROUGH B48

(Samples B40-B48 Collected on October 26, 27 and 30, 2006) (Continued)

Sample			TPH-							
No.	TPH-G	TPH-D	MO	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	VOCs	PAHs/ PNAs
B40-	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.010
1.25										
B40-	NA	NA	NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND	NA
3.0										
B41-	630,a,b	1,400,n,f	1,300	ND<0.50	ND<0.50	0.90	0.68	ND<0.50	NA	NA
0.5										
B41-	750,a,b	910,n,f	850	ND<0.50	ND<0.50	1.3	1.3	ND<0.50	NA	ND<0.025, except
2.5										1-
										Methylnapthalene=1.4,
										2-
										Methylnapthalene=2.3,
										Naphthalene= <b>2.5</b>
										1-Methylnapthalene=
ESL	100	100	500	0.044	2.9	3.3	2.3	0.023		+2-
ESL	100	100	300	0.044	2.9	3.3	2.3	0.023		Methylnapthalene=0.25,
										Naphthalene= 0.46

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

VOCs = Volatile Organic Compounds

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

n = kerosene/ kerosene range/ jet fuel.

f = oil range compounds are significant

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold exceed the ESL.** 

#### SOIL SAMPLE RESULTS – B40 THROUGH B48

(Samples B40-B48 Collected on October 26, 27 and 30, 2006) (Continued)

Sample						Ethyl-				PAHs/
Name	TPH-G	TPH-D	TPH-MO	Benzene	Toluene	benzene	Xylenes	MTBE	VOCs	PNAs
B41-3.0	1,100,a,b	1,900,n,f	1,700	ND<0.50	ND<0.50	1.8	1.6	ND<0.50	ND<0.10, except n-Butyl Benzene= 0.29, Isopropylbenzene= 0.47, 1,2,4-Trimethylbenzene= 0.20, sec-Butyl benzene= 0.39, Naphthalene= 2.2, n-Propyl Benzene= 0.64, Xylenes= 0.10	NA
B42-0.5	640,a,b	2,700,n,f	2,500	ND<0.17	ND<0.17	0.88	2.6	ND<0.17	NA	NA
B42-3.0	450,a,b	840,n,f	630	ND<0.10	ND<0.10	0.52	1.4	ND<0.10	ND<0.020, except n-Butyl benzene= 0.18, Isopropylbenzene= 0.16, sec-Butyl benzene= 0.19, Naphthalene= 0.44, n-Propyl benzene= 0.18	NA
ESL	100	100	500	0.044	2.9	3.3	2.3	0.023	Naphthalene= 0.46	

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

VOCs = Volatile Organic Compounds

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected. NA = Not Analyzed.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern

n = kerosene/ kerosene range/ jet fuel.

f = oil.range compounds are significant

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold exceed the ESL**. Results are in milligrams per kilogram (mg/kg).

#### SOIL SAMPLE RESULTS – B40 THROUGH B48

(Samples B40-B48 Collected on October 26, 27 and 30, 2006) (Continued)

Sample						Ethyl-				
Name	TPH-G	TPH-D	TPH-MO	Benzene	Toluene	benzene	Xylenes	MTBE	VOCs	PAHs/ PNAs
B44-3.0	NA	NA	NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B45-3.0	NA	NA	NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B46-1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.005, except
										Benzo(a)anthracene= 0.0052,
										Benzo(a)pyrene= 0.0070,
										Chrysene= 0.0066,
										Fluoranthene= 0.0087,
										Pyrene= 0.0097
B46-3.0	NA	NA	NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B47-3.0	NA	NA	NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B48-3.0	NA	NA	NA	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
ESL	100	100	100	0.044	2.9	3.3	2.3	0.023	Variable	Variable

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

VOCs = Volatile Organic Compounds

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. Values in bold exceed the ESL.

#### SOIL SAMPLE RESULTS – B40 THROUGH B48

(Samples B40-B48 Collected on October 26, 27 and 30, 2006) (Continued)

Sample ID	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
B40-0.5	2.1	6.8	300	0.54	0.72	52	67	93	190	0.64	0.65	58	ND<0.5	16	ND<0.5	43	180
B40-1.25	0.75	6.3	160	ND<0.5	0.33	38	33	26	150	0.18	2.0	53	ND<0.5	ND<0.5	ND<0.5	40	90
B41-0.5	0.64	4.9	190	ND<0.5	0.34	40	8.5	25	120	0.11	1.1	47	0.57	ND<0.5	ND<0.5	42	84
B42-0.5	ND<0.5	4.3	210	0.60	ND<0.25	50	9.0	25	7.3	ND<0.05	1.0	42	ND<0.5	ND<0.5	ND<0.5	52	55
B43-0.5	0.67	5.5	130	ND<0.5	ND<0.5	50	20	32	44	0.30	0.54	52	ND<0.5	ND<0.5	ND<0.5	53	100
B44-0.5	1.2	7.2	580	0.56	0.39	56	15	68	92	0.36	1.3	54	ND<0.5	ND<0.5	ND<0.5	65	150
B45-0.5	ND<0.5	7.5	150	ND<0.5	0.38	58	13	25	280	0.16	ND<0.5	68	ND<0.5	ND<0.5	ND<0.5	56	220
B46-1.5	0.52	8.6	220	0.52	ND<0.25	40	12	23	15	0.070	ND<0.5	56	ND<0.5	ND<0.5	ND<0.5	33	55
B47-0.5	5.4	130	360	ND<0.5	1.9	21	7.8	54	160	0.94	3.1	20	ND<0.5	1.2	6.6	33	770
B48-0.5	0.70	6.2	150	0.53	0.43	50	9.6	25	26	0.13	1.2	55	1.0	ND<0.5	ND<0.5	49	79
ESL	6.1	5.5	750	4.0	1.7	58	10	230	150	3.7	40	150	10	20	1.0	110	600

#### Notes:

 $Sb = Antimony \hspace{1cm} Cd = Cadmium \hspace{1cm} Pb = Lead \hspace{1cm} Se = Selenium \hspace{1cm} Zn = Zinc$ 

ESL = Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold equal or exceed the ESL.** 

ND = Not Detected.

NA = Not Analyzed

#### SOIL SAMPLE RESULTS – E1, E2, E3, E6, E7, I1, I2

(Samples E1, E2, E3, E6, E7, I1, I2 Collected on September 5 Through 8, 2006) (Continued)

Sample No.	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
E1-10.5	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
E2-10.0	2.4,c	ND<1.0	ND<5.0	ND<0.005	0.030	0.052	0.22	ND<0.05
E3-5.0	ND<1.0	1.1,h	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
E3-10.0	47,a,j	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	0.27	ND<0.05
E6-10.5	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
E7-10.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
E7-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
I1-10.5	5.9,b	ND<1.0	ND<5.0	ND<0.005	ND<0.005	0.016	ND<0.005	ND<0.05
12-5.0	6.9,i	6.6,d,h	ND<5.0	0.052	0.0052	ND<0.005	0.0057	ND<0.05
I2-10.0	1,900,i	460,d,h	7.4	4.3	25	33	180	ND<10
I2-15.0	ND<1.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05
ESL	100	100	500	0.044	2.9	3.3	2.3	0.023

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. Values in **bold** exceed the ESL.

ND = Not Detected.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?).

d = gasoline range compounds are significant.

h = diesel range compounds are significant; no recognizable pattern.

i = unmodified or weakly modified gasoline is significant.

j = Stoddard solvent/mineral spirit.

#### SOIL SAMPLE RESULTS - GEOPHYSICAL ANOMALY INVESTIGATION

(Samples For Geophysical Anomalies Collected October 18, 2006) (Continued)

			TPH-	
Sample Name	TPH-G	TPH-D	MO	PNAs
				ND<0.050, except
Anomaly A-5.5	ND<1.0	7.1,f,k	12	Phenanthrene=0.0055
Anomaly B-0.5	ND<1.0	68,f,h	170	ND<0.25
				ND, except
				Benzo(a)anthracene=0.024
				Benzo(a)pyrene=0.021
				Benzo(b)fluoranthene=0.014
				Benzo(g,h,i)perylene=0.015
				Benzo(k)fluoranthene=0.017
				Chrysene=0.026
				Fluoranthene=0.034
				Indeno(1,2,3-cd)pyrene=0.012
				Naphthalene=0.0066
				Phenanthrene=0.018
Anomaly A Fill	NA	NA	NA	Pyrene=0.031
ESL	100	100	500	Variable

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ESL = February 2005 Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. Values in **bold** exceed the ESL.

ND = Not Detected.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?).

d = gasoline range compounds are significant.

f = oil range compounds are significant.

h = diesel range compounds are significant; no recognizable pattern.

i = unmodified or weakly modified gasoline is significant.

j = Stoddard solvent/mineral spirit.

k = One to a few isolated peaks present.

# APPENDIX A TABLE SUMMARY OF SOIL SAMPLE RESULTS-UST PIT SOIL SAMPLES (Samples Collected on December 12, 2006) (Continued)

Sample No.	ТРН-G	TPH-D	ТРН-МО	МТВЕ	Benzene	Toluene	Ethyl- benzene	Total Xylenes
T1-8.0	7.2, a	250	120	ND< 0.05	ND< 0.005	ND< 0.005	ND< 0.005	ND< 0.005
T1-10.0	5.3, a	210	93	ND< 0.05	ND< 0.005	ND< 0.005	ND< 0.005	ND< 0.005
T1-12.0	25, a, b	62	29	ND< 0.05	ND< 0.005	ND< 0.005	ND< 0.005	ND< 0.005
$ESL_1$	100	100	500	0.023	0.044	2.9	3.3	2.3

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil

MTBE = Methyl Tertiary-Butyl Ether

ND < X = Not detected at a concentration in excess of laboratory reporting limit X.

a = Laboratory report note: strongly aged gasoline or diesel range compounds are significant.

b = Laboratory report note: no recognizable pattern.

 $ESL_1$  = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from Table A – Shallow Soils, Groundwater is a current or potential source of drinking water (residential land use).

#### **Bold** = Concentration in excess of applicable ESL

Results are in milligrams per kilogram (mg/kg), unless otherwise noted.

# APPENDIX A TABLE SUMMARY OF SOIL SAMPLE RESULTS SOIL STOCKPILE SAMPLES

(Sample Collected on December 13, 2006) (Continued)

Sample No.	ТРН-G	TPH-D	ТРН-МО	MTBE	Benzene	Toluene	Ethyl- benzene	Total Xylenes
COMP A	9.4, a	120	73	ND< 0.05	ND< 0.005	ND< 0.005	ND< 0.005	ND< 0.005
$ESL_1$	100	100	500	0.023	0.044	2.9	3.3	2.3

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil

MTBE = Methyl Tertiary-Butyl Ether

ND < X = Not detected at a concentration in excess of laboratory reporting limit X.

a = Laboratory report note: strongly aged gasoline or diesel range compounds are significant.  $ESL_1 = Environmental$  Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from Table A – Shallow Soils, Groundwater is a current or potential source of drinking water (residential land use).

#### **Bold** = Concentration in excess of applicable ESL

Results are in milligrams per kilogram (mg/kg), unless otherwise noted.

#### SOIL SAMPLE RESULTS - EXTRACTION WELL INSTALLATION

(Samples Collected March 22 and March 26, 2007)

#### (Continued)

Sample No.	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
E8-7.0	1,300,a,b	77,c	ND<10	0.54	ND<0.50	2.4	43	ND<5.0
E9-7.0	450,a	150,с	ND<5.0	ND<0.17	ND<0.17	1.7	15	ND<1.7
ESL	100	100	500	0.044	2.9	3.3	2.3	0.023

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary-Butyl Ether

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control

Board (SF-RWQCB) updated February 2005, from Table A-1 – Shallow Soil Screening Levels,

Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

a = heavier gasoline range compounds are significant (aged gasoline?).

b = no recognizable pattern.

 $c=gasoline \ range \ compounds \ are \ significant.$ 

(Collected on November13 Through December 10, 2007)

#### (Continued)

					(00110111000	/	
Sample Name	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B13a-1.5	NA	NA	NA	NA	NA	NA	ND<0.005
B13a-3.5	NA	NA	NA	NA	NA	NA	ND<0.005
B13a-7.0	2.9, f,h	8.8	NA	NA	NA	NA	
B14a-1.0	NA	NA	NA	NA	NA	NA	ND<0.005
B14a-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B15a-1.0	22, f,h	120	NA	NA	NA	NA	ND<0.10
B15a-1.0	38, f,h	250	NA	NA	NA	NA	NA
B15a-2.0	ND<1.0	ND<5.0	NA	NA	NA	NA	ND<0.005
B15a-5.0	ND<1.0	ND<5.0	NA	NA	NA	NA	NA
B15a-7.0	ND<1.0	ND<5.0	NA	NA	NA	NA	NA
B15a-12.0	ND<1.0	ND<5.0	NA	NA	NA	NA	NA
B15a-19.5	ND<1.0	ND<5.0	NA	NA	NA	NA	NA
B21a-1.0	NA	NA	NA	NA	NA	NA	ND<0.005
B21a-2.5	NA	NA	NA	NA	NA	NA	ND<0.005
B21a-5.0	4.4, f,h	17	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B21a-7.0	2.2, f,h	8.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
ESL	100	500	0.044	2.9	3.3	2.3	

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

h = diesel range compounds are significant; no recognizable pattern.

Italicized = Diesel and Oil Range Extractable Hydrocarbons using Dawn Zemo Silica Gel Clean-Up

## (Collected on November13 Through December 10, 2007) (Continued)

Sample Name	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B29a-1.5	NA	NA	NA	NA	NA	NA	ND<0.010
B29a-2.5	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005, except for Benzo(a)anthracene = 0.0061 Fluoranthene = 0.0058 Phenanthrene = 0.0082 Pyrene = 0.0074
B29a-4.5	1.6, f	11	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
ESL	100	500	0.044	2.9	3.3	2.3	Benzo(a)anthracene = 0.377 Fluoranthene = 40 Phenanthrene = 10.7 Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

 $ESL = Environmental \ Screening \ Level, \ developed \ by \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Gan \$ 

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

(Collected on November13 Through December 10, 2007) (Continued)

Sample Name	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B30a-1.5	NA	NA	NA	NA	NA	NA	ND<0.005, Except Benzo(a)anthracene=0.014 Benzo(a)pyrene=0.019 Benzo(b)fluoranthene=0.013 Benzo(g,h,i)perylene=0.013 Benzo(k)fluoranthene=0.021 Chrysene=0.019 Dibenzo(a,h)anthracene = 0.0068 Fluoranthene=0.026 Indeno(1,2,3-cd)pyrene=0.013 Phenanthrene=0.0096 Pyrene=0.027
ESL	NA	NA	0.044	2.9	3.3	2.3	Benzo(a)anthracene = 0.377 Benzo(a)pyrene = 0.0377 Benzo (b)fluoranthene = 0.377 Benzo(g,h,i)perylene = 26.56 Benzo(k)fluoranthene = 0.377 Chrysene = 3.8 Dibenzo(a,h)anthracene = 0.110 Fluoranthene = 40 Indeno(1,2,3-cd)pyrene = 0.377 Phenanthrene = 10.7 Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

(Collected on November13 Through December 10, 2007) (Continued)

Sample Name	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B30a-3.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B30a-4.5	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B37a-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B37a-5.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B37a-7.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B37a-12.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B40a-3.5	NA	NA	NA	NA	NA	NA	ND<0.005
B40a-5.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
ESL	100	500	0.044	2.9	3.3	2.3	

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

## SOIL SAMPLE RESULTS (Collected on November13 Through December 10, 2007) (Continued)

Sample Name	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B40a-7.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B40a-12.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B41a-5.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B41a-7.0	12, f,n	15	ND<0.005	ND<0.005	0.020	0.030	ND<0.005
B41a-12.0	36, f,j	29	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005
B41a-19.5	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B42a-5.0	150,f, n	89	NA	NA	NA	NA	NA
B42a-7.0	140,f, n	160	NA	NA	NA	NA	NA
B42a-12.0	52, f, n	48	NA	NA	NA	NA	NA
ESL	100	500	0.044	2.9	3.3	2.3	

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

j = Stoddard solvent/mineral spirit.

n = kerosene/ kerosene range

Italicized = Diesel and Oil Range Extractable Hydrocarbons using Dawn Zemo Silica Gel Clean-Up

(Collected on November13 Through December 10, 2007)

#### (Continued)

Sample Name	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B42a-5.0	81, f,n	40	ND< <b>0.17</b>	ND<017	0.51	0.71	ND<0.005, Except Fluoranthene = 0.0059 Fluorene = 0.0078 1-Methylnapthalene = 0.18 2-Methylnapthalene = 0.023 Phenanthrene = 0.013 Pyrene = 0.0053
B42a-7.0	290, f,n	260	ND< <b>0.17</b>	ND<017	0.61	0.59	ND<0.050
B42a-12.0	33, f,n	52	ND<0.005	ND<0.005	0.070	0.11	ND<0.005
B42a-19.5	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B43a-1.0	NA	NA	NA	NA	NA	NA	ND<0.005
ESL	100	500	0.044	2.9	3.3	2.3	Fluoranthene = 40 Fluorene = 8.9 1-Methylnapthalene + 2-Methylnapthalene = 0.255 combined Phenanthrene = 10.7 Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

 $ESL = Environmental \ Screening \ Level, \ developed \ by \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Bay \ Regional \ Water \ Quality \ Control \ Board \ (SF-RWQCB) \ updated \ February \ 2005, \ from \ San \ Francisco \ Policy \ Poli$ 

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

j = Stoddard solvent/mineral spirit.

n = kerosene/ kerosene range Results are in milligrams per kilogram (mg/kg).

#### SOIL SAMPLE RESULTS (Collected on November13 Through December 10, 2007)

#### (Continued)

Sample Name	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B43-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B44a-1.0	NA	NA	NA	NA	NA	NA	ND<0.005
B44-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B49a-1.0	NA	NA	NA	NA	NA	NA	ND<0.005
B49-3.0	NA	NA	NA	NA	NA	NA	ND<0.050, Except Benzo(a)anthracene = 0.069 Chrysene = 0.055 Fluoranthene = 0.15 Phenanthrene = 0.11 Pyrene = 0.15
B50-1.0	NA	NA	NA	NA	NA	NA	ND<0.005
B50-3.0	NA	NA	NA	NA	NA	NA	ND<0.050
B51-2.0	NA	NA	NA	NA	NA	NA	ND<0.005
B52-1.5	NA	NA	NA	NA	NA	NA	ND<0.025
ESL							Benzo(a)anthracene = 0.377 Chrysene = 3.8 Fluoranthene = 40 Phenanthrene = 10.7 Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

(Collected on November13 Through December 10, 2007) (Continued)

Sample Name	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B52-3.0	NA	NA	NA	NA	NA	NA	Benzo(a)anthracene = 0.021 Benzo(a)pyrene = 0.027 Benzo(b)fluoranthene = 0.022 Benzo(g,h,i)perylene = 0.025 Benzo(k)fluoranthene = 0.020 Chrysene = 0.028 Dibenzo(a,h)anthracene = 0.011 Fluoranthene = 0.035 Ideno(1,2,3-cd) pyrene = 0.023 Phenanthrene = 0.019
ESL							Pyrene = 0.030  Benzo(a)anthracene = 0.377  Benzo(a)pyrene = 0.0377  Benzo (b)fluoranthene = 0.377  Benzo(g,h,i)perylene = 26.56  Benzo(k)fluoranthene = 0.377  Chrysene = 3.8  Dibenzo(a,h)anthracene = 0.110  Fluoranthene = 40  Indeno(1,2,3-cd)pyrene = 0.377  Phenanthrene = 10.7  Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

#### (Collected on November13 Through December 10, 2007)

#### (Continued)

Sample Name	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B53-3.0	8.4, f,h	11	NA	NA	NA	NA	ND<0.005, Except Fluoranthene = 0.0067 Pyrene = 0.0063
B53-5.0	1.7, h	ND<5.0	NA	NA	NA	NA	ND<0.005
B53-7.0	550	230	NA	NA	NA	NA	ND 0.010, Except Acenaphthene = 0.015 Anthracene = 0.046 Fluoranthene = 0.012 Fluorene = 0.086 Pyrene = 0.020
B53-12.0	22	11	NA	NA	NA	NA	NA
ESL	100	500	0.044	2.9	3.3	2.3	Acenaphthene = 16.3 Anthracene = 2.85 Fluoranthene = 40 Fluorene = 9.0 Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

 $PNAs = Polynuclear\ Aromatic\ Hydrocarbons.$ 

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

h = diesel range compounds are significant; no recognizable pattern.

(Collected on November13 Through December 10, 2007)

#### (Continued)

Sample Name	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B54-1.0	NA	NA	NA	NA	NA	NA	ND<0.010
B54-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B55-1.0	NA	NA	NA	NA	NA	NA	ND<0.050
B55-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B56-1.0	NA	NA	NA	NA	NA	NA	ND<0.10
B56-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B57-1.0	NA	NA	NA	NA	NA	NA	ND<0.005
B57-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
B58-1.0	ND<1.0	ND<5.0	NA	NA	NA	NA	ND<0.005
B58-4.5	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B58-6.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B58-12.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B59-1.0	3.5, j	ND<5.0	NA	NA	NA	NA	ND<0.005
B59-3.0	ND<1.0	ND<5.0	NA	NA	NA	NA	ND<0.005
B59-5.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B59-7.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B59-12.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
ESL	100	500	0.044	2.9	3.3	2.3	

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

j = Stoddard solvent/mineral spirit.

(Collected on November13 Through December 10, 2007) (Continued)

Sample Name	TPH-D	TPH-MO	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B60-1.0	110, f,h	420	NA	NA	NA	NA	ND<0.25, Except Benzo(a)anthracene = <b>0.43</b> Benzo(a)pyrene = <b>0.42</b> Benzo (b)fluoranthene = 0.33 Benzo(g,h,i)perylene = 0.48 Benzo(k)fluoranthene = 0.36 Chrysene = 0.44 Fluoranthene = 0.31 Indeno(1,2,3-cd)pyrene = <b>0.41</b> Pyrene = 0.29
ESL	100	500	NA	NA	NA	NA	Benzo(a)anthracene = 0.377 Benzo(a)pyrene = 0.0377 Benzo (b)fluoranthene = 0.377 Benzo(g,h,i)perylene = 26.56 Benzo(k)fluoranthene = 0.377 Chrysene = 3.8 Fluoranthene = 40 Indeno(1,2,3-cd)pyrene = 0.377 Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

h = diesel range compounds are significant; no recognizable pattern.

(Collected on November13 Through December 10, 2007)

#### (Continued)

Sample Name	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
B60-1.0	130, f,h	500	NA	NA	NA	NA	NA
B60-3.0	2.4, h,j	ND<5.0	NA	NA	NA	NA	ND<0.005, Except 1-Methylnapthalene = 0.019 2-Methylnapthalene = 0.021
B60-5.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B60-7.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B60-12.0	ND<1.0	ND<5.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	NA
B61-1.0	5.8, f,h	17	NA	NA	NA	NA	ND<0.005
B61-3.0	ND<1.0	ND<5.0	NA	NA	NA	NA	ND<0.005
B51a-3.0	NA	NA	NA	NA	NA	NA	ND<0.005
ESL	100	500	0.044	2.9	3.3	2.3	1-Methylnapthalene + 2-Methylnapthalene = 0.255 combined

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from

Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use)

Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

f = oil range compounds are significant.

h = diesel range compounds are significant; no recognizable pattern.

Italicized = Diesel and Oil Range Extractable Hydrocarbons using Dawn Zemo Silica Gel Clean-Up

j = Stoddard solvent/mineral spirit.

(Collected on November13 Through December 10, 2007) (Continued)

Sample Name	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	PNAs
MW7-1.0	4.9, a,b	18	NA	NA NA N			ND<0.005, Except Benzo(a)anthracene = 0.013 Fluoranthene = 0.013 Pyrene = 0.018
MW7-3.0	ND<1.0	ND<5.0	NA	NA	NA	NA	ND<0.005
ESL	100	500					Benzo(a)anthracene = 0.377 Fluoranthene = 40 Pyrene = 85.1

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

PNAs = Polynuclear Aromatic Hydrocarbons.

ESL = Environmental Screening Level, developed by San Francisco Bay Regional Water Quality Control Board (SF-RWQCB) updated February 2005, from Table A-1 – Shallow Soil Screening Levels, Groundwater is a current or potential source of drinking water (residential land use) Values in **bold** exceed the ESL.

ND = Not Detected.

NA = Not Analyzed

(Collected on November13 Through December 10, 2007) (Continued)

Sample ID	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
B13a-1.5	0.75	6.7	140	0.54	ND	44	7.3	21	8.8	ND	1.4	38	ND	ND	ND	44	55
B13a-3.5	0.65	5.9	230	0.63	ND	44	10	25	10	ND	1.6	36	ND	ND	ND	48	47
B13a-5.0	NA	NA	NA	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA
B14a-1.0	1.4	5.2	180	0.59	0.44	49	8.9	29	68	0.093	0.74	49	0.68	ND	ND	45	140
B14a-3.0	1.4	8.9	230	0.53	0.43	47	10	25	48	0.067	1.4	51	ND	ND	ND	46	66
B15a-1.0	3.4	5.2	160	ND	1.2	51	11	57	120	0.12	3.9	60	ND	ND	ND	50	400
B15a-2.0	0.59	7.0	260	0.66	0.34	43	13	22	11	ND	1.4	40	ND	ND	ND	48	74
B21a-1.0	0.69	8.1	220	0.68	0.40	49	15	26	8.2	ND	1.8	53	ND	ND	ND	53	61
B21a-2.5	0.60	8.0	240	0.81	ND	53	48	20	12	ND	2.7	66	ND	ND	ND	58	50
B29a-1.5	0.70	5.8	190	ND	ND	44	15	27	35	0.52	0.57	39	ND	ND	ND	49	71
B29a-2.5	0.55	9.9	150	0.54	0.30	37	7.2	17	26	0.093	1.9	43	ND	ND	ND	37	58
B30a-1.5	0.92	8.7	200	0.50	0.82	47	9.8	34	36	0.15	0.52	52	ND	ND	ND	53	140
B30a-3.0	0.58	5.4	89	0.58	ND	53	9.3	18	67	0.25	0.51	47	ND	ND	ND	38	67
B45a-1.0	0.56	6.0	120	0.66	0.27	51	8.9	26	8.5	ND	1.4	42	ND	ND	ND	50	53
B45a-2.5	ND	5.3	140	0.57	0.30	40	16	19	7.0	ND	2.1	50	ND	ND	ND	46	40
B45a-5.0	1.0	7.7	210	0.57	0.70	49	17	26	250	0.11	1.5	58	0.88	ND	ND	48	220
ESL	6.1	5.5	750	4.0	1.7	58	10	230	150	3.7	40	150	10	20	1.0	110	600

#### Notes:

Sb = Antimony Cd = Cadmium Pb = Lead Se = Selenium Zn = Zinc

ESL = Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold equal or exceed the ESL.** 

ND = Not Detected.

NA = Not Analyzed

(Collected on November 13 Through December 10, 2007) (Continued)

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Sample ID	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
B47a-2.0	1.7	6.6	410	ND	1.1	70	7.9	32	4800	0.60	0.83	48	ND	ND	ND	44	750
B47a-3.5	1.7	7.7	230	0.55	1.4	50	11	49	180	0.24	1.1	53	0.71	ND	ND	51	220
B47a-4.5	NA	NA	NA	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	NA	NA
B49-1.0	0.60	8.0	180	0.53	0.43	84	11	25	7.8	ND	2.3	71	0.54	ND	ND	51	69
B49-3.0	0.57	6.7	150	0.52	0.32	47	8.6	22	11	0.096	1.3	59	ND	ND	ND	45	57
B49-5.0	NA	NA	NA	NA	NA	NA	NA	NA	6.6	NA	NA	NA	NA	NA	NA	NA	NA
B50-1.0	0.62	6.5	140	0.57	0.34	52	7.3	24	8.1	0.17	1.1	53	0.84	ND	ND	49	72
B50-3.0	0.99	9.7	290	0.74	0.43	60	14	32	9.6	0.054	2.1	62	0.54	ND	ND	61	71
B51a-2.0	1.2	7.1	210	ND	0.49	52	9.6	42	110	0.59	1.2	58	0.61	ND	ND	47	130
B51a-3.0	0.52	8.9	75	ND	ND	15	8.0	14	13	0.062	0.65	12	ND	ND	ND	40	64
B52-1.5	2.8	33	95	0.62	0.33	14	9.2	27	51	0.34	1.2	15	1.1	ND	1.4	49	160
B52-3.0	1.9	8.4	1300	ND	0.71	490	11	54	2500	0.22	1.0	63	ND	ND	ND	48	360
B52-5.0	3.6	8.1	260	0.55	0.76	91	13	42	320	0.18	1.3	67	0.71	ND	ND	58	150
B58-1.0	0.68	3.7	150	0.53	0.30	44	5.8	23	15	ND	0.85	40	0.53	ND	ND	44	62
B59-1.0	0.68	4.9	240	0.59	0.37	49	9.4	23	7.1	ND	0.93	48	0.93	ND	ND	50	64
B59-3.0	0.50	5.4	260	0.69	ND	49	11	19	6.8	ND	1.1	40	ND	ND	ND	52	43
B60-1.0	1.7	4.9	170	0.60	0.52	39	12	93	150	0.43	0.62	39	ND	ND	ND	36	170
B60-3.0	0.97	5.1	180	0.55	0.35	44	8.6	25	47	0.074	1.1	44	0.61	ND	ND	43	76
B61-1.0	1.6	5.8	300	0.62	0.77	45	11	36	620	0.71	1.1	50	0.86	ND	ND	53	260
ESL	6.1	5.5	750	4.0	1.7	58	10	230	150	3.7	40	150	10	20	1.0	110	600

#### Notes:

Sb = Antimony Cd = Cadmium Pb = Lead Se = Selenium Zn = Zinc

ESL = Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold equal or exceed the ESL.** 

ND = Not Detected.

NA = Not Analyzed

(Collected on November13 Through December 10, 2007) (Continued)

Sample ID	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
B61-3.0	0.64	8.1	230	0.69	0.28	52	11	25	8.2	ND	1.7	53	ND	ND	ND	56	60
B62-1.0	NA	NA	NA	NA	NA	NA	NA	NA	93	NA	NA	NA	NA	NA	NA	NA	NA
B62-3.0	NA	NA	NA	NA	NA	NA	NA	NA	7.7	NA	NA	NA	NA	NA	NA	NA	NA
B63-1.0	NA	NA	NA	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA
B63-3.0	NA	NA	NA	NA	NA	NA	NA	NA	6.7	NA	NA	NA	NA	NA	NA	NA	NA
B64-1.0	NA	NA	NA	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA
B64-3.0	NA	NA	NA	NA	NA	NA	NA	NA	8.2	NA	NA	NA	NA	NA	NA	NA	NA
B65-1.0	NA	NA	NA	NA	NA	NA	NA	NA	75	NA	NA	NA	NA	NA	NA	NA	NA
B65-3.0	NA	NA	NA	NA	NA	NA	NA	NA	63	NA	NA	NA	NA	NA	NA	NA	NA
B66-1.0	NA	NA	NA	NA	NA	NA	NA	NA	8.1	NA	NA	NA	NA	NA	NA	NA	NA
B66-3.0	NA	NA	NA	NA	NA	NA	NA	NA	7.6	NA	NA	NA	NA	NA	NA	NA	NA
MW7-1.0	1.8	6.7	230	0.84	2.7	53	10	35	260	0.30	0.97	55	0.66	ND	ND	49	1000
MW7-3.0	ND	5.8	230	0.52	ND	42	7.6	21	6.6	ND	1.1	35	ND	ND	ND	47	38
ESL	6.1	5.5	750	4.0	1.7	58	10	230	150	3.7	40	150	10	20	1.0	110	600

#### Notes:

 $\overline{Sb} = Antimony$  Cd = Cadmium Pb = Lead Se = Selenium Zn = Zinc

ESL = Regional Water Quality Control Board Environmental Screening Level, residential land use, where groundwater is considered a current or potential source of drinking water. **Values in bold equal or exceed the ESL.** 

ND = Not Detected.

NA = Not Analyzed

Sample No.	As	Pb	PAHs/ PNAs
Pit1a-3.0	6.4	43	NA
Pit1b-3.0	7.4	35	NA
Pit1c-3.0	7.2	81	NA
Pit1d-3.0	7.0	2,200	NA
Pit1e-6.0	4.7	6.0	NA
Pit2a-2.0	7.2	140	NA
Pit2b-2.0	6.6	550	NA
Pit2c-2.0	8.2	150	NA
Pit2d-3.0	7.2	110	NA
$ESL_1$	0.38	200	*

#### Notes:

As = Arsenic

Pb = Lead

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

ESL1 = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A - Shallow Soils, Groundwater is a current or potential source of drinking water (Residential land use).

#### Results in bold exceed respective ESL.

Sample No.	As	Pb	PAHs/ PNAs
Pit3a-0.5	6.2	82	NA
Pit3b-0.5	7.5	48	NA
Pit3c-0.5	7.5	35	NA
Pit3d-0.5	7.2	46	NA
Pit3e-1.0	7.8	51	NA
Pit4a-4.0	NA	NA	ND except; Chrysene = 0.012, Fluoranthene = 0.0086, Pyrene = 0.0096
Pit4b-4.0	NA	NA	ND
Pit4c-4.0	NA	NA	ND
Pit4d-4.0	NA	NA	ND
Pit4e-4.0	NA	NA	ND except; Fluoranthene = 0.033, 1-Methylnaphthalene = 0.44, 2-Methylnaphthalene = 0.63, Naphthalene = 0.15, Phenanthrene = 0.051, Pyrene = 0.040
Pit4f-4.0	NA	NA	ND
Pit4g-5.0	NA	NA	ND except; Fluoranthene = 0.0063, Fluorene = 0.0065, Pyrene = 0.0074
ESL <sub>1</sub>	0.38	200	Chrysene = 40, Fluoranthene = 40, Fluorene = 410, 1-Methylnaphthalene = No ESL, 2-Methylnaphthalene = 1.2, Naphthalene = 1.3, Phenanthrene = 40, Pyrene = 500

#### Notes:

As = Arsenic

Pb = Lead

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

ESL1 = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A - Shallow Soils, Groundwater is a current or potential source of drinking water (Residential land use).

#### Results in bold exceed respective ESL.

Sample No.	As	Pb	PAHs/ PNAs
Pit5a-2.0	NA	NA	ND
Pit5b-2.0	NA	NA	ND
Pit5c-2.0	NA	NA	ND
Pit5d-2.5	NA	NA	ND, except; 1-Methylnaphthalene = $0.023$ , Phenanthrene = $0.0070$
$ESL_1$	0.38	200	1-Methylnaphthalene = No ESL, Phenanthrene = 40

#### Notes:

As = Arsenic

Pb = Lead

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

ESL1 = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soils, Groundwater is a current or potential source of drinking water (Residential land use).

#### Results in bold exceed respective ESL.

Sample No.	As	Pb	PAHs/ PNAs
Pit6a-1.0	9.2	480	NA
Pit6b-1.0	3.8	230	NA
Pit6c-1.0	6.2	580	NA
Pit6d-1.0	3.5	160	NA
Pit6e-2.0	8.2	10	NA
Pit6f-2.0	NA	18	NA
Pit6g-2.0	NA	8.8	NA
Pit6h-1.5	NA	120	NA
Pit6i-1.5	NA	290	NA
Pit6j-1.5	NA	680	NA
ESL <sub>1</sub>	0.38	200	*

#### Notes:

As = Arsenic

Pb = Lead

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

 $ESL1 = Environmental\ Screening\ Level,\ developed\ by\ San\ Francisco\ Bay-Regional\ Water\ Quality\ Control\ Board\ (SF-RWQCB)\ updated\ May\ 2008,\ from\ Table\ A-Shallow\ Soils,\ Groundwater\ is\ a\ current\ or\ potential\ source\ of\ drinking\ water\ (Residential\ land\ use).$ 

#### Results in bold exceed respective ESL.

Sample No.	As	Pb	PAHs/ PNAs
Pit6k-2.0	NA	180	NA
Pit61-3.0	NA	6.2	NA
Pit6m-2.0	NA	7.7	NA
Pit6n-2.0	NA	150	NA
Pit6o-2.0	NA	61	NA
Pit6p-2.0	11	210	NA
Pit6q-2.5	8.5	8.5	NA
Pit6r-2.5	5.1	7.2	NA
$ESL_1$	0.38	200	*

#### Notes:

As = Arsenic

Pb = Lead

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

ESL1 = Environmental Screening Level, developed by San Francisco Bay - Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A - Shallow Soils, Groundwater is a current or potential source of drinking water (Residential land use).

#### Results in bold exceed respective ESL.

Sample No.	As	Pb	PAHs/ PNAs
Pit7a-0.5	11	9.4	NA
Pit7b-0.5	8.5	9.1	NA
Pit7c-0.5	5.1	7.9	NA
Pit7d-0.5	6.3	7.9	NA
Pit7e-5.0	5.1	5.9	NA
ESL <sub>1</sub>	0.38	200	*

#### Notes:

As = Arsenic

Pb = Lead

PAHs/ PNAs = Polynuclear Aromatic Hydrocarbons.

ND = Not Detected.

NA = Not Analyzed.

ESL1 = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated May 2008, from Table A – Shallow Soils, Groundwater is a current or potential source of drinking water (Residential land use).

#### Results in bold exceed respective ESL.

Sample No.	TPH-G	TPH-D	ТРН-МО	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
Pit4a-4.0	33, a	130, c, d	190	ND<1.0	ND<0.10	ND<0.10	ND<0.10	ND<0.10
Pit4b-4.0	ND<1.0	ND<1.0	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
Pit4c-4.0	40, a, b	30,c, d	67	ND<0.05	ND<0.005	ND<0.005	0.032	0.036
Pit4d-4.0	190, a, b	42, c, d	44	ND<0.5	ND<0.05	ND<0.05	0.27	0.35
Pit4e-4.0	90, a, b	200, c, d	330	ND<0.05	ND<0.005	ND<0.005	ND<0.005	0.14
Pit4f-4.0	ND<1.0	1.1, d, e	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
Pit4g-5.0	170, a, b	97, c, d	120	ND<0.5	ND<0.05	ND<0.05	0.15	0.14
Pit5a-2.0	ND<1.0	ND<1.0	ND<5.0	ND<0.05	0.0058	0.014	ND<0.005	0.0081
Pit5b-2.0	ND<1.0	ND<1.0	ND<5.0	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
Pit5c-2.0	ND<1.0	4.8, c, e	38	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
Pit5d-2.5	71, a, b	84, c, d	130	ND<0.05	ND<0.005	ND<0.005	0.025	0.059
$ESL_1$	83	83	410	0.023	0.044	2.9	3.3	2.3

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl-tert butyl ether.

ND = Not Detected.

NA = Not Analyzed.

- a = Laboratory analytical report note: strongly aged gasoline or diesel range compounds are significant.
- b = Laboratory analytical report note: no recognizable pattern.
- c = Laboratory analytical report note: oil range compounds are significant.
- d = Laboratory analytical report note: kerosene/kerosene range/jet fuel.
- e = Laboratory analytical report note: diesel range compounds are significant; no recognizable pattern.

 $ESL1 = Environmental \ Screening \ Level, \ developed \ by \ San \ Francisco \ Bay - Regional \ Water \ Quality \ Control \ Board (SF-RWQCB) \ updated \ May \ 2008, \ from \ Table \ A - Shallow \ Soils, \ Groundwater \ is \ a \ current \ or \ potential \ source \ of \ drinking \ water \ (Residential \ land \ use).$ 

#### Results in **bold** exceed respective ESL.

# **APPENDIX B**Historic Groundwater Sample Results

#### APPENDIX B-TABLE 1 SUMMARY OF LABORATORY ANALYTICAL RESULTS BOREHOLE GROUNDWATER SAMPLES

(Previous Investigations)

Borehole No./ Sample ID	TPH-D	TPH-G/SS	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE/ Other VOCs
B1	81,a	ND<50/ NA	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	NA
B2	ND<50	ND<50/ NA	NA	ND<0.5	0.56	ND<0.5	6	NA
В3	180,b	500,c/ NA	NA	ND<0.5	0.55	18	44	NA
B4-28.0, Water	NA	<b>120</b> / ND	NA	ND<0.5	1.6	ND<0.5	0.79	ND
B5-28.0, Water	NA	<b>120/</b> ND	NA	1.0	1.0	1.1	5.0	ND
$\mathrm{ESL}_1$	100	100	100	170	40	30	20	

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

ND = Not detected.

NA = Not Analyzed.

a = Laboratory analytical report note: liquid sample contains greater than ~1 vol. % sediment.

b = Laboratory analytical report note: gasoline range compounds are significant.

c = Laboratory analytical report note: heavier gasoline range compounds are significant, possibly aged gasoline.

Results in micrograms per liter (micrograms/L), unless otherwise indicated.

 $ESL_1$  = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) created July 2003, updated February 2005, Table I1 – Groundwater is a current or potential source of drinking water.

## APPENDIX B-TABLE 1 (Cont.) SUMMARY OF LABORATORY ANALYTICAL RESULTS BOREHOLE GROUNDWATER SAMPLES

(Previous Investigations)

Borehole No./ Sample ID	TPH-D	TPH-G/SS	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE/ Other VOCs
B6-24.0, Water	NA	1900/1400	NA	23	0.95	62	240	ND<5.0, except benzene = 26, n Butyl benzene = 20, Ethylbenzene = 82, Isopropylbenzene = 17, 1,2,4-Trimethylbenzene = 200, sec-Butyl benzene = 0.011, Naphthalene = 24, n-Propyl benzene = 50, 1,3,5-Trimethylbenzene = 65, xylenes = 320
B7-32.0, Water	NA	ND<50/NA	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B8-32.0, Water	NA	ND<50/NA	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B9-32.0, Water	NA	ND<50/NA	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B10-32.0, Water	NA	ND<50/NA	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B11-32.0, Water	NA	ND<50/NA	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
B12-32.0, Water	NA	ND<50/NA	NA	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/NA
$ESL_1$	100	100		170	40	30	20	Naphthalene = 21,

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

 $TPH\text{-}SS = Total\ Petroleum\ Hydrocarbons\ as\ Stoddard\ solvent.$ 

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

ND = Not detected.

NA = Not Analyzed.

a = Laboratory analytical report note: liquid sample contains greater than ~1 vol. % sediment.

b = Laboratory analytical report note: gasoline range compounds are significant.

c = Laboratory analytical report note: heavier gasoline range compounds are significant, possibly aged gasoline.

Results in micrograms per liter (micrograms/L), unless otherwise indicated.

 $ESL_1$  = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) created July 2003, updated February 2005, Table I1 – Groundwater is a current or potential source of drinking water.

#### APPENDIX B-TABLE 1 (Cont.) SUMMARY OF LABORATORY ANALYTICAL RESULTS BOREHOLE GROUNDWATER SAMPLES

(Previous Investigations)

Borehole No./ Sample ID	TPH-D	TPH-G/SS	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE/ Other VOCs
B13-9.0	<b>3,900</b> ,d,f ,e	<b>16,000</b> ,e/ NA	2,700	21	4.6	250	27	ND<25/ NA
B14-18.0	NA	ND<50/ NA	NA	ND<0.5	1.7	ND<0.5	1.2	ND<5.0/ NA
B15-9.0	<b>4,100</b> ,f	ND<50/ NA	35,000	ND<0.5	1.8	ND<0.5	0.52	ND<5.0/ NA
B15-19.0	<b>170,000</b> , f,e	<b>160</b> ,c,e/ NA	1,300,000	ND<0.5	9.0	0.55	3.6	ND<5.0/ NA
B16-18.0	NA	ND<50,e/ NA	NA	ND<0.5	3.4	ND<0.5	1.6	ND<5.0/ NA
B17-18.0	NA	<b>220</b> ,d,e/ NA	NA	2.5	12	7.4	3.3	ND<5.0/ NA
B18-25.0	<b>180</b> ,f,h	ND<50/ NA	710	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B19-32.0	ND<50	ND<50/ NA	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B20-25.0	<b>3,000</b> ,g,f	ND<50/ NA	2,300	ND<0.5	0.65	ND<0.5	1.6	ND<5.0/ NA
B21-24.0	<b>4,600</b> ,f,h	ND<50/ NA	27,000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B22-21.0	<b>280</b> ,f,h	ND<50/ NA	1,300	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
ESL1	100	100	100	170	40	30	20	

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

ND = Not detected.

NA = Not Analyzed.

- c = Laboratory analytical report note: heavier gasoline range compounds are significant, possibly aged gasoline.
- d = Laboratory analytical report note: gasoline range compounds are significant.
- e = Laboratory analytical report note: lighter than water immiscible sheen/product is present.
- f= Laboratory analytical report note: oil range compounds are significant.
- g = unmodified or weakly modified diesel is significant.
- h = diesel range compounds are significant; no recognizable pattern.
- i = unmodified or weakly modified gasoline is significant.
- k =one to a few isolated peaks present.

Results in micrograms per liter (micrograms/L), unless otherwise indicated.

 $ESL_1$  = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) created July 2003, updated February 2005, Table I1 – Groundwater is a current or potential source of drinking water.

## APPENDIX B-TABLE 1 (Cont.) SUMMARY OF LABORATORY ANALYTICAL RESULTS BOREHOLE GROUNDWATER SAMPLES

(Previous Investigations)

Borehole No./ Sample ID	TPH-D	TPH-G/SS	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE/ Other VOCs
B23-30.0	ND<50	ND<50/ NA	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B24-25.0	<b>12,000</b> ,d ,f	<b>6,600</b> ,i/ NA	14,000	1,000	14	260	41	ND<50/ NA
B24-55.0 Water	ND<50	ND<50/ NA	ND<250	1.2	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B25-25.0	<b>140</b> ,f,h	ND<50/NA	390	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B26-25.0	ND<50	ND<50/NA	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B27-25.0	<b>2,700</b> ,f,h	ND<50/NA	12,000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0/ NA
B29-21.0	<b>2,700</b> ,f,h	ND<50/NA	6,700	ND<0.5	1.1	ND<0.5	0.94	ND<5.0/ NA
B33-25W	ND<50	ND<50/NA	ND<250	ND	ND	ND	ND	ND/ NA
B34-25W	ND<50	ND<50/NA	ND<250	ND	ND	ND	ND	ND/ NA
B35-25W	ND<50	ND<50/NA	ND<250	ND	ND	ND	ND	ND/ NA
B36-25W	<b>120</b> ,f,h	ND<50/NA	480	ND	ND	ND	ND	ND/ NA
B37-25W	<b>110</b> ,f,h	ND<50/NA	880	ND	ND	ND	ND	ND/ NA
B38-25W	ND<50	ND<50/NA	ND<250	ND	ND	ND	ND	ND/ NA
B39-25W	89,f,d	ND<50/NA	350	ND	ND	ND	ND	ND/ NA
E4-W	810,b	<b>1,100</b> /NA	ND<250	6.3	ND<1.0	6.0	13	ND<10/ NA
E8-W	54,b	<b>110,a</b> /NA	ND<250	0.62	ND<0.5	ND<0.5	11	ND<5.0/ NA
E9-W	62,b	<b>110,a</b> /NA	ND<250	ND<0.5	ND<0.5	ND<0.5	5.1	ND<5.0/ NA
$\mathrm{ESL}_1$	100	100	100	170	40	30	20	

#### Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-SS = Total Petroleum Hydrocarbons as Stoddard solvent.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

ND = Not detected.

NA = Not Analyzed.

a = heavier gasoline-range compounds are significant (aged gasoline?).

b = gasoline range compounds are significant.

- c = Laboratory analytical report note: heavier gasoline range compounds are significant, possibly aged gasoline.
- d = Laboratory analytical report note: gasoline range compounds are significant.
- e = Laboratory analytical report note: lighter than water immiscible sheen/product is present.
- f= Laboratory analytical report note: oil range compounds are significant.
- g = unmodified or weakly modified diesel is significant.
- h = diesel range compounds are significant; no recognizable pattern.
- i = unmodified or weakly modified gasoline is significant.

k = one to a few isolated peaks present.

Results in micrograms per liter (micrograms/L), unless otherwise indicated.

 $ESL_1$  = Environmental Screening Level, developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) created July 2003, updated February 2005, Table I1 – Groundwater is a current or potential source of drinking water.

E1, E2, E3, E4, E6, E7, E8, E9, I1, I2, MW1, MW2, MW4, MW5, MW6, and MW7

Sample No.	Sample Date	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE			
E1	2 4.00	No Sample Collected										
E1	4/04/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E1	1/11/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E1	10/05/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E1	7/31/07	ND<50	ND<50	ND<250	ND<0.5	0.86	ND<0.5	1.2	ND<5.0			
E1-W	03/28/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E1-W	11/1/06	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E2	7/29/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E2	4/04/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E2	1/10/08	76	68,b, d	ND<250	1.0	ND<0.5	1.7	2.1	ND<5.0			
E2	10/8/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	2.8	ND<5.0			
E2	7/31/07	ND<50	160, b,f	790	ND<0.5	1.9	0.71	4.2	ND<5.0			
E2-W	3/29/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E2-W	11/1/06	1900,с	1100,b,d,f	1500	0.52	6.9	17	150	ND<5.0			
E3	7/29/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E3	4/04/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E3	1/11/08	110	110,d	ND<250	0.93	ND<0.5	ND<0.5	0.83	ND<5.0			
E3	10/5/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E3	7/31/07	ND<50	ND<50	ND<250	0.51	2.3	ND<0.5	2.3	ND<5.0			
E3-W	3/29/07	ND<50	210, b	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
E3-W	11/1/06	2600,с	640,d,f	260	ND<1.7	ND<1.7	44	350	ND<17			
ESL		100	100	100	1.0	40	30	20	5.0			

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether.

ND = Not Detected.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?)

d = gasoline range compounds are significant.

f = oil range compounds are significant.

i = unmodified or weakly modified gasoline is significant.

ESL = Environmental Screening Level developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Table A. Groundwater is a current or potential source of drinking water.

#### Values in bold exceed their respective ESL value.

## E1, E2, E3, E4, E6, E7, E8, E9, I1, I2, MW1, MW2, MW4, MW5, MW6, and MW7 (Continued)

Sample No.	Sample Date	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
E4	7/28/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E4	4/04/08	ND<50	ND<50	ND<250	0.57	ND<0.5	ND<0.5	ND<0.5	ND<0.5
E4	1/10/08	ND<50	ND<50	ND<250	0.57	ND<0.5	ND<0.5	ND<0.5	ND<0.5
E4	10/5/07	ND<50	ND<50	ND<250	0.92	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E4	8/02/07	ND<50	63, b	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E4-W	4/06/07	11,000	810, d	ND<250	63	ND<1.0	6.0	13	ND<10
E6	7/29/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E6	4/04/08	59	ND<50	ND<250	1.4	ND<0.5	ND<0.5	0.84	ND<5.0
E6	1/10/08	91	93,b,d	ND<250	0.88	ND<0.5	0.52	1.1	ND<5.0
E6	10/8/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E6	8/01/07	ND<50	1,400, f	2,400	1.4	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E6-W	3/29/07	160, c	240, b,d	ND<250	ND<0.5	ND<0.5	4.2	8.5	ND<5.0
E6-W	11/1/06	310,g	260,d,f, g	470	4.9	ND<0.5	ND<0.5	6.4	ND<5.0
E7				N	No Sample Co	llected			
E7	4/04/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E7	1/10/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E7	10/5/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E7	8/01/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E7-W	3/28/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E7-W	10/31/06	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
ESL		100	100	100	1.0	40	30	20	5.0

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

 $TPH\text{-}MO = Total\ Petroleum\ Hydrocarbons\ as\ Motor\ Oil.$ 

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?)

d = gasoline range compounds are significant.

f = oil range compounds are significant.

g = liquid sample that contains greater than ~1 vol. % sediment

ESL = Environmental Screening Level developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Table A. Groundwater is a current or potential source of drinking water.

#### Values in bold exceed their respective ESL value.

## E1, E2, E3, E4, E6, E7, E8, E9, I1, I2, MW1, MW2, MW4, MW5, MW6, and MW7 (Continued)

Sample No.	Sample Date	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
E8	7/29/08	200, b	100, d	ND<250	ND<0.5	0.96	1.7	7.7	ND<5.0
E8	4/07/08	630	310,b, d	ND<250	2.2	0.88	22	25	ND<5.0
E8	1/9/08	690, b,c	240,d	ND<250	1.2	0.67	7.5	68	ND<5.0
E8	10/8/07	400,b,c	81, d	ND<250	1.2	1.3	6.9	58	ND<5.0
E8	8/01/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E8-W	4/06/07	110, c	54, d	ND<250	0.62	ND<0.5	ND<0.5	11	ND<5.0
E9	7/28/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E9	4/04/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E9	1/9/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E9	10/8/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E9	8/01/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
E9-W	4/06/07	110, c	62, d	ND<250	ND<0.5	ND<0.5	ND<0.5	5.1	ND<5.0
I1				N	o Sample Col	llected			
I1	10/5/07	ND<50	85, b	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
I1	8/01/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
I1-W	11/1/06	ND<50,g	ND<50, g	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
I2		No	Samples						
ESL		100	100	100	1.0	40	30	20	5.0

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?)

d = gasoline range compounds are significant.

f = oil range compounds are significant.

g = liquid sample that contains greater than ~1 vol. % sediment

i = unmodified or weakly modified gasoline is significant.

k = lighter than water immiscible sheen/product is present.

ESL = Environmental Screening Level developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Table A. Groundwater is a current or potential source of drinking water.

#### Values in bold exceed their respective ESL value.

## E1, E2, E3, E4, E6, E7, E8, E9, I1, I2, MW1, MW2, MW4, MW5, MW6, and MW7 (Continued)

Sample No.	Sample Date	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW1	7/29/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
MW1	4/04/08	ND<50	ND<50	ND<250	1.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
MW1	1/10/08	63	ND<50	ND<250	1.8	ND<0.5	0.79	2.0	ND<5.0
MW1	10/8/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
MW1	8/01/07	ND<50	230, b, f	500	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
MW1-W	3/29/07	ND<50	180, b, f	370	0.63	ND<0.5	ND<0.5	0.83	ND<5.0
MW1-W	11/1/06	8500,c	5800,d,f	2600	ND<5.0	30	69	1000	ND<50
MW1	4/2/03	24000	NA	NA	ND<0.5	ND<0.5	ND<0.5	0.74	ND<5.0
MW1	03/18/92	77000	1400	NA	17,000	18000	2300	1300	ND<0.05
MW1	11/21/91	47000	9800	NA	6000	7200	2200	1000	NA
MW1	08/15/91	59000	3500	NA	3800	5500	1100	4800	NA
MW1	06/05/91	23000	560	NA	2000	1200	640	2500	NA
MW1	01/28/91	99000	1700	NA	4400	7400	1800	8600	NA
MW1	10/23/90	50000	1100	NA	3300	4000	4200	4700	NA
MW1	07/25/90	34000	ND	NA	2000	670	120	1500	NA
MW1	02/20/90	73000	2200	NA	7500	5900	680	5300	NA
MW1	10/02/89	70000	610	NA	2800	2400	2300	4800	NA
ESL		100	100	100	1.0	40	30	20	5.0

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

NA = Not Analyzed

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?)

d = gasoline range compounds are significant.

f = oil range compounds are significant.

g = liquid sample that contains greater than ~1 vol. % sediment

i = unmodified or weakly modified gasoline is significant.

ESL = Environmental Screening Level developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Table A. Groundwater is a current or potential source of drinking water.

#### Values in bold exceed their respective ESL value.

#### APPENDIX B-TABLE 2 (Cont.) SUMMARY OF WELL SAMPLE RESULTS E1, E2, E3, E4, E6, E7, E8, E9, I1, I2, MW1, MW2, MW4, MW5, MW6 and MW7 (Continued)

Sample No.	Sample Date	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE					
MW2		No Sample Collected												
MW2	4/04/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0					
MW2	1/9/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0					
MW2	10/5/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0					
MW2	7/31/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	0.59	ND<5.0					
MW2-W	3/28/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0					
MW2-W	11/1/06	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0					
MW2	4/2/03	ND<50	NA	NA	4000	1600	2000	1400	ND<50					
MW2	03/18/92	ND	ND	NA	ND	1.1	ND	3.3	NA					
MW2	11/21/91	ND	ND	NA	ND	ND	ND	ND	NA					
MW2	08/15/91	ND	ND	NA	ND	ND	ND	ND	NA					
MW2	06/05/91	ND	ND	NA	ND	ND	ND	ND	NA					
MW2	01/28/91	ND	ND	NA	ND	ND	ND	ND	NA					
ESL		100	100	100	1.0	40	30	20	5.0					

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

NA = Not Analyzed

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?)

d = gasoline range compounds are significant.

f = oil range compounds are significant.

g = liquid sample that contains greater than ~1 vol. % sediment

i = unmodified or weakly modified gasoline is significant.

ESL = Environmental Screening Level developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Table A. Groundwater is a current or potential source of drinking water.

#### Values in bold exceed their respective ESL value.

## E1, E2, E3, E4, E6, E7, E8, E9, I1, I2, MW1, MW2, MW4, MW5, MW6, and MW7 (Continued)

Sample No.	Sample Date	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE			
MW2	10/23/90	ND	ND	NA	ND	ND	ND	ND	NA			
MW2	07/25/90	ND	ND	NA	ND	ND	ND	ND	NA			
MW2	02/20/90	ND	ND	NA	ND	ND	ND	ND	NA			
MW2	10/02/89	ND	ND	NA	ND	ND	ND	ND	NA			
MW3	No Sample Collected											
MW3	02/20/90	ND	ND	NA	ND	ND	ND	ND	NA			
MW3	10/02/89	10/02/89 ND ND		NA	ND	ND	ND	ND	NA			
MW4	No Sample Collected											
MW4	4/04/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
MW4	1/10/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
MW4	10/5/07	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
MW4	2/28/07	ND<50	ND<50	ND<250	NA	NA	NA	NA	NA			
MW5					o Sample Coll							
MW5	4/03/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
MW5	1/11/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
MW5	10/8/07	ND<50, g	ND<50, g	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0			
MW5	2/28/07	ND<50, g	ND<50, g	ND<250	NA	NA	NA	NA	NA			
ESL		100	100	100	1.0	40	30	20	5.0			

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

NA = Not Analyzed

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?)

d = gasoline range compounds are significant.

f = oil range compounds are significant.

g = liquid sample that contains greater than ~1 vol. % sediment

i = unmodified or weakly modified gasoline is significant.

ESL = Environmental Screening Level developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Table A. Groundwater is a current or potential source of drinking water.

#### Values in bold exceed their respective ESL value.

### E1, E2, E3, E4, E6, E7, E8, E9, I1, I2, MW1, MW2, MW4, MW5, MW6, and MW7 (Continued)

Sample No.	Sample Date	TPH-G	TPH-D	ТРН-МО	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE				
MW6		No Sample Collected											
MW6	4/03/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0				
MW6	1/11/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0				
MW6	10/8/07	ND<50, g	ND<50,g	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0				
MW6	2/28/07	ND<50	140, j	ND<250	NA	NA	NA	NA	NA				
MW7				No	Sample Coll	ected							
MW7	4/03/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0				
MW7	1/10/08	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0				
MW7	11/21/07	NA	ND<50	ND<250	NA	NA	NA	NA	NA				
			_		-		_						
ESL	·	100	100	100	1.0	40	30	20	5.0				

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

NA = Not Analyzed

a = strongly aged gasoline or diesel range compounds are significant.

b = no recognizable pattern.

c = heavier gasoline range compounds are significant (aged gasoline?)

d = gasoline range compounds are significant.

f = oil range compounds are significant.

g = liquid sample that contains greater than ~1 vol. % sediment

i = unmodified or weakly modified gasoline is significant.

j = kerosene/ kerosene range

ESL = Environmental Screening Level developed by San Francisco Bay – Regional Water Quality Control Board (SF-RWQCB) updated November 2007, from Table A. Groundwater is a current or potential source of drinking water.

#### Values in bold exceed their respective ESL value.

# APPENDIX C Historic Soil Gas Sample Results

### APPENDIX C TABLE SUMMARY OF HISTORICAL AIR SAMPLE RESULTS

					<u>Total</u>	
Sample No.	TPH-G	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylenes</b>	<b>MTBE</b>
SG1	130,000	1700,d	420,d	150	540	NA
SG2	23,000	27,d	110	150,d	540	NA
SG3	620	ND<7.6	54	13	87	NA

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND < X = Not Detected at a concentration above the laboratory reporting limit X.

Vppb = Parts per billion by volume.

Results are in micrograms per meter cubed (micrograms/m<sup>3</sup>).

#### APPENDIX C TABLE (Cont.) SUMMARY OF AIR SAMPLE RESULTS FROM INDIVIDUAL WELLS (Samples Collected by Cal Clean, Inc. from October 12 to November 17, 2006)

Lab Request No.	Sample No.	<b>Date</b>	TPH-G	Benzene	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Total Xylenes</b>	<b>MTBE</b>
178316	MW-1	10/12/06	8,800	68	228	73	255	101
179355	MW-1	11/01/06	1,260	3.2	7.2	11	44	13
179710	MW-1	11/11/06	1,060	6.7	6.8	5.1	24	24
181416	MW-1	12/11/06	182	0.50	1.4	0.65	4.5	2.4
184548	MW-1	2/08/07	305	3.8	11	0.90	13	64
186545	MW-1	3/12/07	478	3.2	32	9.2	29	0.22
187736	MW-1	4/2/07	350	3.6	18	6.9	19	4.0
0707586	MW1	7/24/07	ND<0.025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.0025
178316	E-1	10/13/06	2,650	18	87	62	276	ND<5.0
179355	E-1	11/01/06	1,750	3.6	1.3	19	70	12
179710	E-1	11/11/06	1,490	9.7	8.9	6.0	24	29
181416	E-1	12/11/06	203	0.45	1.4	0.78	4.9	1.9

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND < X = Not Detected at a concentration above the laboratory reporting limit X.

Vppb = Parts per billion by volume.

APPENDIX C TABLE (Cont.) SUMMARY OF AIR SAMPLE RESULTS FROM INDIVIDUAL WELLS (Samples Collected by Cal Clean, Inc. from October 12 to November 17, 2006)

							Total	
Lab Order No.	Sample No.	<b>Date</b>	TPH-G	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylenes</b>	<b>MTBE</b>
182873	E-1	1/09/07	409	1.7	8.9	1.6	6.6	1.9
184548	E-1	2/08/07	562	3.4	10	0.5	10	86
186545	E-1	3/12/07	265	1.4	27	5.0	27	ND< 0.5
187736	E-1	4/2/07	362	3.8	19	7.0	18	4.4
179355	E-2	11/01/06	860	0.39	2.2	11	38	1.6
179710	E-2	11/11/06	458	0.70	2.2	3.3	18	1.8
181416	E-2	12/11/06	213	0.5	1.7	1.1	6.4	4.9
182873	E-2	1/09/07	86	ND<0.01	0.29	0.31	2.0	ND<0.10
184548	E-2	2/08/07	15	ND<0.01	0.12	0.08	0.27	0.11
186545	E-2	3/12/07	11	0.29	0.67	0.22	1.2	0.34
187736	E-2	4/2/07	225	1.7	8.9	4.3	11	2.4
178316	E-3	10/13/06	2,370	23	53	20	69	20
179355	E-3	11/01/06	1,040	2.6	5.4	9.2	42	10
179710	E-3	11/11/06	570	0.67	2.0	3.8	21	1.6

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

 $TPH\text{-}MO = Total\ Petroleum\ Hydrocarbons\ as\ Motor\ Oil.$ 

MTBE = Methyl Tertiary Butyl Ether

ND < X = Not Detected at a concentration above the laboratory reporting limit X.

Vppb = Parts per billion by volume.

#### APPENDIX C TABLE (Cont.) SUMMARY OF AIR SAMPLE RESULTS FROM INDIVIDUAL WELLS (Samples Collected by Cal Clean, Inc. from October 12 to November 17, 2006)

Lab Order No.	Sample No.	<b>Date</b>	TPH-G	<b>Benzene</b>	<b>Toluene</b>	Ethylbenzene	<u>Total</u> <u>Xylenes</u>	MTBE
181416	E-3	12/11/06	180	0.35	1.4	1.1	6.7	3.0
182873	E-3	1/09/07	323	1.4	6.7	1.3	5.4	3.5
184548	E-3	2/08/07	352	4.4	13	0.95	14	68
186545	E-3	3/12/07	7.3	0.26	1.1	0.17	0.87	0.08
187736	E-3	4/2/07	17	ND< 0.01	0.09	0.07	0.16	ND< 0.10
178316	E-6	10/13/06	3,700	20	115	78	330	3.0
179355	E-6	11/01/06	962	2.4	5.3	11	40	9.5
179710	E-6	11/11/06	619	0.67	2.1	4.1	22	2.5

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND < X = Not Detected at a concentration above the laboratory reporting limit X.

Vppb = Parts per billion by volume.

## APPENDIX C TABLE (Cont.) SUMMARY OF COMBINED AIR SAMPLE RESULTS

(Samples Collected by Cal Clean, Inc. from October 12 to November 17, 2006)

Lab Order No.	Sample No.	<b>Date</b>	TPH-G	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Total Xylenes</b>	<b>MTBE</b>
181416	E-6	12/11/06	123	ND< 0.025	0.74	0.94	5.4	ND< 0.25
182873	E-6	1/09/07	309	1.2	7.2	1.3	5.0	2.2
184548	E-6	2/08/07	23	ND<0.01	0.15	0.14	0.34	ND<0.10
186545	E-6	3/12/07	464	3.1	33	8.8	36	ND< 0.25
187736	E-6	4/2/07	307	2.9	16	5.8	15	3.8
0707586	E6	7/24/07	ND<0.025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.0025
178316	E-7	10/13/06	344	0.44	3.0	1.2	3.6	2.4
0707586	E7	7/24/07	ND<0.025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.0025
0707586	E8	7/24/07	ND<0.025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.0025
182873	I-1	1/09/07	95	0.15	0.40	0.2	0.72	0.20

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

# APPENDIX C TABLE (Cont.) SUMMARY OF COMBINED AIR SAMPLE RESULTS (Samples Collected by Cal Clean, Inc. from October 12 to November 17, 2006)

**Total** Lab Order No. TPH-G Ethylbenzene **Xylenes MTBE** Sample No. Date Benzene Toluene 178316 Combined 8.5 8.4 10/13/06 1,310 13 38 26 10/17/06 178316 Combined 1,360 8.8 8.9 13 39 26 178462 10/19/06 44 Combined 2,560 9.6 44 171 13 178462 Combined A/S 10/19/06 28 75 224 27 6,580 139 178704 10/24/06 Combined 7.1 12 26 28 1,950 16 178977 Combined 10/29/06 3,540 12 27 68 249 23 11/01/06 1,080 179355 Combined 3.1 7.3 11 40 9.4 179355 Combined 11/03/06 2,100 9.5 14 14 34 51 179588 Combined 11/10/06 6,500 63 28 12 39 168

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

## APPENDIX C TABLE (Cont.) SUMMARY OF COMBINED AIR SAMPLE RESULTS

(Samples Collected by Cal Clean, Inc. from October 12 to November 17, 2006)

							Total	
Lab Order No.	Sample No.	<b>Date</b>	TPH-G	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	Xylenes	<b>MTBE</b>
179710	Combined	11/11/06	1,760	13	11	5.6	23	34
180124	Combined	11/17/06	1,160	7.0	14	6.0	16	9.9
180348	Combined	11/22/06	426	2.0	12	2.2	6.2	2.6
180602	Combined	11/27/06	832	4.3	15	3.9	12	6.5
180865	Combined	12/01/06	476	1.5	4.0	2.9	11	3.0
181324	Combined	12/8/06	3,000	40	117	1.3	1.7	35
181416	Combined	12/11/06	266	0.90	2.2	1.4	8.3	6.9
181622	Combined	12/14/06	297	1.2	2.1	1.2	3.0	3.9
182034	Combined	12/21/06	211	0.71	2.9	0.72	2.1	2.2
182175	Combined	12/26/06	240	0.69	1.8	0.89	1.5	2.4
182873	Combined	1/09/07	373	1.6	7.7	1.4	6.1	4.1

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

### APPENDIX C TABLE (Cont.) SUMMARY OF COMBINED AIR SAMPLE RESULTS

(Samples Collected by Cal Clean, Inc. from October 12 to November 17, 2006)

Lab Order No.	Sample No.	<b>Date</b>	TPH-G	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Total Xylenes</b>	<b>MTBE</b>
183045	Combined	1/14/07	106	0.10	0.58	0.46	2.0	ND<0.10
183785	Combined	1/26/07	449	3.6	11	0.65	7.7	71
184029	Combined	1/31/07	317	1.7	1.0	2.4	0.50	5.0
184206	Combined	2/05/07	453	3.4	11	0.90	278	139
184548	Combined	2/08/07	712	4.4	13	0.50	12	68
186545	Combined	3/12/07	525	3.1	44	11	46	ND< 0.5
187736	Combined	4/2/07	271	1.5	6.0	1.8	6.1	2.4
0707242	Influent	7/11/07	0.053	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.00025	ND<0.0025

#### Notes:

TPH-G = Total Petroleum Hydrocarbons as Gasoline.

TPH-D = Total Petroleum Hydrocarbons as Diesel.

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.

MTBE = Methyl Tertiary Butyl Ether

ND = Not Detected.

# APPENDIX D Soil Gas Purge Volume Calculations

#### Soil Gas Purge Volume Calculations

One purge volume is calculated as the volume of the tubing interior plus the volume of the sand interval of the borehole.

The tubing interior volume is calculated as follows.

V tubing = pi X (r X r) X h, where pi = 3.14, r = 0.187 in./2, and h = 7 ft.

V tubing = 3.14 X (0.0935 X 0.0935) X (7 ft. X 12 in./ft.) = 2.31 cubic inches.

The sand interval volume is calculated as follows.

V sand interval = pi X ( r X r ) X h X porosity, where pi = 3.14, r = 1.0 in./2, h = 8 in., and porosity = 0.35.

V sand interval =  $3.14 \times (0.5 \times 0.5) \times 8$  in.  $\times 0.35 = 2.20$  cubic inches.

The total volume for one purge volume is V tubing + V sand interval, where

V total = 2.31 cubic inches + 2.20 cubic inches = 4.51 cubic inches.

To convert to cubic centimeters,

V total = 4.51 cubic inches X 16.39 cubic centimeters/cubic inches = 73.9 cubic centimeters.

The total volume to be purged is 3 purge volumes.

V purge total = 73.9 cubic centimeters X 3 = 222 cubic centimeters.

The flow controller has a nominal flow rate of 200 cubic centimeters per minute.

The purge time is calculated as follows.

T purge = 222 cubic centimeters/200 cubic centimeters per minute = 1.11 minutes.

Converting the purge time to seconds, 1.11 minutes X 60 seconds/minute = 67 seconds.