Investigation and Remediation Activities Report
9201 San Leandro Street
Oakland, California
(Fuel Leak Case #RO0000320)

May 15, 2009
001-09679-01

Prepared for
Service West, Inc.
9201 San Leandro Street
Oakland, California 94603

Prepared by
LFR Inc.
1900 Powell Street, 12th Floor
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ServiceWest

May 15, 2009

Mr. Jerry Wickham
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Investigation and Remedial Activities Report, 9201 San Leandro Street, Oakland, California (Fuel Leak Case #RO0000320)

Dear Mr. Wickham:

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments, please call me at (510) 729-0414 or Ron Goloubow of LFR Inc. at (510) 652-4500.

Sincerely,

Mark Vignoles
President

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LFR an ARCADIS company NT & CONSULTING ENGINEERING

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Mr. Jerry Wickham
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Investigation and Remedial Activities Report, 9201 San Leandro Street, Oakland, California (Fuel Leak Case #RO0000320)

Dear Mr. Wickham:

On behalf of Service West, Inc. ("Service West"), LFR Inc. (LFR) is submitting this report documenting the results of the following activities conducted at 9201 San Leandro Street, Oakland, California ("the Site"):

- investigation of groundwater quality near the former underground storage tank (UST)
- investigation of groundwater quality hydraulically downgradient from a suspected UST
- pilot test of air sparging and soil-vapor extraction (AS/SVE) technology at the location of the former UST
- excavation of total petroleum hydrocarbons- (TPH-) affected soil near the workshop building (Area 1)

This report is presented in accordance with LFR's "Work Plan to Conduct Investigation and Remedial Activities at 9201 San Leandro Street, Oakland, California (Fuel Leak Case #RO0000320)," dated November 14, 2008. The scope of work was approved by Alameda County Environmental Heath Services (ACEH) with some minor modifications in the ACEH's letter dated December 10, 2008.

The objectives of the groundwater quality investigation activities were to assess the lateral and vertical extent of the petroleum-affected groundwater in the vicinity of a former UST at the Site and downgradient from the suspected UST location inside the warehouse building. The objective of the AS/SVE pilot test was to collect field data to assess whether air/ozone injection in conjunction with SVE is a potentially viable remediation technology to address petroleum-affected groundwater in the vicinity of the former UST at the Site. The investigation and pilot test activities (e.g., well installation and sampling) were conducted at the Site in December 2008 and January 2009. The objective of the excavation activities was to remove TPH-affected soil to below the ACEH-approved remediation goals.

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Based on the results of the investigation and remedial activities conducted at the Site the following conclusions and/or recommendations are provided in this report:

- The data collected regarding the vertical extent of affected groundwater indicate that no further assessment or remediation of the deeper zone groundwater is warranted.
- The data collected regarding groundwater quality associated with the presence of a suspected UST inside the warehouse building near well MW-4 indicates that the further assessment or remediation of the soil or groundwater regarding the suspected presence of a UST in this portion of the Site is not warranted.
- The results of the confirmation soil samples collected from the excavation near the workshop building indicate that no further investigation of remedial activities be conducted with respect to the TPH-affected soil present in this portion of the Site. However, it is recommended that the likely presence of TPH-affected soil beneath the workshop building be included on the deed for this property.
- A work plan presenting the next phase of remedial activities for the TPH-affected groundwater located in the vicinity of a former UST near well MW-3 is provided in this report.

Service West and LFR thank you in advance for your prompt attention to this project and look forward to bringing it to closure. If you have any questions regarding this report, please contact either of the undersigned at (510) 652-4500.

Sincerely,

Ron Goloubow
Senior Associate Geologist

Lucas Goldstein, P.E., P.G.
Senior Associate Engineer

cc: Mark Vignoles, Service West, Inc.

Enclosure

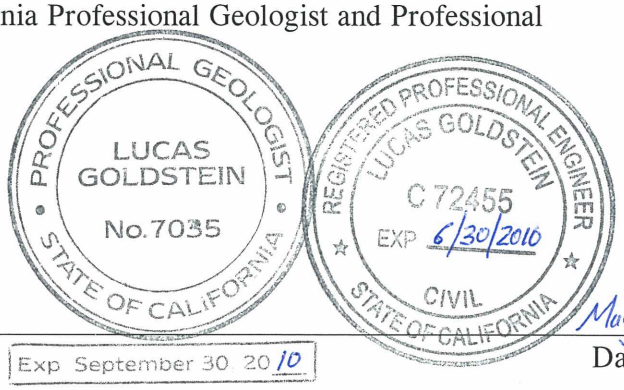
CONTENTS

FIGURES

APPENDICES

CERTIFICATION

LFR Inc. has prepared this report on behalf of Service West, Inc., in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and engineers. This investigation report was prepared under the technical direction of the undersigned California Professional Geologist and Professional Engineer.



May 15, 2009

Lucas Goldstein, P.G., P.E. — Date
Senior Associate Engineer
California Professional Geologist (7035)
California Professional Civil Engineer (72455)

* A registered geologist's or registered environmental assessor's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

1.0 INTRODUCTION

On behalf of Service West Inc. ("Service West"), LFR Inc. (LFR) is submitting this report documenting the results of the investigation, air sparging and soil-vapor extraction (AS/SVE) pilot test, and excavation activities conducted at 9201 San Leandro Street, Oakland, California (Fuel Leak Case No. RO0000320; "the Site"; Figures 1 and 2). This report also documents the results of the soil boring drilled to assess the suspected presence of an undocumented underground storage tank (UST) and the excavation of soil containing total petroleum hydrocarbons as motor oil (TPHmo) that was conducted in Area 1 of the Site.

This report is presented in accordance with LFR's "Work Plan to Conduct Investigation and Remedial Activities at 9201 San Leandro Street, Oakland, California," dated November 14, 2008 ("the Work Plan"; LFR 2008). The scope of work presented in the Work Plan was authorized by Alameda County Environmental Heath Services (ACEH) with some minor modifications in the ACEH's letter dated December 10, 2008 ("the ACEH letter"; ACEH 2008b). Comment number 5 of the ACEH letter requested that "MIP borings MIP-3 and MIP-4 be moved approximately 15 feet in a southwesterly direction." However, due to overhead clearance issues the soil borings could not be moved more than 10 feet from their proposed location (see Figure 2).

As discussed in the Work Plan, LFR identified the following areas of concern (AOCs) at the Site (Figure 2):

- Area 1: TPH as diesel (TPHd), TPH as motor oil (TPHmo), and TPH as kerosene (TPHk) in shallow soil along the southern boundary of the Site southwest of the workshop building.
- Area 2: TPHmo in shallow soil in an area south of the warehouse storage area building adjacent to the southern property boundary.
- Area 3: Polychlorinated biphenyls (PCBs) in shallow soil near the northwestern corner of the Site.
- Area 4: TPH as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) in soil and groundwater associated with historical release(s) from the former 550-gallon UST near groundwater monitoring well MW-3.
- Area 5: The reported location of a presumed former UST in the warehouse building near well MW-4.

Based on the information provided in the Work Plan, the analytical results of soil samples previously collected at the Site, and the ACEH letter, no further remediation or investigation will be taking place in Areas 2 or 3 at the Site (see Figure 2 for the locations of Areas 2 and 3).

Area 2 is the portion of the Site where motor oil-affected soil was removed from the Site in 1987 and ERAS Environmental, Inc. (ERAS) collected additional soil samples in 2008 (Figure 2 and Table 1; ERAS 2008). The concentrations at which the TPH-related compounds have been detected in soil samples collected in Area 2 do not warrant further investigation or remediation. Based on the available data for this area (Table 1), the affected soil is localized and is present at concentrations that could remain in place without representing a threat to groundwater quality or human health. Thus no further remediation or investigation will be taking place at Area 2 at the Site.

Area 3 is the location where PCBs have been detected in soil samples collected at the Site (Figure 2 and Table 1; ERAS 2008). The concentrations at which PCBs have been detected in soil samples collected in Area 3 do not warrant further investigation or remediation. Based on the available data for this area (Table 1), the affected soil is beneath asphalt, in a localized area, and is present at concentrations that could remain in place without representing a threat to groundwater quality or human health. Thus no further remediation or investigation will be taking place at Area 3 at the Site.

The primary objectives for the scope of work described in the Work Plan were to:

1. Further characterize the lateral and vertical extent of hydrocarbon-affected soil and groundwater in Area 4, near the former UST near groundwater monitoring well MW-3.
2. Collect additional groundwater quality data hydraulically downgradient from the presumed former UST in Area 5.
3. Conduct a pilot test in Area 4 to assess whether air/ozone injection in conjunction with SVE is a potentially viable remediation technology to address petroleum-affected soil and groundwater near the former UST near groundwater monitoring well MW-3.
4. Excavate TPH-affected soil in Area 1, west of the "workshop building."

This report presents the results of each of the items listed above.

The investigation and AS/SVE pilot test and related field activities (e.g., well installation and sampling) were conducted at the Site in December 2008 and January 2009. The excavation work was conducted in February, March, and April 2009. This report also presents a work plan for the next phase of remedial activities, which will remediate petroleum-affected groundwater in the vicinity of the former UST at the Site (Area 4).

1.1 Report Organization

This report presents the following information in the following order:

- Section 2 of this report presents a site description and an overview of site geology and hydrogeology.

- Section 3 of this report presents the results of the excavation activities that were conducted at Area 1 of the Site.

- Section 4 of this report presents the results of sampling conducted approximately 160 feet west of a suspected UST location that was reportedly adjacent to existing well MW-4 located inside the warehouse building at Area 5.

- Section 5 of this report presents the results of the investigation to further characterize the lateral and vertical extent of petroleum hydrocarbon-affected soil and groundwater in Area 4, near the former UST.
- Section 6 of this report presents the results of the AS/SVE investigation and pilot test conducted at Area 4.
- Section 7 of this report presents the proposed remedial plan for the AS/SVE to remediate petroleum hydrocarbon-affected soil and groundwater in Area 4, near the former UST.

2.0 SITE DESCRIPTION

The Site consists of an approximately 4.6-acre parcel that is generally bounded by an access road and heavy industrial/manufacturing business to the north; San Leandro Street, Union Pacific Railroad tracks, and elevated Bay Area Rapid Transit (BART) tracks to the east; Union Pacific Railroad tracks and easements for petroleum pipelines to the west; and industrial/warehousing businesses to the south. The surrounding area is a mix of industrial and heavy industrial (manufacturing) use. The western portion of the Site is occupied by a parking lot and a warehouse used for furniture storage. The eastern portion of the Site is occupied by several smaller buildings used as offices and furniture storage.

The Site is currently owned by Service West and is used as a warehouse for the storage of office furniture and as an office. Service West would like to sell the property and is engaged in discussion with a potential purchaser. The potential purchaser would use the property for a metal recycling business, and the property would continue to be used for commercial-industrial purposes. This land use is appropriate as this portion of Oakland is zoned as "M-40 Heavy Industrial" or commercial-industrial land use. The surrounding properties are also zoned for commercial-industrial purposes. Previous environmental investigations are summarized in the following reports:

- "Subsurface Investigation and Groundwater Monitoring Report, Quarter 2, 2008, Former Paco Pumps Facility, 9201 San Leandro Street, Oakland, California," dated July 31, 2008 ("the ERAS Report"; ERAS 2008)
- "Site Characterization Report, PACO Pumps Facility, 9201 San Leandro Street in Oakland, California," dated October 16, 1992 ("the Jonas Report"; Jonas 1992)
- "Site Contamination Study, PACO Pumps Facility, 9201 San Leandro Street, Oakland, California," dated August 12, 1987 (Dames and Moore 1987)

2.1 Cleanup Goals

LFR compared the analytical results of soil, soil-gas, and groundwater samples collected at the Site to the Environmental Screening Levels (ESLs) developed by the Regional Water Quality Control Board (RWQCB; revised release dated May 2008) for sites where the land use is commercial-industrial and, as a conservative assumption, where groundwater is considered a source of drinking water. However, groundwater at the Site is reportedly not currently used as a drinking water source and is not anticipated to be used for this purpose in the foreseeable future. Given the proximity of the property to San Francisco Bay and the commercial nature of the land use in this portion of Oakland, shallow groundwater at the Site is likely not a source of drinking water and ultimate groundwater remediation goals may consider this scenario. LFR's summary of the available historical analytical results for soil samples, groundwater samples, and groundwater elevations collected at the Site is provided in Tables 1 through 3, respectively.

The following sections of this report present a summary of the results of the investigation activities that were recently conducted at Areas 1, 4, and 5 at the Site.

2.2 Site Geology and Hydrogeology

The following is a description of the sediments from the ground surface to approximately 30 to 35 feet below ground surface (bgs) at the Site. The descriptions of the subsurface provided below are based on information provided in the ERAS Reports and the results of the recent soil boring drilled at the Site using membrane interface probe (MIP) technology under the supervision of LFR (described in Section 5.0).

At each location the subsurface sediments in the vicinity of the former UST consist of an interval of fine-grained sediment (silt and clay) with relatively thin (less than 1 foot thick) discontinuous intervals of more permeable fine- to coarse-grained sand and gravels from the ground surface to approximately 20 to 21 feet bgs. The relatively thin discontinuous intervals comprised of more permeable fine- to coarse-grained sand and gravels have generally been encountered between approximately 12 and 17 feet bgs, contain the first groundwater at the Site, and represent the interval of "shallow zone" groundwater at the Site.

An interval of poorly graded coarser grained sediments comprised of fine sand and gravel was consistently encountered from approximately 21 to 34 feet bgs. This interval of coarser grained sediments contains groundwater and represents the "deeper zone."

Depth to groundwater was measured in the groundwater monitoring wells on January 13 and April 28, 2009. The groundwater elevation in each well was calculated using the surveyed top of casing elevation; results are summarized in Table 3. Groundwater elevation data and contours are presented on Figure 3. The depth to groundwater in the wells measured on April 28, 2009 ranged from 8.50 to 9.69 feet bgs in the five wells.

The groundwater elevation contours indicate that the groundwater flow direction beneath the Site was generally toward the west–northwest on April 28, 2009, with a horizontal groundwater gradient of approximately 0.002 foot per foot measured between wells MW1 and MW-2. This gradient and flow direction is generally consistent with the historical water-level contour maps previously prepared for this Site by others. Groundwater flow directions previously measured at the Site have ranged from west to northwest (Jonas 1992; ERAS 2008). Additional groundwater elevation monitoring events will be conducted to assess whether the local groundwater flow direction varies seasonally.

3.0 RESULTS OF EXCAVATION ACTIVITIES CONDUCTED AT AREA 1

The results of the previous investigations conducted at this portion of the Site indicated that TPHmo, TPHd, and TPHk were present in the shallow soil (upper 2 to 3 feet bgs). The purpose of implementing the remedial measures described in the Work Plan was to remove TPH-affected soil to below the remediation goals presented below.

RWQCB ESL concentrations for TPHd and TPHmo in soil at commercial sites where groundwater is not a current or potential source of drinking water were selected as the cleanup goals for the soil excavation (RWQCB 2008).

Soil Cleanup Goals

Chemicals of Potential Concern	RWQCB ESL (mg/kg)
TPHmo	2,500
TPHd & TPHk	180

Note: mg/kg = milligrams per kilogram

3.1 Excavation and Disposal of Soil

On March 10 and 19, 2009, LFR supervised the excavation of affected soil in the vicinity of Area 1 that contained concentrations of target analytes above the remediation goals. The excavation limits and approximate locations of the confirmation soil samples are shown on Figure 4. A total of approximately 150 tons of TPH-affected soil were excavated from this area. The soil excavated from the TPH-affected area was temporarily stockpiled and subsequently disposed of as Class 2 waste material at Allied Waste's Richmond Landfill located in Richmond, California. In addition, approximately 10 tons of asphalt removed from the area of excavation was recycled at Allied Waste's Richmond Landfill.

Photographs documenting site conditions during these remedial activities are included in Appendix A. The locations of the confirmation soil samples collected from the sidewalls and the bottom of the excavation are illustrated on Figure 4. A representative

of ACEH visited the excavation at Area 1 to observe site conditions on March 10, 2009.

Dust control measures, such as water spraying and covering stockpiled soil with plastic, were used to suppress dust and vapor emissions during excavation activities. The excavated soil was screened using a photoionization detector (PID) and visually inspected for the presence of TPH. The results of the PID measurements and visual inspection were documented in the field and are included on the daily field reports on file at LFR's office in Emeryville, California.

3.2 Confirmation Soil Sampling

Confirmation soil sampling took place as the excavation progressed from the floor and the sidewalls following the removal of affected soil (Figure 4). At least one sidewall sample and one sample from the excavation bottom were collected in approximately 10-linear-foot intervals. A total of seven soil samples (Table 1) were collected at depths of approximately 1.5 to 2.0 feet bgs using the excavator bucket, or using a hand auger and slide hammer, depending on the location and depth of the excavation at the sampling location.

The confirmation soil samples were collected in clean brass tubes, capped, labeled, and placed in an ice-chilled cooler. The samples were then transported to the analytical laboratory following strict chain-of-custody protocol. These samples were analyzed on an accelerated turnaround schedule in order to expedite backfilling of the excavation. Samples were analyzed in accordance with the methods outlined in Section 3.2.1, and the results of confirmation soil sampling are presented in Section 3.2.2. Laboratory reports are included as Appendix B.

3.2.1 Laboratory Analyses

Excavation confirmation samples were submitted for analysis to Curtis and Tompkins Ltd., a state-certified laboratory located in Berkeley, California.

The following analyses were performed on all confirmation soil samples collected from the excavation completed in the vicinity of the former USTs:

- TPHd, TPHmo, and TPHk using the EPA Method 8015, modified

The results of confirmation sampling from the excavation area are presented in Table 1. Laboratory reports are included as Appendix B.

3.2.2 Analytical results

The analytical results and locations for the confirmation soil samples are presented in Table 1 and Figure 4, respectively. The analytical results are summarized below:

Each sidewall sample collected after the initial excavation activities were completed on March 10, 2009 failed the cleanup criteria for TPHd. In addition three of the four sidewall samples failed the cleanup criteria for TPHmo. The confirmation soil sample collected from the bottom of the excavation (approximately 3 feet bgs) passed each cleanup criteria. Based on these results the excavation was expanded approximately 8 feet to the north and 7 feet to the west. The southern and eastern sides of the excavation could not be expanded to the due to the fact that the excavation was against the southern property boundary and the eastern wall of the excavation was against the existing foundation for a concrete slab associated with the workshop building.

Each sidewall sample, collected at approximately 1.5 to 2.0 feet bgs after the excavation was expanded to the north and east on March 19, 2009, passed the cleanup criteria for TPHd, TPHmo, and TPHk. Mr. Jerry Wickham of the ACEH was informed of the laboratory results and the plan to backfill the excavation via email on March 24, 2009.

Based on these analytical results the excavation was backfilled with aggregate rock imported from the Hanson Quarry located in Clayton, California on April 15 and the surface was re-paved on April 22, 2009.

3.3 Recommendations for Area 1

Based on the results of the confirmation soil samples collected, LFR recommends that no further investigation or remedial activities be conducted with respect to the TPH-affected soil present in this portion of the Site. Because affected soil may remain beneath the existing work shop building, LFR recommends that the presence of the TPH-affected soil be included on the deed for this property. Placing this information on the deed for the property will inform individuals that affected soil is located at this portion of the property and that if this portion of the property is to be redeveloped the soil may require special handling, as necessary.

4.0 RESULTS OF INVESTIGATION ACTIVITIES CONDUCTED AT AREA 5

Area 5 is associated with the suspected former UST that was reported to have been located in the warehouse building (Figure 2). The location of the former UST that is illustrated on Figure 2 is based on information provided in the Jonas Report (Jonas 1992). Reportedly, previous consultants working on this project have attempted to locate the former UST. Because the location of the suspected UST is within the warehouse building, which has a concrete floor that is reinforced with steel rebar, conventional underground surveying equipment such as magnetometer or ground penetrating radar will not be effective to locate the former UST. To assess soil and groundwater quality near the UST suspected to be present in this portion of the Site, Jonas installed well MW-4 in November 1992. The concentrations of TPHg and BTEX detected in groundwater samples collected from this well have decreased significantly over time. The decrease in concentrations indicates that the groundwater is likely

undergoing natural attenuation (Table 2). Grab groundwater samples collected from soil borings GP-3 and B-23, located hydraulically downgradient from well MW-4, did not contain TPHg or BTEX at concentrations above laboratory reporting limits (Table 2). LFR's approach to this AOC was to further assess the extent of TPHg- and BTEX-affected groundwater by advancing one MIP boring and collecting one grab groundwater sample from a location approximately 160 feet hydraulically downgradient from well MW-4 and the suspected UST.

On December 6, 2008, MIP-6 was advanced and logged continuously using MIP instruments. MIP instruments results for soil boring MIP-6 did not have a significant response that would indicate the presence of fuel-affected soil or groundwater (see Appendix C for MIP logs). Therefore no soil samples were collected from this soil boring. One grab groundwater sample was collected from the first groundwater-bearing sediments approximately 20 feet bgs from soil boring GGW-6. This soil boring was located approximately 160 feet west of the suspected UST that was reportedly located adjacent to existing well MW-4 located in the warehouse building (Figures 2 and 3). The sample was collected using methods described in section 3.2 of this report and was analyzed for:

- TPHg using modified EPA Method 8015
- BTEX and fuel additives (including methyl tertiary-butyl ether [MTBE], tertiary-butyl alcohol [TBA], ethylene dibromide [EDB], and 1,2-dichloroethane [1,2-DCA]) using EPA Method 8260B

The results of grab groundwater sample GGW-6 did not contain TPHg, benzene, ethylbenzene, and total xylenes above laboratory reporting limits. Toluene was detected at 0.6 microgram per liter (µg/l). On behalf of Service West, LFR requests that issues regarding groundwater quality associated with the presence of a suspected UST near well MW-4 be closed and asserts that further assessment or remediation of the soil or groundwater is not warranted.

5.0 INVESTIGATION OF AFFECTED SOIL AND GROUNDWATER ASSOCIATED WITH THE FORMER UST – AREA 4

Area 4 is the portion of the Site that is associated with the former 550-gallon UST (Figures 2 and 5). Reportedly, a former 550-gallon-capacity UST that was used to store gasoline was removed from the Site in 1992. Based on soil samples collected at that time, the UST appeared to have released TPHg and BTEX to the subsurface (Table 1). Reportedly, the area where the UST was located was over-excavated until the area of excavation was impinging upon the adjacent warehouse storage area building (Figure 5). At the time of excavation, soil containing TPHg and benzene that was under the existing building was left in place.

As summarized in Tables 1 and 2, analytical results of soil and groundwater samples collected in this portion of the Site contained concentrations of TPHg and BTEX above

their respective ESLs. As such, the following wells were installed, soil borings were drilled, and grab groundwater samples were collected at the Site during the recent investigation activities (Figure 5):

- Data regarding the presence of affected soil and groundwater was collected using MIP technology to a maximum of 35 feet bgs from five soil borings (soil boring locations MIP-1 through MIP-5). MIP is a tool that is used to screen the soils during drilling and obtain a real-time vertical profile of TPH and related compounds.
- Two shallow zone grab groundwater samples were collected from soil borings GGW-2 and GGW-3 from approximately 17 to 20 feet bgs to asses the lateral extent of petroleum-affected groundwater (Figure 5).
- Two deeper zone grab groundwater samples were collected from soil borings GGW-4 and GGW-5 from approximately 27 to 30 feet bgs to asses the deeper groundwater quality (Figure 5).
- Two groundwater monitoring wells (MW-6 and MW-7) were installed inside the warehouse storage area building to monitor groundwater quality in the area west-southwest of the former UST to depths of approximately 17 and 28 feet bgs, respectively.
- Two air sparging wells (AS-2S and AS-2D) were installed adjacent to the former UST to depths of approximately 17 and 34 feet bgs, respectively.
- Two groundwater monitoring wells (ASMW-2S and ASMW-2D; completed at approximately 17 and 33 feet bgs, respectively) were installed adjacent to the former UST.
- Three soil-vapor extraction/soil-vapor monitoring wells (SVE-1, SVMW-1, and ASMW-2) were installed to depths of approximately 9 feet bgs.

The methods and results of the samples collected during this investigation are presented below.

5.1 Pre-Field Activities

LFR obtained the drilling permits W2008-0974 and W2008-0975 from the Alameda County Public Works Agency, Water Resources Department. Copies of the permits are provided in Appendix D. LFR contacted underground service alert (USA; ticket number 0621510) and retained a private utility locating subcontractor to clear each drilling location of subsurface obstructions or utilities. In addition, LFR prepared a site-specific health and safety plan (HSP) to address health and safety concerns specific to the planned field activities. The HSP documents the potential hazards to worker health and safety at the Site during the proposed field activities and specifies the appropriate means to mitigate or control these hazards. The HSP addresses the potential for exposure to hazardous constituents and describes general safety procedures.

A health and safety tailgate meeting was conducted daily by on-site LFR personnel prior to commencing fieldwork activities. All fieldwork activities were completed according to the HSP to ensure that appropriate health and safety procedures were followed.

5.2 MIP Boring Advancement and Grab Groundwater Sampling

LFR used MIP data to characterize the lateral and vertical extent of petroleum hydrocarbons and associated compounds in soil and groundwater adjacent to the former UST. Drilling of temporary soil borings and field screening methods were chosen to provide real-time data used to determine at which depths to collect grab groundwater samples and at which intervals to place the screens of groundwater monitoring wells and air sparging wells. MIP technology was used to conduct real-time screening for the potential presence of petroleum hydrocarbons in the subsurface during drilling. Depth-discrete grab groundwater samples were subsequently collected based on the preliminary results. A total of six temporary soil borings were advanced at the locations shown on Figure 5 (MIP-1 through MIP-6). The MIP borings were advanced to approximately 31 to 35 feet bgs to characterize the vertical extent of potential petroleum hydrocarbons in the subsurface.

The soil borings for MIP data and the collection of grab groundwater samples were advanced on January 5 and 6, 2009. The soil borings were advanced using Vironex Environmental Field Services' ("Vironex's") MIP screening technology direct-push drill rig and MIP logging technology. Vironex is a California-licensed drilling contractor, and all work was conducted under the direct supervision of an LFR field geologist. Logs from the MIP work are provided in Appendix C of this report.

The MIP probe was equipped with an electrical conductivity (EC) detector to collect data while drilling, from which lithology will be inferred and a gas chromatograph detector to indicate the presence of hydrocarbon-affected sediments. To validate the results of the data collected from the soil borings using the MIP, grab groundwater samples were collected from soil borings drilled adjacent to MIP locations MIP-3, MIP-4, and MIP-5. The grab groundwater samples were collected using the hydropunch drilling and sampling system that was also provided with Vironex.

5.2.1 MIP Technology and Grab Groundwater Sampling Methods

The MIP investigation for lateral and vertical characterization of affected soil and groundwater included the simultaneous collection of both lithologic identification data and indicators of petroleum hydrocarbon concentrations. The proposed soil borings were advanced using a direct-push (Geoprobe®-type) drill rig equipped with an MIP tool. The tubing that houses the carrier gas and conductivity cable is connected to the MIP tool and is strung through the probe rod. As the probe was driven below grade into undisturbed soil, the advancement was stopped at desired intervals (typically 6 inches) to heat the permeable membrane interface located on the wall of the probe and gather volatile organic compound (VOC) data. Conductivity logging data (which

provided lithologic soil-type information) were gathered on a continuous basis. VOCs that are exposed to the membrane are volatilized and picked up by the carrier gas behind the membrane, which in turn delivers the gas to the gas chromatograph detector at the surface (typically an electron capture detector [ECD], PID, and/or Flame Ionization Detector).

Based on the evaluation of the MIP data, another soil boring located adjacent to the MIP boring was advanced using a Geoprobe®-type drill rig to collect depth-discrete grab groundwater samples at target depths. Shallow zone grab groundwater samples were collected from the first groundwater-bearing sediments encountered approximately 17 to 20 feet bgs at borings GGW-2 and GGW-3 (Figure 5). Deeper zone grab groundwater samples were collected from the groundwater-bearing sediments encountered at approximately 27 to 30 feet bgs at borings GGW-4 and GGW-5 (Figure 5).

The groundwater samples were collected using a hydraulically driven temporary piezometer consisting of a hollow-rod assembly with a 3-foot-long stainless steel screen attached at the leading end of the assembly (Hydropunch). The temporary piezometer will be advanced to the desired depth interval based upon the MIP's results. At the selected depths, the rod assembly will then be retracted to raise the outer piezometer sleeve, exposing the screen and allowing groundwater to pass through the screen into the piezometer. Grab groundwater samples will be collected using a disposable or clean stainless steel bailer lowered through the hollow-push rods into the piezometer screen. The groundwater was transferred into clean, laboratory-provided sample containers, stored in an ice-chilled cooler, and transported under chain-of-custody protocol to the laboratory for analysis.

5.2.1.1 Groundwater Analyses

The grab groundwater samples were analyzed by TestAmerica Inc., a state-certified analytical laboratory located in Pleasanton, California, for the following compounds:

- TPHg using modified EPA Method 8015
- BTEX and fuel additives (including MTBE, TBA, EDB, and 1,2-DCA) using EPA Method 8260B

The analytical results of the groundwater samples collected during this investigation and previous investigations are summarized in Table 2.

5.2.2 Methodology for Well Installation

The air sparging monitoring (ASM), SVE, soil-vapor monitoring (SVM), and groundwater monitoring wells were installed inside the warehouse storage area using the hollow-stem auger drilling method. The drilling was completed by Gregg Drilling and Testing, a California-licensed, drilling subcontractor under the direction of an LFR field geologist. Continuous soil cores were collected during drilling. The soil cores

were visually logged and screened in the field using a PID to evaluate the presence of hydrocarbons or other VOCs. The LFR field geologist classified the soils encountered using American Society for Testing and Materials D 2488-00, based on the Unified Soil Classification System and recorded the lithologic soil descriptions and field screening results on field boring logs. The logs have been reviewed, edited, and signed by a California Professional Geologist and are included in Appendix C. Table 4 provides a summary of well construction specifications for the wells installed at the Site in January 2009.

5.2.2.1 Construction of Wells

The ASM wells were constructed using 2-inch-diameter, solid polyvinyl chloride (PVC) casing and slotted well screen. The new wells were constructed using 2-inch-diameter, solid PVC casing and slotted well screen. The well screen was surrounded by sand pack to approximately 1 foot above the screen for the ASM wells. Sand pack was extended approximately 6 inches above the screen in the AS, SVM, and SVE wells. Approximately 2 feet of hydrated bentonite were placed on top of the sand pack. The annular space between the bentonite and the surface was sealed using a bentonite and cement grout to limit short-circuiting of the AS/SVE system from the surface. The surface completions consisted of a flush-mounted, 12-inch, traffic-rated well box installed in concrete.

The SVE and SVM wells were installed to a depth of approximately 9 feet bgs with a 5-foot screen extending to approximately 4 feet bgs. The shallow air sparging well (AS-1S) was installed to a depth of approximately 17 feet bgs with a 3-foot-long well screen. The shallow air sparging monitoring well (ASMW-2S) was installed to a depth of approximately 17 feet bgs with a 6-foot-long well screen. The deep air sparging well (AS-1D) was installed to a depth of approximately 33.5 feet bgs with a 3-foot-long well screen. The deep air sparging monitoring well (ASMW-2D) was installed to a depth of approximately 33 feet bgs with a 10-foot-long screen (Table 4 and Appendix C).

5.2.2.2 Well Development

Each well (except the SVE and SVM wells, which were not screened in a water bearing zone) was developed by bailing, swabbing, or pumping. Observations concerning the quantity and clarity of water withdrawn were recorded during this process. Indicator parameters (pH, temperature, and specific conductance) were recorded during well development. Approximately three to 10 well casing volumes were removed from each well during the development process. This process continued until the indicator parameters stabilized. Groundwater samples were collected from each well following development.

5.2.2.3 Water-Level Measurements

After well development and sampling was completed, the depth to water was measured in the newly installed wells and the five previously existing wells. Water levels were

measured in each well with an electronic water-level probe. Water levels and casing elevations were used to assess the groundwater flow direction and gradient beneath the Site. The water-level elevations are summarized on Table 3.

5.2.2.4 Equipment Decontamination Procedures

Drilling and sampling equipment were properly decontaminated before each use and between each location. Down-hole drilling equipment, including drill rods and bits, were decontaminated by steam cleaning at Gregg Drilling's and Vironex's facilities. Soil sampling equipment and down-well development equipment was decontaminated by washing in non-phosphate detergent solution, potable water rinse, and final potable water rinse before each use. Groundwater samples were collected using dedicated sampling tubing.

5.2.2.5 Waste Characterization, Handling, and Disposal

Investigation-derived waste generated during the field activities, including soil cuttings and personal protective equipment, was stored temporarily at the Site in debris bins and disposed of at Allied Waste's Richmond Landfill on April 15, 2009.

5.3 Results of Investigation Activities Area 4

The results of the MIP investigation and analytical results of the grab groundwater samples indicate the following:

The two water bearing intervals at the Site consist of one shallow zone and one deeper zone. The shallow zone has been encountered between approximately 12 and 17 feet bgs and contains the first groundwater at the Site. The deep zone has been encountered from approximately 21 to 34 feet bgs.

The analytical data collected during this recent sampling effort in December 2008 and January 2009, along with the data from the groundwater samples previously collected at the Site (June 2008) was used to prepare isoconcentration contour maps for TPHg and benzene in groundwater (Figures 6 and 7, respectively). As indicated, the highest concentrations of TPHg and related compounds are present in samples collected near the former UST.

Deep zone groundwater samples collected at approximately 30 feet bgs were collected from soil borings GGW-4 and GGW-5, from air sparing well AS-1D, and groundwater monitoring well ASMW-2D. The analytical results of these samples indicate that the deeper zone groundwater does not contain TPHg and BTEX above ESLs for groundwater that is not considered a source of drinking water (see Table 2). This finding regarding the quality of the deep zone groundwater is further supported by the results of the MIP data collected at each MIP drilling location (MIP-1 through MIP-6; see Appendix C for MIP logs). As indicated on the MIP logs the response of the ECD was minimal below the depth of approximately 17 feet bgs. This MIP data further

supports the fact that the deep zone groundwater quality has not been affected by the release of TPHg and related compounds.

Based on this data regarding groundwater quality in the deep zone, further assessment or remediation of the deeper zone groundwater is not warranted. Thus the focus of the remedial efforts for this project will be on the shallow sediments located between the ground surface and approximately 20 feet bgs.

6.0 RESULTS OF AS/SVE PILOT TEST CONDUCTED AT AREA 4

This section presents the scope and results of the AS/SVE pilot test that was conducted at the Site in January 2009. The overall objective of the AS/SVE pilot test was to collect field data to assess whether air/ozone injection in conjunction with SVE is a potentially viable remediation approach to address soil and groundwater affected by Area 4 compounds of concern (COCs).

The following specific tasks were developed to satisfy the more general objectives described above:

- Collect unsaturated zone air flow and pressure response data to assess SVE well spacing requirements.
- Attempt to inject air into both shallow (less than approximately 17 feet bgs) and deeper saturated sediments (as deep as 33.5 feet) at reasonable flow rates (i.e., flow rates between 2 cubic feet per minute [cfm] and 20 cfm) at a pressure below the soil overburden (i.e., fracturing) pressure.
- Assess the distribution of injected gas into the formation through the collection of groundwater elevation, dissolved oxygen (DO), VOC concentrations (using a PID), and helium tracer gas data.
- Analyze the collected data to develop injection well spacing requirements for the design of a full-scale air/ozone sparging system to address Area 4 COCs, if deemed viable.
- Collect soil-vapor concentration data to estimate the VOC mass removal rates. The laboratory analytical data will be used to assess the Targeted SWW Area COC mass loading rates for sizing of the emission control systems during the design phase of a full-scale system. Soil-vapor concentration data are also useful for estimating total system operating time frames.

6.1 Field Activities

Field activities consisted of the following:

- Installing, developing, and sampling a total of eight new pilot test wells
- Conducting an AS/SVE pilot test, including:

- SVE step test with four steps
- AS tests for both shallow and deep groundwater
- Restarting the SVE while sparging
- Collecting soil-vapor samples and both field screening the samples using a PID and submitting the samples for analysis for VOCs (full suite) using EPA Method TO-15 and for TPHg using EPA Method TO-3
- Conducting helium tracer tests at both the shallow and deep intervals
- Monitoring for changes in pressure, organic vapors, helium, and depth to water at observation wells

6.1.1 Installation, Development, and Sampling of Wells

LFR installed eight new wells to perform and/or monitor both SVE and air sparging as illustrated on Figure 4. In the vadose zone one SVE well was installed and two SVE monitoring wells were installed, at distances of approximately 17 and 46 feet from the SVE well to monitor for vacuum influence when extracting soil vapor from the SVE well (see Figure 4). Two air sparging wells were installed (one in the shallow groundwater (screened from 14 to 17 feet bgs) and one in deep groundwater (screened from 30.5 to 33.5 feet bgs), and three air sparging monitoring wells were installed to observe the effects of air sparging on shallow and deep groundwater bearing intervals near the former UST.

Well nomenclature for the pilot test is provided in Table 5.

6.1.2 AS/SVE Pilot Test Activities and Monitoring

Table 6 outlines the sequence of pilot test events. Monitoring activities are discussed in the following sections.

The following parameters were monitored and recorded during the SVE test:

- air pressure (vacuum)
- air flow rate
- extracted air temperature
- VOC concentrations (by PID, and by laboratory analysis)
- Depth to water
- DO

6.1.2.1 Baseline Monitoring

Soil-vapor samples were collected for laboratory analysis from the extraction well SVE-1 at five different time periods starting before the pilot test and at various times during the test. In addition, one sample for laboratory analysis was collected from SVMW-2 near the beginning of the test. Samples for laboratory analysis were collected in clean, 6-liter Summa™ canisters provided by Test America Laboratories. Pre- and post-sampling vacuum data were recorded (Table A4, Appendix E) and the canister was shipped to the laboratory under standard chain-of-custody protocols. Samples were analyzed for VOCs (full list) and TPHg using EPA Methods TO-15 and TO-3, respectively.

6.1.2.2 SVE Step Test Monitoring

A pre-packaged, skid-mounted SVE system was used to apply a vacuum to the well as described below. LFR performed an SVE pilot step test at well SVE-1 employing four steps to provide data to assess the most efficient vacuum to achieve the desired flow rate for the Site. This step test included applying a series of increasing levels of vacuum to the extraction well, and measuring resultant flow rates and vacuum responses. Each step of the pilot test continued until vacuum rates stabilized in the SVE well. The data are presented in Table A1 of Appendix E. Extracted vapor was treated by passing the SVE system exhaust through two vapor-phase carbon canisters connected in series in accordance with the Bay Area Air Quality Management District (BAAQMD) guidelines.

The subsurface response to the applied vacuum was monitored by measuring the vacuum at SVE monitoring wells SVMW-2, and SVMW-3 (Figure 4). Field monitoring of organic vapors using Tedlar™ bags and a handheld PID was also conducted at the extraction well. Table A1 of Appendix E contains the recorded PID, vacuum, and flow values during the SVE step test.

Water-level measurements were collected using a water-level meter from groundwater monitoring wells ASMW-2S, ASMW-2D, AS-1S, AS-1D, MW-3, and MW-6. Water-level measurements were recorded on field sheets and collected before a vacuum or pressure was applied, and at the times listed in Table A2 of Appendix E.

6.1.2.3 AS Test Monitoring

After the SVE step test was completed, LFR initiated injection of air into the newly installed injection wells (AS-1I and AS-1D) and measured responses in the formation, as described below.

AS wells AS-1S and AS-1D were each tested at a flow rate of approximately 10 cfm although the recorded flows were as low as approximately 4 cfm and as high as approximately 18 cfm (Table A3 of Appendix E). Air sparging was conducted for approximately 90 minutes in AS-1S and for approximately 70 minutes in AS-1D.

Injection pressures were regulated using a vent valve attached to the output piping of the compressor. This valve was fully open at the beginning of the test and was slowly closed while monitoring pressure and flow rate as they increased into the desired flow rate range. The air injection pressure and flow rate were recorded and are provided in Table A3 of Appendix E.

The air stream was amended with helium at a concentration of approximately 20% helium. A Marks Product helium detector with a range of 25 parts per million (ppm) to 100% was used to monitor for the presence of helium at monitoring wells surrounding the injection well. Table A3 of Appendix E contains the helium concentration values recorded during those tests.

6.1.2.3 SVE Restart Monitoring

The SVE system was briefly restarted at the end of the AS-1D air sparging test to evaluate the Targeted Area 4 VOC concentrations that may have been volatilized into the vadose zone during AS. A sample for laboratory analysis was collected from SVE-1 in a clean, 6-liter Summa™ canister provided by Test America.

6.2 AS/SVE PILOT TEST RESULTS

The following is a summary and discussion of the parameters monitored during the pilot SVE and AS tests.

6.2.1 SVE Step Test Vacuums and Air Removal Rates

Table A1 of Appendix E provides the vacuum and flow data recorded during the SVE step test. The four applied vacuum levels at vapor extraction well SVE-1 were approximately 2.5, 4, 5, and 6 inches of mercury. A stabilized flow rate was achieved at each of these vacuum levels. Flow at the approximately 6 inches of mercury level was approximately 9 cfm, a flow rate that is deemed high enough to practice SVE for the remediation of TPH-affected soil. The results of the SVE step test indicate that SVE technology can be successfully applied to the vadose zone at the Site.

The average resultant flow rates achieved when applying a vacuum at SVE-1 were plotted vs. the applied vacuum and are presented on a graph in Table A1 of Appendix E. The optimal operation point for the system is sometimes defined by an inflection point on the curve. This inflection point indicates the vacuum and flow rate beyond which a significantly greater vacuum is required to achieve another increment of flow. The maximum efficiency is achieved at a vacuum that is equal to or less than the inflection point vacuum. The data for this test do not provide a clear inflection point, and in fact the curve continues trending upward as the vacuum increases. This suggests that higher vacuums would continue to yield increased flow rates and that the point of diminishing increases in flow per increased increment of applied vacuum has not been

reached. It may be that the optimal vacuum for this Site is greater than 6 inches of mercury, which was the highest vacuum used in this test.

6.2.2 SVE Step Test Vacuum Influence at Monitoring Well SVMW-2 and SVMW-3

During the extraction of soil vapor from extraction well SVE-1 at the higher vacuum levels, a small but measurable vacuum influence was recorded at observation vapor monitoring well SVMW-2. The two wells are about 17 feet apart and screened in the same zone (4 to 9 feet bgs). The vacuum influence in the observation well (SVMW-2) was only observed during the operation of the SVE system at higher levels of vacuum, but the measurement of vacuum indicates that the radius of influence (ROI) for SVE at the higher tested vacuum levels is no less than approximately 17 feet.

More surprising was the slight vacuum observed in SVMW-3 located a distance of 46 feet from SVE-1. A sensitive vacuum gauge was attached to a tube mounted to the top of a cap placed over the well casing. A valve was placed between the tube and cap and it was left in the closed position between readings. To collect a reading, the valve was opened exposing the gauge's sensing element to the pressure or vacuum that had developed in the well during the period the valve was closed. While there were several instances where vacuum was present, there were also a number of instances when the gauge jumped in a direction that indicated positive pressure (Appendix E, Table A1). The instability of the measurement suggests that SVMW-3 is in a fringe area near the edge of the radius of influence. For design purposes LFR will use an SVE radius of influence of 35 feet.

6.2.3 SVE Test VOC Removal Rates by PID

Concentrations of organics in the vapor samples collected for PID analysis from SVE-1 stayed within a relatively narrow range from 42.2 ppm to 168.2 ppm during the SVE step test (Table A1 of Appendix E). The first three PID readings for SVE-1 influent were mistakenly collected after the first carbon vessel. While PID readings decreased over the course of the three and a half hour test, the last readings were still at relatively high concentrations. The sustained removal of VOC-affected soil vapor from the vadose zone is another indicator that SVE can successfully be employed at the Site.

6.2.4 SVE Test Laboratory Sample Collection and Analysis

Five soil-vapor laboratory samples were collected at different times from extraction well SVE-1, and one sample was collected from SVE monitoring well SVMW-2. Table 7 provides a summary of Area 4 COC concentrations detected in the samples, and Appendix B includes the complete laboratory report for these samples.

Analytical results of vapor samples collected during the pilot test contained elevated levels of TPHg and BTEX compounds (Table 7). As sparging began, sample SVE-1-9:15 was collected from extraction well SVE-1 over an approximately 25-minute period. After operating the SVE test for approximately two hours, soil-vapor sample

SVE-1-11:25 was collected. Based on analytical results of the vapor sample collected after two hours of operation, the concentrations of COCs in soil vapor significantly increased relative to the sample collected at the start of the test (see Table 7). At the end of the SVE step test sample SVE-1-12:40 was collected. The analytical results for this sample contained the highest concentration of TPHg relative to the other vapor samples collected during the pilot test. The final soil-vapor sample was collected from extraction well SVE-1 upon restart of the SVE system after conducting the air sparging tests (SVE-1-16:30). The analytical result for this sample contained the highest concentrations of COCs relative to the other five vapor samples collected from well SVE-1. These data indicate that air sparging successfully volatilized Area 4 COCs and caused them to migrate upwards into the vadose zone where they were captured by the SVE system. This is an important finding as it demonstrates that each step required for the successful application of air sparging with SVE is achievable at the Site.

6.2.5 SVE Emissions Control

Extracted vapors were routed through activated carbon in two 55-gallon drums placed in series. Initially, PID monitoring was conducted at the outlet of the SVE blower and all PID readings were 0.0 (Appendix E, Table A-1). As the test proceeded, near the end of the second step, field personnel chose to sample the vapor after the second carbon vessel to avoid the influence of dilution air introduced in the blower. This required using an air pump and Tedlar™ bag because the vapor stream was still under vacuum at this location. The same pump and Tedlar™ bag were used to collect PID samples from the influent stream and therefore they were contaminated with organic compounds. As a result, the effluent PID readings are elevated but may not be representative of the actual concentrations of organics found in the effluent stream from SVE-1.

6.3 AS Pilot Test Results

6.3.1 Air Sparging Pressures and Air injection

One of the most important indicators of the feasibility of air sparging is the ability to inject air into the subsurface. Air sparging pressure and flow rate data are presented in Table A3 of Appendix E. For both the shallow and deep air sparging wells, the flow began at relatively low pressure (10 pounds per square inch [psi] or less), and moderate flow rates (approximately 4 -18 cfm) were achieved and sustained at these pressures. The achievement of moderate flow rate at low pressures is a positive indicator that air or air/ozone injection technology is likely to meet with success at the Site.

6.3.2 SVE and Air Sparging Depth to Water Responses

During the SVE step test and the two air sparging tests, the depth to water was periodically recorded in seven monitoring wells (Table A2, Appendix E). There was a slight trend towards higher water levels in the water-level data during the SVE step

test. Both air sparging tests led to more pronounced changes in water level. All five water elevation measurements taken during AS into well AS-1S (the readings taken between the times of 13:47 and 14:25, Table A2 of Appendix E) were higher than the previous recordings taken before air sparging began in AS-1S. Air bubbles were also observed in groundwater at well ASMW-1S during sparging of well AS-1S. The greatest increases in water levels were 0.41 foot in monitoring in well MW-3 (approximately 8 feet away from injection well AS-1S) and 0.36 foot in well ASMW-2S (approximately 16 feet away from injection well AS-1S). During that same time the water level in well MW-6 (located a distance of approximately 43 feet from sparge well AS-1S) rose by approximately 0.14 foot. These observations indicate that air sparging in the shallow zone has a measurable pressure influence on wells screened in the same interval up to a minimum of approximately43 feet away from the injection well. For design purposes LFR will conservatively estimate that the radius of influence for shallow zone sparging is approximately 25 feet.

During the injection of air into well AS-1D, the increases in water level were more pronounced than they were during injection of air into well AS-1S. Groundwater in well AS-1S was bubbling up near the ground surface so the well was capped to avoid overflow. Groundwater-level increases at wells ASMW-2S, ASMW-2D, and MW-3 were all greater than 1 foot. Air bubbles were also observed in groundwater at wells ASMW-2S and MW-3 during injection of air into well AS-1D. The water level in well MW-6 (a distance of approximately 46 feet from well AS-1D) rose by approximately 0.55 foot during air sparging testing. These observations indicate that injection of air into the deep zone influences the pressure in groundwater at 46 feet away from the injection well. For design purposes LFR will estimate that the radius of influence for deep zone sparging is approximately 40 feet.

6.3.3 AS Test Dissolved Oxygen Responses

DO readings from monitoring wells ASMW-2S and ASMW-2D were recorded throughout the pilot test and are presented in Table A2 of Appendix E. An increase in DO was observed in well ASMW-2S during a time when air bubbling was observed in well ASMW-2S towards the end of injection of air into well AS-1S. During the injection of air into well AS-1D, increases in DO continued to be observed in groundwater at well ASMW-2S. DO did not increase in groundwater at well ASMW-2D. Increases in DO are an indicator that air injected through the deep-zone injection well made its way to the monitoring well outfitted with a DO monitoring probe. Therefore vertical air sweep from the deeper zone up into the groundwater of the shallower zone was demonstrated to be occurring.

6.3.4 AS Helium Tracer Tests

Two helium tracer tests were performed to track the appearance and distribution of the tracer gas to assess the ROI of the air sparging wells. During this test, helium gas was blended with the ambient air injection stream, resulting in an average helium concentration of approximately 20% in the injected air stream. Helium concentration

varied because the blending of helium into the injected air stream caused unstable readings from the anemometer, making monitoring of the overall flow rate inaccurate. Helium was blended into the injected air stream for approximately one hour during the injection of air into wells AS-1S and AS-1D, and monitoring for the presence of helium was performed on eight surrounding wells (Table A3 Appendix E).

While injecting air and helium into well AS-1S, helium was detected in monitoring wells SVE-1 (9,000 ppm, approximately 2 feet from the injection well), SVMW-2 (9,975 ppm, approximately 16 feet from the injection well), ASMW-2S (7.6%, approximately 16 feet from the injection well), AS-1D (1,700 ppm, approximately four feet from the injection well), and MW-3 (2.7% or 27,000 ppm, approximately 8 feet from the injection well; Figure 4). Detections of helium at other well locations were within the margin of error of the helium detector. The detections of helium indicate that injected gas can migrate through the shallow zone groundwater and into the soil vapor, and that injected gas can travel horizontally through the shallow groundwater for a minimum of approximately 16 feet.

While injecting air and helium into AS-1D, helium was detected in monitoring wells SVMW-2 (5.8% or 58,000 ppm, approximately 17 feet from the injection well), ASMW-2S (13.1% or 133,000 ppm, approximately 15 feet from the injection point), SVE-1 (9% or 90,000 ppm, approximately 7 feet from the injection well), AS-1S (18% or 180,000 ppm, approximately 3 feet from the injection well), and MW-6 (1,200 ppm, approximately 43 feet from the injection well). The above data (also presented in Appendix E, Table A3) indicate that air or air/ozone injection into the deep zone at the Site can migrate laterally through the deep zone sediments and vertically up into the vadose zone. Helium tracer gas data showed that air injected into the deeper zone can sweep laterally approximately 43 feet from the deep zone injection well. Detections of helium in shallow groundwater wells and vadose zone wells indicate that the gas injected into the deep groundwater zone can migrate vertically upward into these shallower zones. The lateral and vertical air sweep demonstrated by the helium tracer data is among the strongest indicators that air or air/ozone injection is a viable technology for the Site. The above helium tracer data suggest a ROI of a minimum of approximately 17 feet for shallow zone injection well AS-1S and a minimum of approximately 43 feet for deep zone injection well AS-1D.

6.3.5 AS Screening Level VOC Concentration Response in Groundwater Monitoring Wells (by PID)

A summary of screening level VOC results measured with a PID is presented in Tables A1 and A3 of Appendix E. During the injection of air into shallow zone well AS-1S all eight monitoring points had increased PID readings when compared with the baseline reading. This is an indicator that the injection of air into the shallow zone is capable of increasing the concentration of organics in soil vapor a distance of approximately 43 feet away.

6.4 Summary of Pilot Test Findings

Positive indicators from the results discussed above include:

- SVE step testing indicated that it is possible to extract soil vapor from the subsurface containing elevated concentrations of TPHg and BTEX at low to moderate flow rates while applying moderate vacuum pressures. The most efficient applied vacuum and extraction rate combination is likely to be greater than approximately 6 inches of mercury and 9 cfm, respectively.
- Air entry pressures into the aquifer were overcome at a relatively low pressure ($\leq$10 psi), and a steady moderate flow rate of air into the shallow and deep groundwater was achieved.
- Injection of air into the deep groundwater (through injection well AS-1D) measurably elevated the concentration of DO in ASMW-2D.
- Direct ROI indicators in the shallow zone, including PID readings and helium tracer testing suggest the use of a design air sparging ROI of approximately 25 feet.
- Direct ROI indicators in the deep zone, including DO and helium tracer testing suggest the use of a design air sparging ROI of approximately 40 feet. In addition, air injected into the deeper groundwater zone sweeps upward into the shallow groundwater zone.
- Direct ROI indicators in the vadose zone, including vacuum response and groundwater mounding suggest the use of a design SVE ROI of approximately 35 feet.

Other results to consider for the implementation of a full-scale system include:

- Relatively elevated influent BTEX and TPHg concentrations were measured in the SVE system influent during and after sparging. The highest concentration vapor sample collected from SVE-1 was at the end of the sparging period. The elevated concentrations indicate that contaminant mass can be removed from the dissolved phase in groundwater by the air sparging system and captured by the SVE system.

7.0 RECOMMENDATIONS AND WORK PLAN FOR THE MULTI-WELL SVE AND OZONE SPARGING FULL-SCALE SYSTEM

As discussed in the previous section, the remedial approach evaluated in this report is intended to address the fuel-related COCs in soil and groundwater in Area 4 of the Site. Figure 5 is a map of Area 4 with isoconcentration contour lines indicating the locations and concentrations of TPHg in shallow groundwater. This section presents a scope of work for the next phase of the remedial cleanup in Area 4. The objective of the multi-well SVE and ozone injection full-scale system is to reduce concentrations of hydrocarbons and fuel additives in shallow groundwater in Area 4 in a timely manner. To meet the objective, LFR proposes the following tasks:

- Install a network of approximately five SVE wells and eight air sparging wells (six in the shallow groundwater zone and two in the deep groundwater zone) in Area 4.
- Install an SVE system and associated conveyance lines and emission control equipment.
- Install an air/ozone injection system and associated conveyance lines.
- Implement air sparging concurrent with operation of the SVE.
- Perform continuous operation of the SVE wells in the vicinity of the air sparging wells to capture air sparging vapors.
- Amend injected air with ozone to oxidize (i.e., chemically degrade in situ) residual fuel additives (such as MTBE) that are not readily stripped by air sparging alone. The addition of ozone will commence after one month of sparging with air only and will employ relatively low levels of ozone (approximately 2 pounds per day).
- Implement a monitoring program to assess changes in contaminant concentration over time and Area 4 COC removal and recovery rates.

Additional details regarding the design, construction, and operation of the remedial system are presented below.

7.1 AS/SVE Well Spacing and Layout

The proposed pilot test well layout is shown on Figure 8. The pilot test incorporates a total of eight air/ozone injection wells, seven SVE wells, a network of eight groundwater monitoring wells (five existing and three new/proposed wells), and two soil-vapor monitoring wells. The spacing of the proposed AS and SVE wells is based on an ROI estimate of 25 feet for shallow injection wells and 40 feet for deep injections wells. The layout of the wells is designed to target the area of the TPHg plume with concentrations of Area 4 COCs above their respective ESLs for groundwater that is not a source of drinking water. The effectiveness of the overall injection well network in remediating this area will depend on the individual well's ability to achieve the predicted ROI as well as the accumulative effect of sparging several wells in the same area. In turn, the ROI is dependent on adequate design of the air delivery system (i.e., sufficient pressure and flow rates).

7.2 Air Sparging Operational Design Parameters and Mobilization Activities

The proposed air/ozone injection system has been designed so that substantial flexibility in operation is possible. While single well sparging parameters have been selected for compressor and ozone generator selection and sizing of the conveyance piping, it is assumed that all wells may not be operated at the same time. Indeed, to achieve optimum efficiency, the system will allow for a pulsed operation schedule controllable on a well-by-well basis. This flexibility will facilitate any additional optimization of the system throughout the life of its operation.

The air sparging wells were designed based on LFR's pilot testing conducted in January 2009. Optimum injection pressures will be set at approximately 12 to 15 psi, and it is anticipated that the flow rate will be approximately 10 cfm. The air compressor and ozone generator will be sized to handle simultaneous injection into a minimum of four wells; as discussed above, solenoid valves will be installed to allow for pulsed operations for optimized delivery of ozone and air to the entire network of injection wells. Furthermore, to prevent formation fracturing, the injection pressure will not exceed approximately 20 pounds per square inch gauge (psig), based on a depth from water level to top of screened interval of approximately 20 feet for deep zone sparging wells and an injection pressure of 1 psig per foot.

Operation of the SVE system will require a permit from the BAAQMD. The BAAQMD requires a minimum of three weeks to review and approve permits.

Before any subsurface work is conducted, USA will be notified to alert utility companies with facilities in the site vicinity. A private utility locating subcontractor will also assist in locating underground utilities and clearing all trenching locations for subsurface utilities.

All system installation, startup, and operation and maintenance activities will be conducted in accordance with LFR's site-specific HSP. This HSP will be distributed to on-site field personnel, who will be briefed on the contents and procedures of the HSP. Fieldwork will be monitored to ensure that appropriate health and safety procedures are followed.

7.3 Well Installation

The proposed new air/ozone injection wells will be installed in Area 4 using a hollow-stem auger drill rig. An LFR geologist will record a description of the lithology as drilling progresses based on drill cuttings, and the boring will be continuously cored and logged for the deep well locations. The SVE and SVM wells will be installed to a maximum depth of 9 feet bgs with a 5-foot screen extending to approximately 4 feet bgs. The shallow air sparging wells (AS-*S) will be installed to a maximum depth of approximately 17 feet bgs with a 2-foot-long well screen. The deep air sparging well (AS-*D) will be installed to a maximum depth of approximately 34 feet bgs with a 2-foot-long well screen. Final well depths will be assessed in the field at the time of installation with the objective of installing the air sparging wells within the two more permeable or sandy sediment units located between 16 to 17 feet bgs and 30 to 34 feet bgs.

The well screen and the formation will be filled with No. 2/12 Monterey sand to a depth approximately level with the top of the screened interval. Approximately 2 feet of bentonite pellets will be placed above the sand pack and hydrated to form a coherent seal. The remaining annular space above the bentonite seal will be filled with cement grout. A locking well cap will be placed on top of the well casing, and the well will be completed inside a traffic-rated well box. The grout around the new wells will be

allowed to cure for a minimum of 24 hours, after which the new wells will be developed by bailing, swabbing, or pumping. The development will remove any sediment left in the well during construction and will enhance the hydraulic communication between the well and surrounding sediments. Observations concerning the quantity and clarity of water withdrawn will be recorded during this process. Indicator parameters (pH, temperature, and specific conductance) will be recorded during well development. Approximately 3 to 10 well casing volumes will be removed from each well during the development process. This process will continue until the indicator parameters stabilize.

7.4 SVE System Installation

The proposed SVE full-scale system includes seven SVE wells including the SVE well installed for the pilot test. Figure 8 presents the location of the proposed SVE wells. The anticipated average extraction rate for each of the seven SVE wells (1 existing SVE well [SVE-1] and 6 proposed SVE wells) is estimated to be approximately 11 to 12 cfm, based on the 9.5 cfm average extraction rate recorded during the single-well pilot test (at 6 inches of mercury) and the fact that the full-scale system will employ a blower capable of 8 inches of mercury. This leads to an extraction rate of approximately 77 to 84 cfm for a multiple extraction well scenario with eight wells. The blower will be sized to handle a maximum design flow of approximately 100 cfm at approximately 8 inches of mercury vacuum; however, components will be designed so that the system can be configured for operation at higher and lower operating flow/vacuum as required. For example, the Sutorbilt Legend blower model 2LP (powered by a 2.9-horsepower electric motor) is capable of meeting the aforementioned performance requirements. Extraction wells will be connected to the blower, moisture separator, and emission controls with 2-inch-diameter PVC hose and piping. All conveyance hose and piping will be sized adequately to minimize flow restriction and pressure losses to the extraction system. The blower system will include a dilution inlet valve for increased optional flexibility. Given the current site usage, the conveyance piping will be mostly aboveground and protected by standard traffic barricades and signage.

Emission control will consist of two Vent Scrub™ Series carbon adsorption vessels with 2-inch fittings and approximately 400 pounds of granular reactivated vapor-phase carbon connected in series.

7.5 AS/Ozone Sparging System Installation

The design of the proposed AS/ozone sparging pilot test system incorporates a system of eight air sparging wells. Figure 8 presents the location of the proposed AS wells. The AS equipment will consist of an air compressor, ozone generator, cooling components, flow meters, pressure gauges, and associated controls. The system's conveyance piping will may be placed aboveground (i.e., placed flat on the ground surface or attached to walls, columns, and beams inside the building) or may be placed in underground conduit. The compressor that will be used to provide injection air will

be installed in the area near MW-3. A 15-cfm, oil-less, rotary-screw compressor capable of 20 psi has been sized to supply the air/ozone sparge system.

The compressed air will be delivered from the air compressor described above, to a stainless steel manifold. 1/2-inch-diameter Silicone Per Fluoro Alkoxy (PFA) supply hoses will run from the ports on the manifold to each of the well heads. The manifold will be equipped with a minimum of eight ports (one port dedicated to each injection well), each fitted with a solenoid valve and a manual gate valve. The ozone system's Programmable Logic Controller (PLC) will control the solenoid valves.

The ozone equipment will also be housed under a roof near MW-3 and will consist of an oxygen concentrator, an ozone generator and booster compressor, flow meters, an ambient ozone detector, cooling fans, and associated controls all packaged as an integral system.

Ozone generator capacities are typically expressed in terms of mass output per unit of time (i.e., pounds ozone per day). The ozone generator capacity is expected to be approximately 2 pounds per day. The ozone will be delivered from the ozone generation equipment described above, via 1/2-inch-diameter PFA tubing. Ozone will be conveyed from the ozone generating equipment, through the distribution manifold, and into the wells. Mixing of the ozone with compressed sparging air will occur prior to entry into the manifold. To balance flow across the injection wells, the process discussed above for AS will be utilized; however, only compressed air (no ozone) will be injected during the balancing procedure, as the addition of ozone will not add appreciably to the delivery pressure.

Several interlocks (i.e., fail-safes) will be installed to prevent the system from operating if there are significant leaks in the system. Safety procedures will be followed when performing in situ or process monitoring to avoid contact with concentrated ozone gas. The Occupational Safety and Health Administration requires that workers not be exposed to an average concentration of more than 0.10 ppm for eight hours. The National Institute of Occupational Safety and Health recommends an upper limit of 0.10 ppm, not to be exceeded at any time. The U.S. Environmental Protection Agency's (EPA's) National Ambient Air Quality Standard for ozone is a maximum eight-hour average outdoor concentration of 0.08 ppm (see the Clean Air Act - www.epa.gov/air/caa/title1.html#ib). When amended with air, ozone concentrations in the conveyance lines are expected to be above these recommended ozone concentration thresholds. Therefore, the following interlocks will be installed to prevent the ozone generator from operating:

- **Air compressor operation interlock.** This interlock will prevent the ozone generator from operating when the air compressor is off-line. This will prevent elevated concentrations of ozone that may result from the operation of the ozone generator without the blending of ambient air.

- **Ozone leak detector and interlock.** The ozone generator will be equipped with ambient ozone sensors for automatic shutdown in the event of a leak at the generator (before blending with the air stream) or the manifold.

It is anticipated that warning alarms will be displayed for incidents such as power failure to the compressor, ambient detector readings of above 0.10 ppm of ozone, and power failure to the ozone system. Power to the system will be terminated automatically in the event an alarm is activated.

7.6 System Start-Up and Periodic Monitoring Program

Existing groundwater monitoring wells were incorporated into the system start-up and periodic monitoring program. The locations of the existing and proposed groundwater monitoring air sparging and soil vapor extraction wells are presented on Figure 8. In addition, the locations of the existing and proposed groundwater sparging and soil vapor extraction wells are presented on Figure 8. The groundwater monitoring well network is to consist of seven groundwater monitoring wells (four existing and three proposed groundwater monitoring wells). The groundwater sparging system for the deep zone is to consist of two deep zone injection wells (one existing and one proposed deep zone injection well). The groundwater sparging system for the shallow zone is to consist of seven injection wells (one existing and six proposed deep zone injection wells).

The parameters that will be measured during the system start-up and/or routine operation include:

- SVE performance:
  - vacuum
  - air flow rate
- AS performance:
  - pressure
  - air flow rate
- groundwater parameters:
  - groundwater elevation
  - VOC concentration
  - geochemical parameters, dissolved oxygen, pH, oxidation-reduction potential, temperature, and conductivity
- soil-vapor parameters:
  - VOC concentration

Monitoring frequency is presented in Table 8. Descriptions of each type of measurement are presented below.

System performance metrics. Two lines of evidence will be used to evaluate the overall effectiveness of the AS/SVE system.

- Area 4 COCs concentration in groundwater monitoring wells. Existing groundwater monitoring wells and proposed groundwater monitoring wells will be monitored for changes in concentration over time.
- Area 4 COCs mass removal by SVE. Mass removal rates will be estimated using SVE influent and flow rate data. These parameters will be routinely monitored in accordance with the schedule outlined in Table 8 to determine mass of Area 4 COCs removed by air/ozone sparging over time.

8.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS

The following is a brief summary of the findings and recommendations for the five AOCs at the Site (Figure 2). These findings and recommendations are based on the recent investigation activities, remedial activities presented in this report, and LFR's review of the existing data that was previously collected at the Site:

Area 1: TPH in shallow soil along the southern boundary of the Site southwest of the workshop building. LFR supervised the removal of approximately 150 tons of TPH-affected soil from this area in March 2009. Based on the results of the confirmation soil samples collected after the excavation activities were complete, LFR recommends that no further investigation or remedial activities be conducted with respect to the TPH-affected soil present in this portion of the Site. Because affected soil may remain beneath asphalt pavement near the existing workshop building in this area, LFR recommends that the presence of the TPH-affected soil be included on the deed for this property. Placing this information on the deed for the property will inform individuals that affected soil is located at this portion of the property and that if this portion of the property is to be redeveloped the soil may require special handling, as necessary.

Area 2: TPHmo in shallow soil in an area southwest of the warehouse storage area building adjacent to the southwestern property boundary. A removal action took place in this portion of the Site in 1987 (Dames and Moore 1987). In addition, soil samples were collected and analyzed from this area by ERAS in 2008. While LFR acknowledges that TPH-affected soil is present in this portion of the Site, the concentrations at which the compounds have been detected do not warrant remediation by excavation and/or off-site disposal. Based on the available data for this area (Table 1), the affected soil is localized and is present at concentrations that could remain in place. Thus no further investigation or remediation is warranted for this portion of the Site.

Area 3: Shallow soil near the northwestern corner of the Site. Soil samples collected in this portion of the Site have contained concentrations of PCBs above laboratory reporting limits. While LFR acknowledges that PCB-affected soil beneath

the asphalt pavement is present in this portion of the Site, the concentrations of PCBs detected in soil samples are well below their respective ESLs and therefore the concentrations at which the compounds have been detected in soil do not warrant remediation by excavation and off-site disposal. Based on our review, the area of PCB-affected soil is localized and at concentrations that could remain in place. Thus no further investigation or remediation is warranted for this portion of the Site.

Area 4: The area located near the former 550-gallon UST near groundwater monitoring well MW-3. Based on the analytical results of the soil, soil vapor, and groundwater samples collected in this area of the Site, LFR has recommended the implementation of a soil-vapor extraction and air sparging system as presented in Section 7.0 of this report.

Area 5: The reported location of a presumed former UST in the warehouse building near well MW-4. Soil samples and groundwater samples collected in this portion of the Site have contained low concentrations of TPHg and related compounds. Based on the analytical results of the soil and groundwater samples and MIP data collected in this area of the Site, LFR does not recommend any further investigation or remediation for this portion of the Site.

9.0 SCHEDULE

The proposed full-scale implementation schedule for the soil-vapor extraction and air sparging system for Area 4 is presented in the table below. The schedule also assumes ACEH concurrence with the proposed approach to the sparging project will be issued in June 2009 and that the BAAQMD permit will be issued in July 2009 and that no unexpected events will occur that would delay implementation of this work.

Activity	Action Date
Install AS/SVE and monitoring wells	July 2009
Start full-scale air sparging system	August-September 2009
Start ozone amendment	September 2009
Submit air/ozone injection and SVE system installation, startup, and first quarter operation report	December 2009

In accordance with ACEH, all reports will be uploaded to the ACEH file transfer protocol site and to the RWQCB Geotracker database.

10.0 LIMITATIONS

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by LFR and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that LFR relied upon any information prepared by other parties not under contract to LFR, LFR makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when LFR's investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the Site may vary from those at the locations where data were collected. LFR's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in environmental investigation conclusions cannot reasonably be achieved.

LFR, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

11.0 REFERENCES

Alameda County Environmental Health (ACEH). 2008a. Letter to PCC Flow Technologies Holding Inc.; 9201 San Leandro LLC; and GP Holdings LLC from Jerry Wickham, re: Fuel Leak Case No. RO0000320, PACO Pumps, 9201 San Leandro Street, Oakland, California. September 26.

———. 2008b. Letter to PCC Flow Technologies Holding Inc.; 9201 San Leandro LLC; and GP Holdings LLC from Jerry Wickham, re: Fuel Leak Case No. RO0000320, and Geotracker Global ID T0600101592 PACO Pumps, 9201 San Leandro Street, Oakland, California. December 10.

Dames and Moore. 1987. Site Contamination Study, PACO Pumps Facility, 9201 San Leandro Street, Oakland, California for Amsted Industries, Inc. August 12.

ERAS Environmental, Inc. (ERAS). 2008. Subsurface Investigation and Groundwater Monitoring Report, Quarter 2, 2008, Former PACO Pumps Facility, 9201 San Leandro Street, Oakland, California. July 31.

Jonas and Associates Inc. (Jonas). 1991. Site Characterization Report Excavation Area, PACO Pumps Facility, 9201 San Leandro Street in Oakland, California. October 30.

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LFR Inc. (LFR). 2008. Work Plan to Conduct Investigation and Remedial Activities at 9201 San Leandro Street, Oakland, California (Fuel Leak Case #RO0000320). November 14.

Regional Water Quality Control Board (RWQCB). 2008. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. May.

Table 1
Analytical Results for Soil Samples
9201 San Leandro Street
Oakland, California
concentrations in milligrams per kilogram

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Fuel Oxygenates	VOCs	PCBs	Arsenic
REGULATORY CONCENTRATIONS														
RWQCB ESLS - Groundwater is a source of drinking water			83	2,500	2,500	83	0.044	2.9	3.3	2.3	0.023	Varies	0.740	1.6
RWQCB ESLS - Groundwater is not a source of drinking water			180	2,500	2,500	180	0.270	9.3	4.7	11	8.4	Varies	0.740	1.6
LFR Area 1 - Southwestern Corner of the Site, west of the "workshop building"														
Samples Collected by Jonas & Associates 1992														
B-16	13-Apr-92	0.5-1.5	45	190	<1.0	NA	<0.005	0.008	<0.005	<0.005	NA	ND	NA	<0.25
B-17	13-Apr-92	0.5-1.5	<1.0	520	290	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-18	13-Apr-92	0.5-1.5	<1.0	**7,800**	**8,000**	NA	0.005	0.049	0.088	1.20	NA	ND	NA	<0.25
B-19	13-Apr-92	0.5-1.5	<1.0	170	27	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
MW-2	3-Nov-92	0.5-1.5	NA	NA	NA	<1.0	<0.200	<0.200	1.90	9.60	NA	NA	NA	NA
	3-Nov-92	5	<1.0	310	14	<1.0	<0.005	<0.005	0.025	0.041	NA	NA	NA	NA
	3-Nov-92	10	<1.0	230	8	<1.0	<0.005	<0.005	0.011	0.020	NA	NA	NA	NA
	3-Nov-92	15	<1.0	<10	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA
Samples Collected by ERAS 2008														
HA-4	12-Jun-08	1.25-1.5	2.8	21	2.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	16	69	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
HA-5	12-Jun-08	1.25-1.5	**1,000**	1,600	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	78	180	61	NA	NA	NA	NA	NA	NA	NA	NA	NA
HA-6	12-Jun-08	1.25-1.5	**7,600**	**20,000**	**2,700**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	2.3	9.6	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Excavation Confirmation Samples Collected by LFR March 2009														
EX-1 (1.5)	10-Mar-09	1.5-2.0	**530 Y**	2,400	62 Y	NA	NA	NA	NA	NA	NA	NA	NA	NA
EX-2 (1.5)	10-Mar-09	1.5-2.0	**6,200 Y**	**12,000**	1,100 Y	NA	NA	NA	NA	NA	NA	NA	NA	NA
EX-3 (1.5)	10-Mar-09	1.5-2.0	**690 Y**	**2,900**	120 Y	NA	NA	NA	NA	NA	NA	NA	NA	NA
EX-4 (1.5)	10-Mar-09	1.5-2.0	**1,000 Y**	**4,300**	<20	NA	NA	NA	NA	NA	NA	NA	NA	NA
EX-5 (3.0)	10-Mar-09	3.0-3.5	8.8 Y	23	<0.99	NA	NA	NA	NA	NA	NA	NA	NA	NA
NWALL-2-031903	19-Mar-09	1.5-2.0	38Y	170	5.2Y	NA	NA	NA	NA	NA	NA	NA	NA	NA
WWALL-2-031903	19-Mar-09	1.5-2.0	74Y	380	3.4Y	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Fuel Oxygenates	VOCs	PCBs	Arsenic
REGULATORY CONCENTRATIONS														
RWQCB ESLS - Groundwater is a source of drinking water			83	2,500	2,500	83	0.044	2.9	3.3	2.3	0.023	Varies	0.740	1.6
RWQCB ESLS - Groundwater is not a source of drinking water			180	2,500	2,500	180	0.270	9.3	4.7	11	8.4	Varies	0.740	1.6
LFR Area 2- Area South of the Warehouse Storage Area Building Adjacent to the Southern Property Boundary														
Soil Samples Collected by Dames & Moore 1987														
Pit 1	27-Jul-87	1.5	NA	250	NA	NA	<0.025	0.600	<0.030	NA	NA	ND	NA	NA
	27-Jul-87	3	NA	130	NA	NA	<0.025	0.470	<0.030	NA	NA	ND	NA	NA
Pit 2	27-Jul-87	1.5	NA	<10	NA	<10	<0.025	0.420	<0.030	NA	NA	ND	<0.200	NA
	27-Jul-87	3	NA	<10	NA	NA	<0.025	0.600	<0.030	NA	NA	ND	NA	NA
Pit 3	27-Jul-87	1.5	NA	780/800	NA	NA	<0.025	0.230	<0.030	NA	NA	ND	NA	14
	27-Jul-87	3	NA	600	NA	<10	<0.025	0.380	<0.030	NA	NA	ND	<0.200	NA
Pit 4	27-Jul-87	1.5	NA	780	NA	NA	<0.025	0.110	<0.030	NA	NA	ND	NA	NA
	27-Jul-87	3	NA	1,100	NA	NA	<0.025	0.045	<0.030	NA	NA	ND	NA	NA
Soil Samples Collected by Jonas & Associates 1991														
B-1 (Pit 1)	1-Oct-91	3.5	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	NA	ND	<0.100	NA
B-2 (Pit 2)	1-Oct-91	3.5	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	NA	ND	<0.100	NA
B-3 (Pit 3)	1-Oct-91	3.5	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	NA	ND	<0.100	NA
B-4 (Pit 4)	1-Oct-91	3.5	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	NA	ND	<0.100	NA
B-5 (duplicate of B-4)	1-Oct-91	3.5	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	NA	ND	<0.100	NA
B-8	3-Aug-92	6	NA	NA	NA	7.4	**0.750**	0.0092	0.180	0.026	NA	NA	NA	NA
B-9	3-Aug-92	6	NA	NA	NA	2.3	0.039	0.058	0.008	0.009	NA	NA	NA	NA

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Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Fuel Oxygenates	VOCs	PCBs	Arsenic
REGULATORY CONCENTRATIONS														
RWQCB ESLS - Groundwater is a source of drinking water			83	2,500	2,500	83	0.044	2.9	3.3	2.3	0.023	Varies	0.740	1.6
RWQCB ESLS - Groundwater is not a source of drinking water			180	2,500	2,500	180	0.270	9.3	4.7	11	8.4	Varies	0.740	1.6
Samples Collected by ERAS 2008 *														
Pit 3SE	12-Jun-08	1.25-1.5	140	550	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	11	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pit 3E	12-Jun-08	1.25-1.5	2.3	6.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	4.7	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pit 3NW	12-Jun-08	1.25-1.5	55	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	2.3	6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pit 4SE	12-Jun-08	1.25-1.5	6.5	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	<1.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pit 4E	12-Jun-08	1.25-1.5	71	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	2.8	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pit 4NW	12-Jun-08	1.25-1.5	8.2	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12-Jun-08	2.75-3	<1.0	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LFR AREA 3 - Northwestern Corner of the Site														
Samples Collected by Jonas & Associates 1991 & 1992														
B-6	1-Oct-91	0-0.5	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	NA	NA	0.400	NA
B-7	1-Oct-91	0-0.5	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	NA	NA	0.670	NA
B-10	11-Aug-92	6	NA	NA	NA	4.4	**0.371**	0.005	0.080	0.028	NA	NA	NA	NA
MW-1	4-Nov-92	5	<1.0	530	<1.0	NA	NA	NA	NA	NA	NA	NA	0.290	NA
	4-Nov-92	10	<1.0	<10	<1.0	NA	NA	NA	NA	NA	NA	NA	<0.100	NA
	4-Nov-92	15	<1.0	<10	<1.0	NA	NA	NA	NA	NA	NA	NA	<0.100	NA

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Analytical Results for Soil Samples
9201 San Leandro Street
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Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Fuel Oxygenates	VOCs	PCBs	Arsenic
REGULATORY CONCENTRATIONS														
RWQCB ESLS - Groundwater is a source of drinking water			83	2,500	2,500	83	0.044	2.9	3.3	2.3	0.023	Varies	0.740	1.6
RWQCB ESLS - Groundwater is not a source of drinking water			180	2,500	2,500	180	0.270	9.3	4.7	11	8.4	Varies	0.740	1.6
Samples Collected by ERAS 2008														
HA-1	12-Jun-08	1.25-1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
	12-Jun-08	3-3.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
HA-2	12-Jun-08	1.25-1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
	12-Jun-08	2.5-2.75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05	NA
HA-3	12-Jun-08	1.25-1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA
	12-Jun-08	2.5-2.75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14	NA
Samples Collected by Jonas & Associates 1992														
B-8	13-Apr-92	0.5-1.5	22	110	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-9	13-Apr-92	0.5-1.5	<1.0	660	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-10	13-Apr-92	0.5-1.5	27	63	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-11	09-Apr-92	0.5-1.5	120	410	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-12	09-Apr-92	0.5-1.5	<1.0	<1.0	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
LFR Area 4 - Former UST near Groundwater Monitoring Well MW-3														
Samples Collected by Jonas & Associates 1992														
B-1	30-Jun-92	6	ND	NA	NA	9.2	0.043	<0.005	0.086	0.067	NA	NA	NA	NA
B-2	27-Jul-92	6	NA	NA	NA	6.2	**1.800**	<0.005	0.180	<0.005	NA	NA	NA	NA
B-3	27-Jul-92	6	NA	NA	NA	7.3	0.053	<0.005	0.200	<0.005	NA	NA	NA	NA
B-4	27-Jul-92	6	NA	NA	NA	5.3	**0.650**	<0.005	0.160	0.014	NA	NA	NA	NA
B-5	27-Jul-92	6	NA	NA	NA	1.9	0.034	<0.005	0.012	<0.005	NA	NA	NA	NA
B-6	3-Aug-92	6	NA	NA	NA	13	**2.100**	0.018	0.340	0.190	NA	NA	NA	NA
B-7	3-Aug-92	6	NA	NA	NA	11	**2.100**	0.011	0.230	0.067	NA	NA	NA	NA
B-11	11-Aug-92	6	NA	NA	NA	13	**0.670**	0.008	0.160	0.100	NA	NA	NA	NA
B-12	11-Aug-92	6	NA	NA	NA	ND	0.010	<0.005	<0.005	<0.005	NA	NA	NA	NA
B-13	11-Aug-92	6	NA	NA	NA	1.1	0.013	<0.005	<0.005	0.007	NA	NA	NA	NA

Table 1
Analytical Results for Soil Samples
9201 San Leandro Street
Oakland, California
concentrations in milligrams per kilogram

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Fuel Oxygenates	VOCs	PCBs	Arsenic
REGULATORY CONCENTRATIONS														
RWQCB ESLS - Groundwater is a source of drinking water			83	2,500	2,500	83	0.044	2.9	3.3	2.3	0.023	Varies	0.740	1.6
RWQCB ESLS - Groundwater is not a source of drinking water			180	2,500	2,500	180	0.270	9.3	4.7	11	8.4	Varies	0.740	1.6
B-22	13-Apr-92	0.5-1.5	<1.0	29	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	3.0
MW-3	4-Nov-92	5	NA	NA	NA	9.5	**1.90**	0.0095	0.240	110.0	NA	NA	NA	NA
	4-Nov-92	10	NA	NA	NA	**250**	**3.70**	**11.00**	2.200	6.400	NA	NA	NA	NA
	4-Nov-92	15	NA	NA	NA	<1	<0.005	0.0054	<0.005	0.028	NA	NA	NA	NA
	4-Nov-92	20	NA	NA	NA	<1	<0.005	0.010	<0.005	0.012	NA	NA	NA	NA
	4-Nov-92	25	NA	NA	NA	1.2	0.031	0.065	0.0078	0.023	NA	NA	NA	NA
	4-Nov-92	30	NA	NA	NA	10	0.200	0.300	0.039	0.110	NA	NA	NA	NA
Samples Collected by Jonas & Associates 1997														
B-1	31-Jan-97	8.5	NA	NA	NA	<1.0	0.012	<0.005	<0.005	<0.005	NA	NA	NA	NA
B-2	31-Jan-97	8.5	NA	NA	NA	9.5	0.042	0.014	0.035	0.058	NA	NA	NA	NA
Samples Collected by ERAs 2008														
GP-2	12-Jun-08	9.5-10	NA	NA	NA	**340**	**1.200**	0.190	2.20	2.00	ND	NA	NA	NA
SG-1	12-Jun-08	9.5-10	NA	NA	NA	**400**	**1.200**	2.80	1.90	2.90	ND	NA	NA	NA
GP-4	12-Jun-08	9.5-10	NA	NA	NA	**450**	**0.720**	<0.100	2.10	1.40	ND	NA	NA	NA
GP-6	12-Jun-08	11.5-12	NA	NA	NA	**520**	**4.600**	2.60	2.60	7.40	ND	NA	NA	NA
GP-8	12-Jun-08	9.5-10	NA	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	ND	NA	NA	NA
LFR Area 5 - Suspected Former UST near Groundwater Monitoring Well MW-4														
Samples Collected by Jonas & Associates 1992														
B-23	13-Apr-92	0.5-1.5	<1.0	430	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
MW-4	9-Nov-92	0.5	<1.0	<10	<1.0	5.9	0.078	<0.005	0.010	0.058	NA	NA	NA	NA
	9-Nov-92	5	<1.0	<10	<1.0	6.3	**0.700**	0.014	0.130	0.590	NA	NA	NA	NA
	9-Nov-92	10	<1.0	<10	<1.0	32	**0.340**	0.760	0.910	4.200	NA	NA	NA	NA
	9-Nov-92	15	<1.0	<10	<1.0	<1	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA
	9-Nov-92	20	<1.0	<10	<1.0	<1	0.010	0.009	0.013	0.053	NA	NA	NA	NA
GP-3	12-Jun-08	9.5-10	<1.0	NA	NA	<1.0	<0.005	<0.005	<0.005	<0.005	ND	NA	NA	NA

Table 1
Analytical Results for Soil Samples
9201 San Leandro Street
Oakland, California
concentrations in milligrams per kilogram

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHk	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Fuel Oxygenates	VOCs	PCBs	Arsenic
REGULATORY CONCENTRATIONS														
RWQCB ESLS - Groundwater is a source of drinking water			83	2,500	2,500	83	0.044	2.9	3.3	2.3	0.023	Varies	0.740	1.6
RWQCB ESLS - Groundwater is not a source of drinking water			180	2,500	2,500	180	0.270	9.3	4.7	11	8.4	Varies	0.740	1.6
Samples from the Northern Portion of the Property														
Samples Collected by Jonas & Associates 1992														
B-13	09-Apr-92	0.5-1.5	55	98	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-14	09-Apr-92	0.5-1.5	<1.0	21	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-21	13-Apr-92	0.5-1.5	<1.0	<1.0	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-24	13-Apr-92	0.5-1.5	<1.0	<1.0	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-25	13-Apr-92	0.5-1.5	49	210	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	<0.25
B-26	13-Apr-92	0.5-1.5	12	57	<1.0	NA	<0.005	<0.005	<0.005	<0.005	NA	ND	NA	5.4

Notes:
Samples collected by Jonas & Associates in 1991 and 1992 were analyzed by Chroma Lab Inc.; VOCs by EPA Method 8240; SVOCs by EPA Method 8270
* Samples were also analyzed for SVOCs
bgs = below ground surface
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TPHk=total petroleum hydrocarbons as kerosene
TPHg = total petroleum hydrocarbons as gasoline
VOCs = volatile organic compounds
PCBs = polychlorinated biphenyls
SVOCs = semivolatile organic compounds
ESL denotes environmental screening criteria - these ESLs are screening criteria established by the Regional Water Quality Control Board (RWQCB) to address environmental protection. The ESLs used for this project are based on a commercial-industrial land use scenario where groundwater is and is not considered a source of drinking water. Under most circumstances, the presence of a chemical in soil or groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant threat to human health. ESLs can be obtained from http://www.swrcb.ca.gov/rwqcb2/ESL.htm.
NA = parameter not analyzed
Bold Font denotes concentration was greater than the ESL.

Table 2
Analytical Results for Volatile Organic Analyses
Groundwater Samples
9201 San Leandro Street
Oakland, California
concentrations in micrograms per liter

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Other Fuel Oxygenates
LFR Area 1 - Southwestern Corner of the Site, west of the "workshop building"											
MW-2	16-Nov-92	5.25-20.25	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	9-Mar-93		430	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	21-Jul-93		<50	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	29-Jan-94		<50	NA	<50	<2.0	<2.0	<2.0	<2.0	NA	NA
	26-May-94		<50	NA	<50	2.3	0.8	<0.5	<0.5	NA	NA
	24-Aug-94		<50	NA	<50	3.1	1.4	0.5	0.6	NA	NA
	22-Nov-94		<50	NA	<50	3.4	1.8	<0.5	0.5	NA	NA
	8-Feb-95		<50	NA	<50	4.5	1.3	<0.5	0.5	NA	NA
	31-May-95		<50	NA	NA	NA	NA	NA	NA	NA	NA
	8-Aug-95		<50	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	29-Nov-95		<50	NA	NA	NA	NA	NA	NA	NA	NA
	29-Feb-96		<50	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
	23-May-96		<50	NA	NA	NA	NA	NA	NA	NA	NA
	4-Nov-96		<50	NA	NA	NA	NA	NA	NA	NA	ND
	13-Nov-03		NA	NA	<50	<0.5	<0.5	<0.5	<2.0	NA	ND
	17-Jun-08		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	1.1	ND
LFR Area 2 - Area South of the Warehouse Storage Area Building Adjacent to the Southern Property Boundary											
MW-1	15-Nov-92	5.25-20.25	<50	NA	NA	NA	NA	NA	NA	NA	NA
	9-Mar-93		140	NA	NA	NA	NA	NA	NA	NA	NA
	21-Jul-93		<50	NA	NA	NA	NA	NA	NA	NA	NA
	29-Jan-94		<50	NA	NA	NA	NA	NA	NA	NA	NA
	26-May-94		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	24-Aug-94		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	22-Nov-94		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	8-Feb-95		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	31-May-95		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	23-May-96		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	27-Oct-00		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	14-Nov-07		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<2.0	NA
	17-Jun-08		NA	NA	<50	<0.5	<0.5	<0.5	<0.5	0.67	ND

Table 2
Analytical Results for Volatile Organic Analyses
Groundwater Samples
9201 San Leandro Street
Oakland, California
concentrations in micrograms per liter

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Other Fuel Oxygenates
LFR Area 4 - Former UST near Groundwater Monitoring Well MW-3											
B-1	3-Feb-97	15-20	NA	NA	**31,000**	**7,100**	**4,100**	**520**	**1,400**	NA	NA
B-2	3-Feb-97	15-20	NA	NA	**41,000**	**14,000**	**2,600**	**740**	**1,700**	NA	NA
B-3	3-Feb-97	15-20	NA	NA	**1,400**	**310**	9.9	27	56	NA	NA
B-4	3-Feb-97	15-20	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	NA
GP-1	12-Jun-08	13.5-16	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-1	12-Jun-08	24-28	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-1	12-Jun-08	32-36	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-2	12-Jun-08	8.5-13.5	NA	NA	**45,000**	**2,900**	**2,600**	**450**	**1,100**	<10	14 (1,2-DCA)
GP-2	12-Jun-08	25-29	NA	NA	**210**	7.1	7.1	1.0	2.7	1.2	ND
GP-2	12-Jun-08	31-35	NA	NA	70	5.2	3.0	<0.5	1.2	1.0	ND
GP-4	13-Jun-08	13-15	NA	NA	**19,000**	**860**	**670**	**260**	**420**	<0.5	ND
GP-4	13-Jun-08	25-29	NA	NA	**12,000**	**240**	**230**	**130**	**240**	<0.5	ND
GP-4	13-Jun-08	31-35	NA	NA	**330**	15	12	5.7	10	<0.5	ND
GP-5	13-Jun-08	16-20	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-5	13-Jun-08	25-29	NA	NA	<50	<0.5	0.69	<0.5	<0.5	<0.5	ND
GP-5	13-Jun-08	31-35	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-6	16-Jun-08	13.5-18	NA	NA	**3,100**	**170**	30	22	35	<0.5	ND
GP-6	16-Jun-08	25-29	NA	NA	**3,000**	**160**	39	40	75	<0.5	ND
GP-8	16-Jun-08	20-24	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	**6.1**	1.9 (1,2-DCA)
GP-8	16-Jun-08	25-29	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-8	16-Jun-08	31-35	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GGW-2-20	5-Jan-09	17-20	NA	NA	**630**	100	88	24	88	1.5	2.0 (1,2-DCA)
GGW-3-20	5-Jan-09	17-20	NA	NA	**1,300**	13	8.4	8.5	18	<0.5	<0.5
GGW-4-30	5-Jan-09	27-30	NA	NA	52	6.2	4.9	<0.50	1.4	0.70	<0.5
GGW-5-30	5-Jan-09	27-30	NA	NA	<50	0.70	1.2	<0.50	<1.0	3.0	<0.5

Table 2
Analytical Results for Volatile Organic Analyses
Groundwater Samples
9201 San Leandro Street
Oakland, California
concentrations in micrograms per liter

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Other Fuel Oxygenates
MW-3	16-Nov-92	5.25-20.25	< 50	NA	**40,000**	**2,900**	**6,100**	**550**	**1,700**	NA	NA
	9-Mar-93		290	NA	**12,000**	**1,000**	**300**	**110**	**170**	NA	NA
	21-Jul-93		< 50	NA	**3,400**	**420**	63	36	37	NA	NA
	29-Jan-94		< 50	NA	**5,600**	**910**	**220**	**47**	36	NA	NA
	26-May-94		< 50	NA	**5,200**	**890**	**180**	**45**	43	NA	NA
	24-Aug-94		< 50	NA	**5,200**	**580**	76	29	22	NA	NA
	22-Nov-94		< 50	NA	**2,200**	**670**	**130**	31	28	NA	NA
	8-Feb-95		< 50	NA	**2,900**	**780**	**120**	31	33	NA	NA
	31-May-95		NA	NA	**9,100**	**2,800**	**160**	**91**	72	NA	NA
D	31-May-95		NA	NA	**5,300**	**1,300**	**170**	37	44	NA	NA
	28-Aug-95		NA	NA	**1,400**	< 0.5	< 0.5	1.7	8.9	NA	NA
D	28-Aug-95		NA	NA	**4,800**	**2,500**	**150**	**53**	44	NA	NA
	29-Nov-95		NA	NA	**3,000**	**780**	43	32	32	NA	NA
D	29-Nov-95		NA	NA	**2,400**	**830**	38	21	16	NA	NA
	29-Feb-96		NA	NA	**3,800**	**1,200**	**130**	36	35	NA	NA
D	29-Feb-96		NA	NA	**8,000**	**3,400**	**430**	**100**	99	NA	NA
	23-May-96		NA	NA	**6,900**	**3,300**	**340**	**71**	74	NA	NA
D	23-May-96		NA	NA	**4,300**	**3,200**	**350**	**72**	74	NA	NA
	4-Nov-96		NA	NA	**4,900**	**2,100**	110	**70**	44	NA	NA
D	4-Nov-96		NA	NA	**4,500**	**2,100**	**130**	**61**	39	NA	NA
	13-May-97		NA	NA	**10,000**	**4,800**	**530**	**100**	92	< 100	NA
	26-Jan-98		NA	NA	**12,000**	**5,000**	**250**	**91**	**100**	NA	NA
	27-Oct-00		NA	NA	**19,000**	**9,000**	**1,000**	**250**	**130**	NA	NA
	3-Nov-03		NA	NA	**13,000**	**3,900**	**370**	**300**	**130**	< 40	NA
	17-Jun-08		NA	NA	**13,000**	**4,400**	**600**	**300**	**150**	< 100	ND
MW-5	24-Aug-94	5.25-20.25	**130**	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
D	22-Nov-94		< 50	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
	8-Feb-95		< 50	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
	31-May-95		NA	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
	8-Aug-95		NA	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
	29-Feb-96		NA	NA	< 50	0.6	< 0.5	< 0.5	< 0.5	NA	NA
	13-May-97		NA	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
	27-Oct-00		NA	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
	13-Nov-03		NA	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0	NA
	17-Jun-08		NA	NA	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	ND

Table 2
Analytical Results for Volatile Organic Analyses
Groundwater Samples
9201 San Leandro Street
Oakland, California
concentrations in micrograms per liter

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Other Fuel Oxygenates
MW-6	14-Jan-09	10-17	NA	NA	740	66	48	6	23	1	17 (1,2-DCA)
AS-1S	13-Jan-09	14-17	NA	NA	**41,000**	**4,100**	**2,700**	**510**	**1,000**	<25	ND
ASMW-2S	13-Jan-09	10-17	NA	NA	**9,100**	**2,800**	**430**	**140**	**230**	<10	25 (1,2-DCA)
MW-7	14-Jan-09	20-28	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	1.1	ND
AS-1D	13-Jan-09	31-34	NA	NA	<50	0.69	0.54	<0.5	<0.5	<0.5	ND
ASMW-2D	13-Jan-09	24-34	NA	NA	<50	0.80	0.78	<0.5	<0.5	0.56	ND
LFR Area 5 - Suspected Former UST near Groundwater Monitoring Well MW-4											
GP-3	13-Jun-08	19.5-22	180	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	2.1 (TBA)
GP-3	13-Jun-08	25-29	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-3	13-Jun-08	31-35	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GP-7	16-Jun-08	13-18	**280**	NA	<50	<0.5	<0.5	<0.5	<0.5	0.93	ND
GP-7	16-Jun-08	25-29	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GGW-6-20	6-Jan-09	17-20	NA	NA	<50	<0.50	0.6	<0.50	<1.0	<0.50	<0.5
MW-4	16-Nov-92	5.25-20.25	<50	NA	**560**	**66**	73	16	**130**	NA	NA
D	16-Nov-92		<50	NA	**520**	**63**	67	15	**140**	NA	NA
	9-Mar-93		<50	NA	**750**	**67**	12	29	62	NA	NA
	21-Jul-93		<50	NA	**250**	21	4.2	8.4	11	NA	NA
	29-Jan-94		<50	NA	180	28	2.2	6.2	10	NA	NA
	26-May-94		NA	NA	130	14	3.2	6.1	4.7	NA	NA
	24-Aug-94		NA	NA	70	6.7	0.9	2.8	2.6	NA	NA
	22-Nov-94		NA	NA	90	16	1.7	5.6	3.4	NA	NA
	8-Feb-95		NA	NA	90	17	1.3	5.5	3.0	NA	NA
	31-May-95		NA	NA	90	13	0.6	2.3	1.2	NA	NA
	8-Aug-95		NA	NA	80	3.6	<0.5	1.4	0.6	NA	NA
	29-Nov-95		NA	NA	<50	4.5	0.7	1.0	0.7	NA	NA
	29-Feb-96		NA	NA	<50	7.4	1.0	3.2	2.4	NA	NA
	23-May-96		NA	NA	80	11	2.0	2.3	1.0	NA	NA
	3-Nov-03		<50	NA	<50	6.3	0.56	3.4	1.0	<2.0	NA
	18-Jun-08		<50	NA	81	11	0.51	4.7	1.6	<0.5	ND

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9201 San Leandro Street
Oakland, California
concentrations in micrograms per liter

Sample Location	Date Collected	Depth feet bgs	TPHd	TPHmo	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Other Fuel Oxygenates
REGULATORY CONCENTRATIONS											
RWQCB ESLS - Groundwater is a source of drinking water			100	100	100	1.0	40	30	20	5.0	varies
RWQCB ESLS - Groundwater is not a source of drinking water			210	210	210	46	130	43	100	1,400	varies

Notes:
bgs = below ground surface
NA = parameter not analyzed
ND = parameter not present above laboratory reporting limits
TPHd = total petroleum hydrocarbons as diesel
TPHmo = total petroleum hydrocarbons as motor oil
TPHg = total petroleum hydrocarbons as gasoline
MTBE = methyl tertiary-butyl ether
D = duplicate sample
1,2-DCE = 1,2-dichloroethene
TBA - tertiary butyl alcohol

ESL denotes environmental screening criteria - these ESLs are screening criteria established by the Regional Water Quality Control Board (RWQCB) to address environmental protection. The ESLs used for this project are based on a commercial-industrial land use scenario where groundwater is and is not considered a source of drinking water. Under most circumstances, the presence of a chemical in soil or groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant threat to human health. ESLs can be obtained from http://www.swrcb.ca.gov/rwqcb2/ESL.htm.
Bold Font denotes concentration was greater than the ESL.

Table 3
Groundwater Elevations
9201 San Leandro Street
Oakland, California

Well Identification	Date Collected	Top-of-Casing Elevation [1]	Depth to Groundwater [2]	Groundwater Elevation [1]
MW-1	15-Nov-92	18.05	9.34	8.71
	9-Mar-93		8.50	9.55
	21-Jul-93		9.00	9.05
	26-May-94		9.06	8.99
	24-Aug-94		8.40	9.65
	22-Nov-94		8.20	9.85
	8-Feb-95		8.30	9.75
	31-May-95		9.35	8.70
	8-Aug-95		9.16	8.89
	29-Nov-95		9.28	8.77
	29-Feb-96		7.62	10.43
	23-May-96		8.28	9.77
	4-Nov-96		9.20	8.85
	13-May-97		9.04	9.01
	14-Nov-07		8.50	9.55
	17-Jun-08		9.04	9.01
	13-Jan-09	17.76	8.65	9.11
	28-Apr-09		8.67	9.09
MW-2	15-Nov-92	19.40	10.05	9.35
	9-Mar-93		9.21	10.19
	21-Jul-93		9.72	9.68
	26-May-94		9.58	9.82
	24-Aug-94		9.98	9.42
	22-Nov-94		8.70	10.70
	8-Feb-95		8.68	10.72
	31-May-95		9.48	9.92
	8-Aug-95		9.64	9.76
	29-Nov-95		9.86	9.54
	29-Feb-96		8.12	11.28
	23-May-96		8.70	10.70
	4-Nov-96		9.50	9.90
	13-May-97		9.44	9.96
	14-Nov-07		8.94	10.46
	17-Jun-08		9.57	9.83
	13-Jan-09	19.12	9.21	9.91
	28-Apr-09		9.30	9.82
MW-3	15-Nov-92	19.70	10.35	9.35
	9-Mar-93		9.19	10.51
	21-Jul-93		11.07	8.63
	26-May-94		10.04	9.66
	24-Aug-94		11.08	8.62
	22-Nov-94		8.92	10.78
	8-Feb-95		8.90	10.80
	31-May-95		10.16	9.54
	8-Aug-95		9.92	9.78
	29-Nov-95		10.7	9.00

Table 3
Groundwater Elevations
9201 San Leandro Street
Oakland, California

Well Identification	Date Collected	Top-of-Casing Elevation [1]	Depth to Groundwater [2]	Groundwater Elevation [1]
	29-Feb-96		8.52	11.18
	23-May-96		8.15	11.55
	4-Nov-96		7.21	12.49
	13-May-97		9.82	9.88
	14-Nov-07		9.21	10.49
	17-Jun-08		9.81	9.89
	13-Jan-09	19.42	9.58	9.84
	28-Apr-09		9.59	9.83
MW-4	15-Nov-92	19.65	8.87	10.78
	9-Mar-93		7.96	11.69
	21-Jul-93		8.06	11.59
	26-May-94		8.57	11.08
	24-Aug-94		8.75	10.90
	22-Nov-94		7.41	12.24
	8-Feb-95		7.20	12.45
	31-May-95		8.32	11.33
	8-Aug-95		8.66	10.99
	29-Nov-95		8.93	10.72
	29-Feb-96		6.54	13.11
	23-May-96		7.24	12.41
	4-Nov-96		8.58	11.07
	13-May-97		8.42	11.23
	14-Nov-07		7.61	12.04
	17-Jun-08		8.31	11.34
	13-Jan-09	19.37	NM	NM
	28-Apr-09		NM	NM
MW-5	24-Aug-94	18.49	8.22	10.27
	22-Nov-94		7.90	10.59
	8-Feb-95		7.92	10.57
	31-May-95		8.74	9.75
	8-Aug-95		8.93	9.56
	29-Nov-95		9.11	9.38
	29-Feb-96		7.36	11.13
	23-May-96		7.92	10.57
	4-Nov-96		8.78	9.71
	13-May-97		8.82	9.67
	14-Nov-07		8.16	10.33
	17-Jun-08		8.75	9.74
	13-Jan-09	18.21	8.46	9.75
	28-Apr-09		8.50	9.71
MW-6	13-Jan-09	19.46	9.59	9.87
	28-Apr-09		9.65	9.81
MW-7	13-Jan-09	19.44	9.66	9.78
	28-Apr-09		9.67	9.77

Table 3
Groundwater Elevations
9201 San Leandro Street
Oakland, California

Well Identification	Date Collected	Top-of-Casing Elevation [1]	Depth to Groundwater [2]	Groundwater Elevation [1]
AS-1S	13-Jan-09	19.38	9.45	9.93
	28-Apr-09		9.67	9.71
ASMW2S	13-Jan-09	19.38	9.51	9.87
	28-Apr-09		9.55	9.83
AS-1D	13-Jan-09	19.31	9.42	9.89
	28-Apr-09		9.48	9.83
ASMW-2D	13-Jan-09	19.52	9.65	9.87
	28-Apr-09		9.69	9.83

Notes:
[1] Top-of-casing and groundwater elevation in North America Vertical Datum 1988; wells re-surveyed by Tronoff Assocaites Land Surveying on February 2, 2009.
[2] Depth to water measured in feet below top of casing.

Table 4
Summary of Pilot Test Well Construction Specifications
9201 San Leandro Street, Oakland, California

Well ID	Approximate Distance from AS-1D (feet)	Screened Interval (feet bgs)	Baseline Depth to Water (feet bgs)
New January 2009 Wells			
SVE-1	5	4 - 9	Dry
SVMW-2	17	4 – 9	Dry
SVMW-3	46	4 - 9	Dry
AS-1S	3	14 - 17	9.49
AS-1D	0	30.5 – 33.5	9.48
ASMW-2S	16	11 - 17	9.54
ASMW-2D	16	23 – 33	9.67
MW-6	43	10 - 17	9.59
MW-7	122	20 - 28	NM
Previously Existing Well Monitored during the AS/SVE Pilot Test			
MW-3	9	5.3 – 20.3	9.58

Notes:

AS/SVE = air sparging and soil-vapor extraction

bgs = below ground surface

NM = not measured

Baseline Depth to Water was measured on January 13, 2009.

Table 5
Well Identification Nomenclature for Pilot Test Wells
9201 San Leandro Street, Oakland, California

Well ID Designation	Description/Purpose
AS	Air Sparging/Injection Well
SVE	Soil-Vapor Extraction Well
ASMW	Air Injection Monitoring Well
SVMW	Soil-Vapor Monitoring Well
S	Well Screened in Shallow Unsaturated Zone (less than 8 feet bgs)
I	Well Screened in Intermediate Groundwater (well screened across the top of the water table approximately 10 to 18 feet bgs)
D	Well Screened in Deep Groundwater (well screened in "deeper" groundwater approximately 20 to 32 feet bgs)

Note:
bgs = below ground surface

Table 6
Sequence of Events During Pilot Test, January 15, 2009
9201 San Leandro Street, Oakland, California

Time (24hr)	Events
7:30	System setup. Installed DO meters and collected baseline readings. Set up compressor, blower, and generator and attached hoses to appropriate wells.
8:05	Baseline soil-vapor sample for laboratory analysis was collected from SVE-1 (to be analyzed by laboratory by EPA Methods TO-3 & TO-15).
9:15	Initiated SVE from well SVE-1. Sampled vapor extracted from SVE-1
9:15 – 13:00	Performed SVE step test on extraction well SVE-1 at vacuum of approximately 2.5, 4, 5, and 6 inches of mercury.
9:48	Collected vapor sample from SVMW-2
11:25	Collected vapor sample from SVE-1
12:40	Collected vapor sample from SVE-1
13:40 – 15:00	Performed AS test through injection well AS-1S. VOC data collected by PID, helium tracer test conducted, water levels monitored, DO data collected.
15:25 – 16:15	Performed AS test through injection well AS-1D. VOC data not collected due to PID failure, helium tracer test conducted, water levels monitored, DO data collected.
16:30 – 16:38	Brief re-start of SVE system. Vapor sample collected upon re-start of SVE system from extraction well SVE-1 while air injection system was operating.
16:40	All testing and sampling completed.

Notes:

AS = air sparging

DO = dissolved oxygen

PID = photoionization detector

SVE = soil-vapor extraction

VOC = volatile organic compounds

Table 7
Summary of Analytical Results of
Area 4 COCs in Soil Vapor
9201 San Leandro Street, Oakland, California

Sample ID	TPHg (ppmv)	TPHg ($\mu g/m^3$)	Benzene ($\mu g/m^3$)	Toluene ($\mu g/m^3$)	Ethylbenzene ($\mu g/m^3$)	Total Xylenes ($\mu g/m^3$)
SVE-1 -8:05	1,600	6,500,000	25,000	1,300	790	1,300
SVE-1 -9:15	110	450,000	2,100	140	97	230
SVMW-2	4,400	18,000,000	200,000	28,000	11,000	16,000
SVE-1-11:25	6,300	26,000,000	49,000	2,300	2,200	4,200
SVE-1-12:40	28,000	110,000,000	100,000	1,500	1,100	1,500
SVE-1-16:30	60,000	250,000,000	270,00	42,000	9,700	8,600

Notes:

ppmv = parts per million by volume

$\mu g/m^3$ = micrograms per cubic meter

COCs = constituents of concern

TPHg = total petroleum hydrocarbons as gasoline

Table 8
Summary of Monitoring Program
9201 San Leandro Street, Oakland, California

Data Collection	AS Wells	AS Monitoring Wells	SVE Wells	SVE Monitoring Well	SVE Influent
	Existing wells AS-1S and AS-1D and proposed wells AS-2S through AS-6S and AS-2D (8 wells total)	Existing wells MW-3, MW-6, MW-7, ASMW-2S, and ASMW-2D and 3 proposed monitoring wells (8 wells total)	Existing well SVE-1 and 6 proposed wells (7 wells total)	Existing wells SVMW-2, SVMW-3, and all proposed and existing SVE wells (9 wells total)	At treatment compound (one influent location)
Area 4 COCs (EPA 8260 or TO-15)	--	Q	Q	Q	Baseline, M/Q
VOCs (PID Screening)	--	--	W/M(1)	W/M(1)	W/M(1)
Flow	W	--	W	--	W/M(1)
Pressure/Vacuum	W/M(1)	W/M(1)	W	M	W/M(1)
General Equipment inspection	W	--	W	--	W

Notes:

-- = NA = test not applicable

W= weekly, M= monthly, W/M(1) = weekly during first month of operation and monthly thereafter, M/Q = monthly during the first quarter of operation, quarterly thereafter, Q = quarterly

Selected metals and metalloids, including arsenic, chromium (III and VI), selenium, bromide, and bromate, will be monitored in sparge area wells ASMW-2I and ASMW-2D and downgradient area wells ASMW-5I and ASMW-5D only.

AS = air sparging

COCs = constituents of concern

PID = photoionization detector

SVE = soil-vapor extraction

VOCs = volatile organic compounds

SVE system effluent to be maintained in accordance with the Permit to Operate to be issued by the Bay Area Air Quality Management District (BAAQMD).

SOURCE: GOOGLE EARTH PRO

0 500 FEET

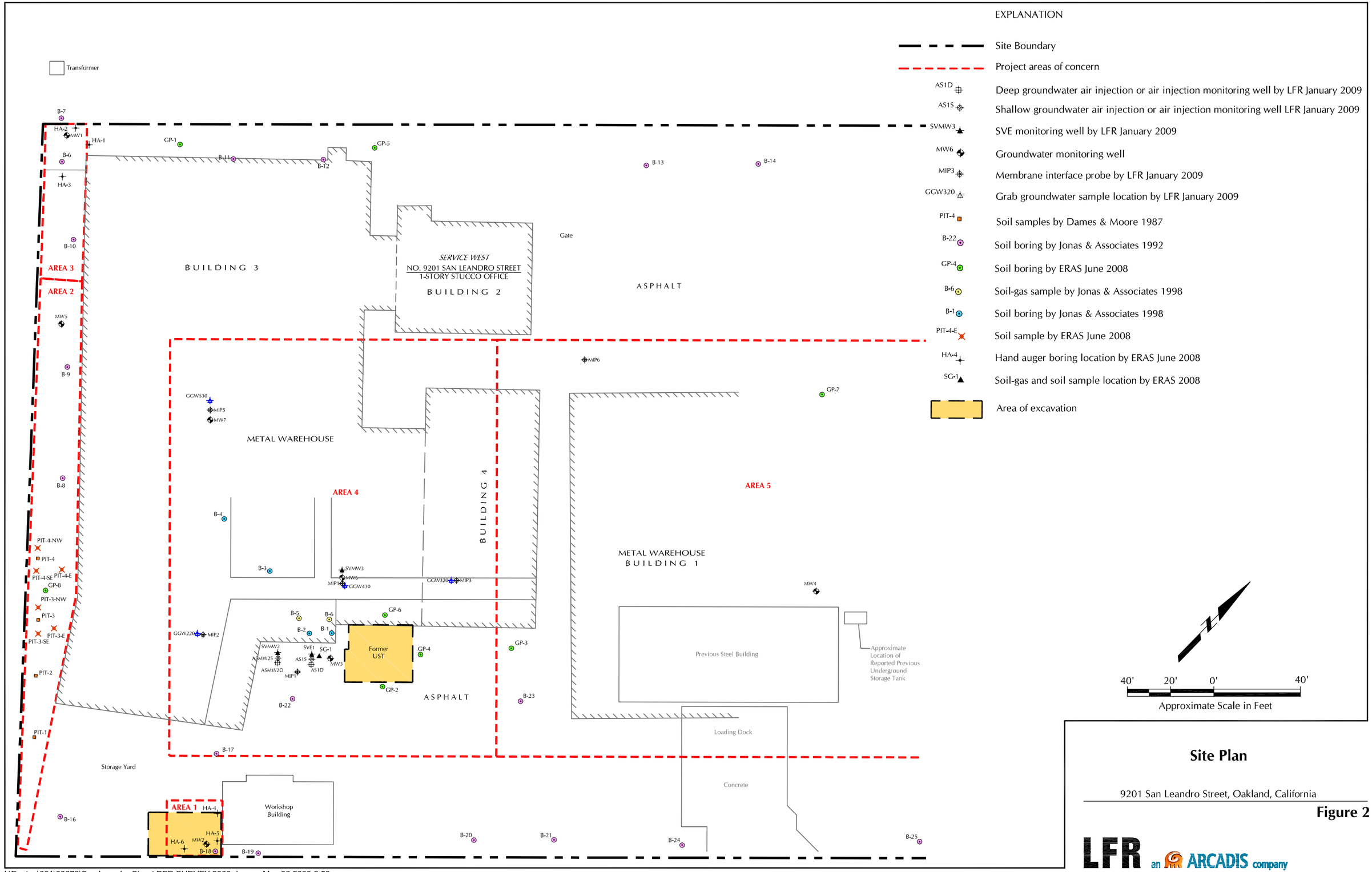
Site Vicinity Map

9201 San Leandro Street, Oakland, CA

Figure 1

LFR an ARCADIS company

I:\Design\001\09679\San Leandro Street Oakland - Site Vicinity Map.dwg May 06,2009-1:43pm



Site Plan

9201 San Leandro Street, Oakland, California

Figure 2

LFR an ARCADIS company

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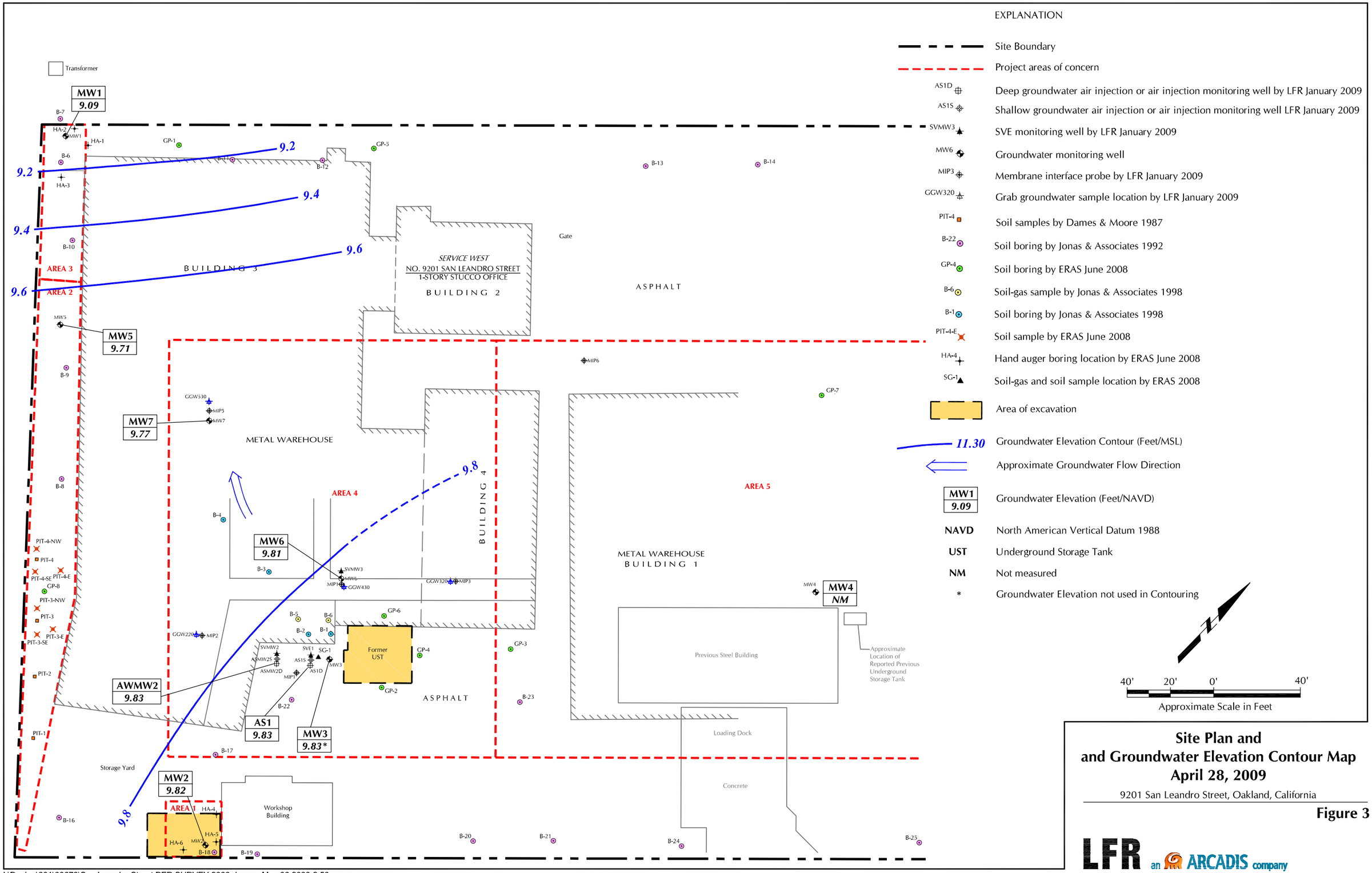


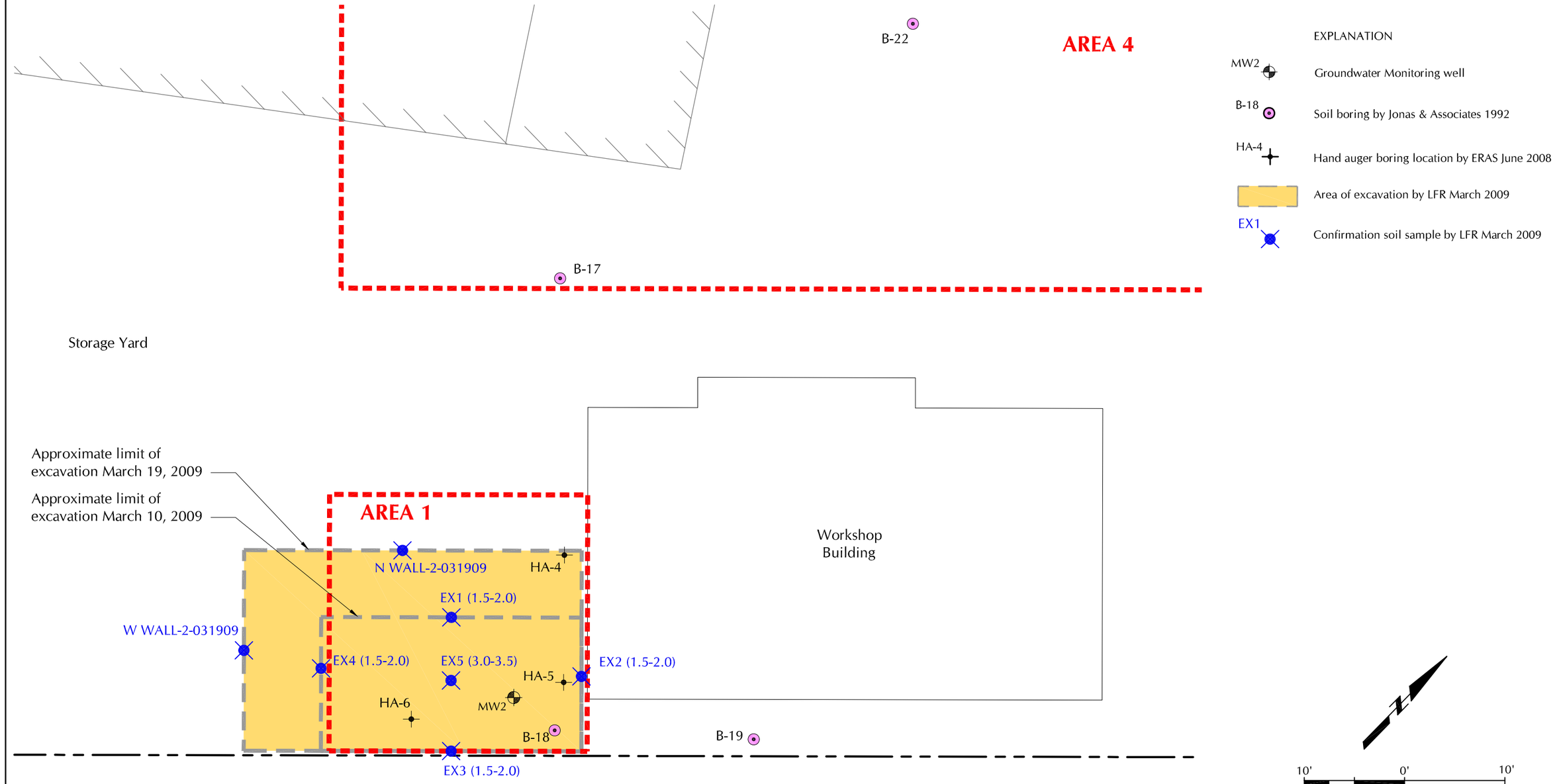
Site Plan and and Groundwater Elevation Contour Map April 28, 2009

9201 San Leandro Street, Oakland, California

Figure 3

LFR an ARCADIS company

I:\Design\001\09679\San Leandro Street PER SURVEY 2009.dwg May 06,2009-2:59pm



Site Plan for Area 1
Showing Area of Excavation

9201 San Leandro Street, Oakland, California

Figure 4

LFR an ARCADIS company

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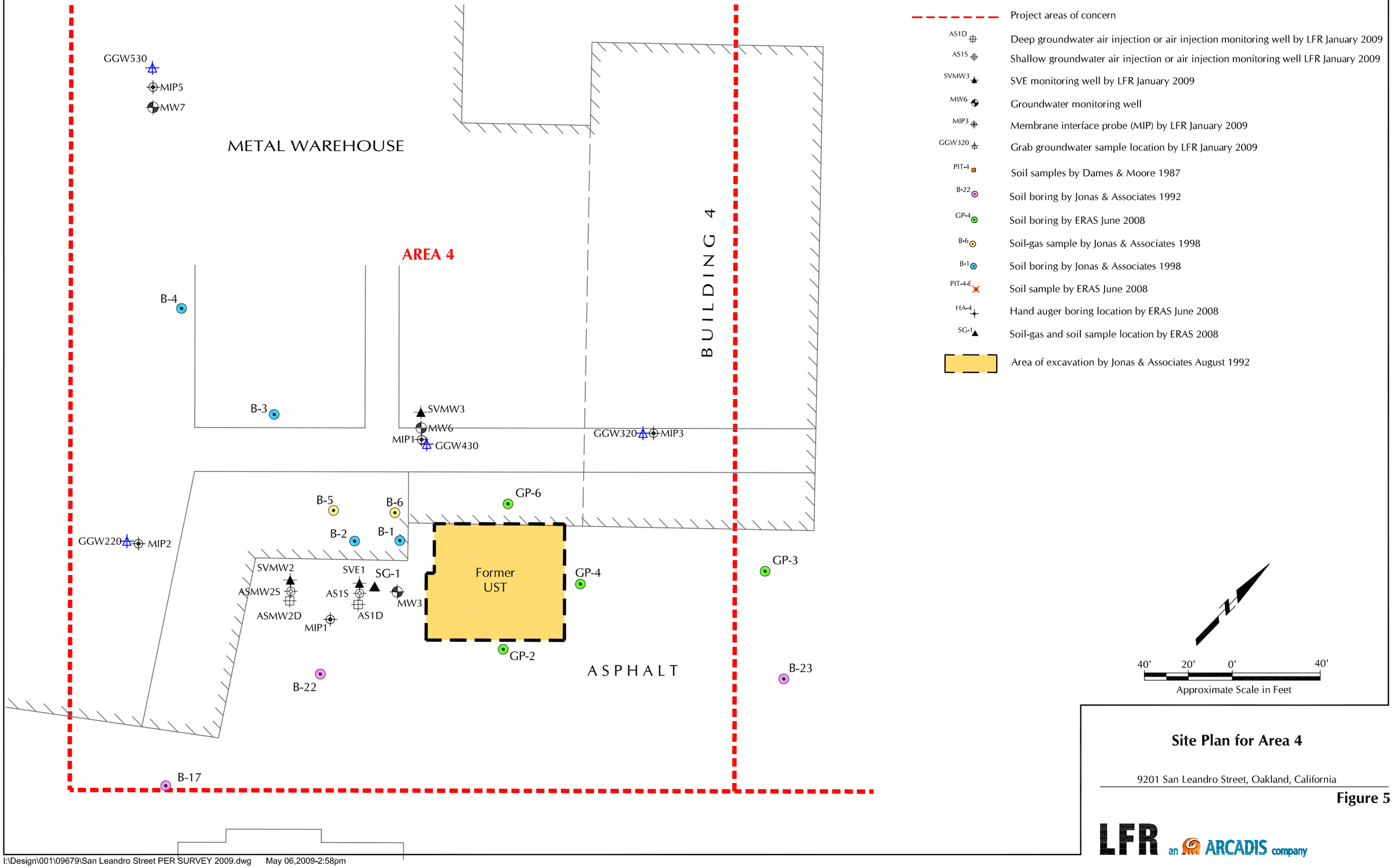


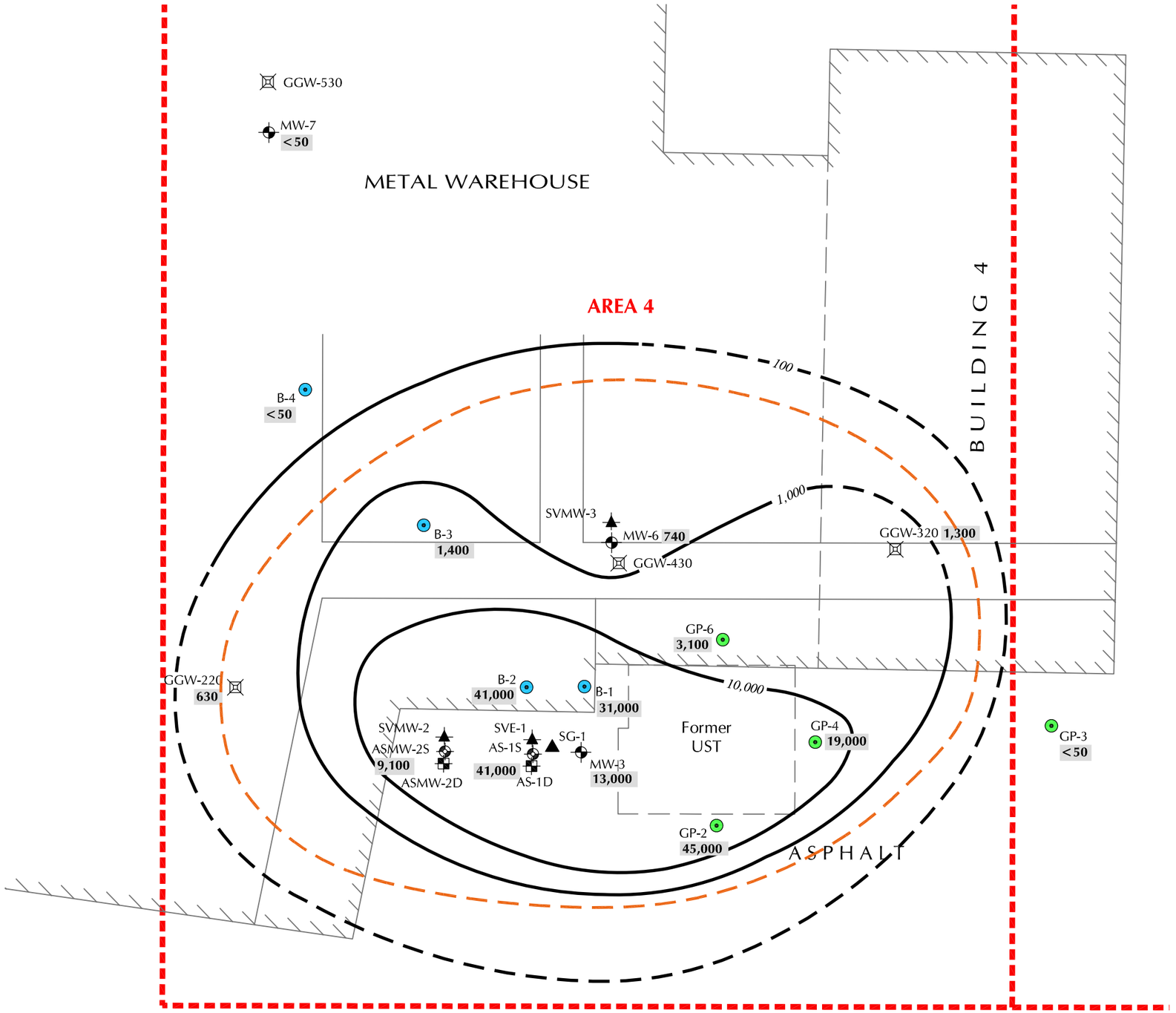
I:\Design\001\09679\San Leandro Street PER SURVEY 2009.dwg May 06,2009-2:58pm

Site Plan for Area 4

9201 San Leandro Street, Oakland, California

Figure 5

LFR an ARCADIS company



EXPLANATION:

- AS-1D — Deep groundwater air injection well by LFR January 2009
- ASMW-1D — Deep groundwater air injection monitoring well by LFR January 2009
- AS-1S — Shallow groundwater air injection well by LFR January 2009
- ASMW-1S — Shallow groundwater air injection monitoring well by LFR January 2009
- SVMW-3 — SVE monitoring well by LFR January 2009
- MW-1 — Groundwater monitoring well
- GGW-430 — Grab groundwater sample location by LFR January 2009
- SG-1 — Soil-gas sample location by ERAS (2007)
- GP-3 — Soil boring by ERAS 2008
- B-1 — Soil boring by Jonas & Associates 1992
- 210 — Extent of TPHg concentations greater than ESL (210 µg/L) in groundwater (dashed where inferred)
- 1,000 — Isoconcentration contours TPHg (µg/L)
- **1,300** — Concentration of TPHg in micrograms per liter (µg/L)
- TPHg — Total petroleum hydrocarbons as gasoline
- SVE — Soil-vapor extraction
- ESL — Environmental screening level

20' 10' 0' 20'

Approximate Scale in Feet

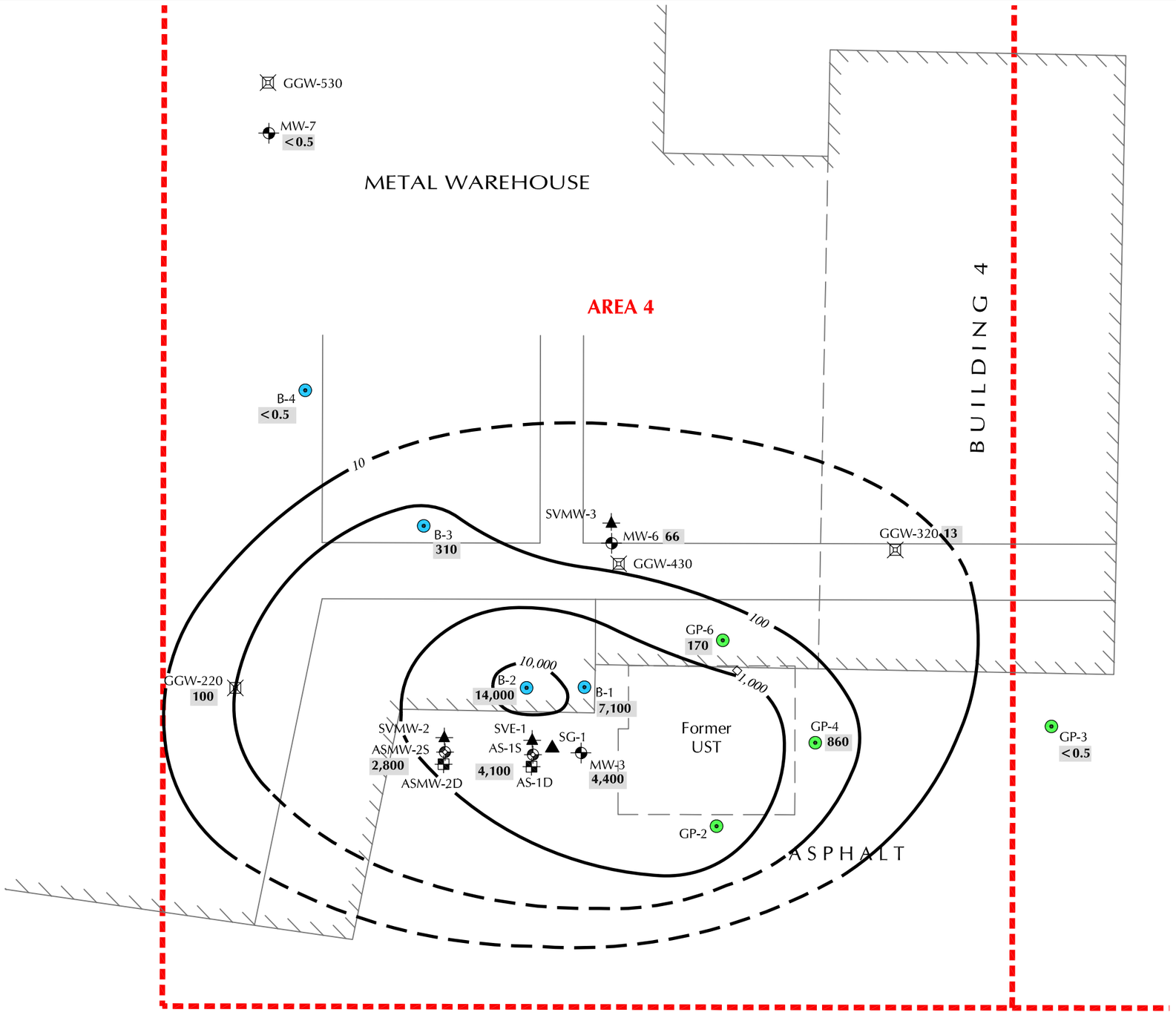
Isoconcentration Contours for TPHg in Shallow Groundwater

9201 San Leandro Street, Oakland, California

Figure 6

LFR an ARCADIS company

I:\Design\001\09679\San Leandro Street AREA 4 ROI.dwg May 06,2009-2:56pm



EXPLANATION:

- AS-1D — Deep groundwater air injection well by LFR January 2009
- ASMW-1D — Deep groundwater air injection monitoring well by LFR January 2009
- AS-1S — Shallow groundwater air injection well by LFR January 2009
- ASMW-1S — Shallow groundwater air injection monitoring well by LFR January 2009
- SVMW-3 — SVE monitoring well by LFR January 2009
- MW-1 — Groundwater monitoring well
- GGW-220 — Proposed grab groundwater sample location
- SG-1 — Soil-gas sample location by ERAS (2007)
- GP-3 — Soil boring by ERAS 2008
- GP-3 — Soil-gas sample by ERAS 2008
- *100* — Extent of Benzene concentations greater than ESL (210 µg/L) in groundwater (dashed where inferred)
- **14,000** — Concentration of Benzene in micrograms per liter (µg/L)
- SVE — Soil-vapor extraction
- ESL — Environmental screening level

N

20' 10' 0' 20'

Approximate Scale in Feet

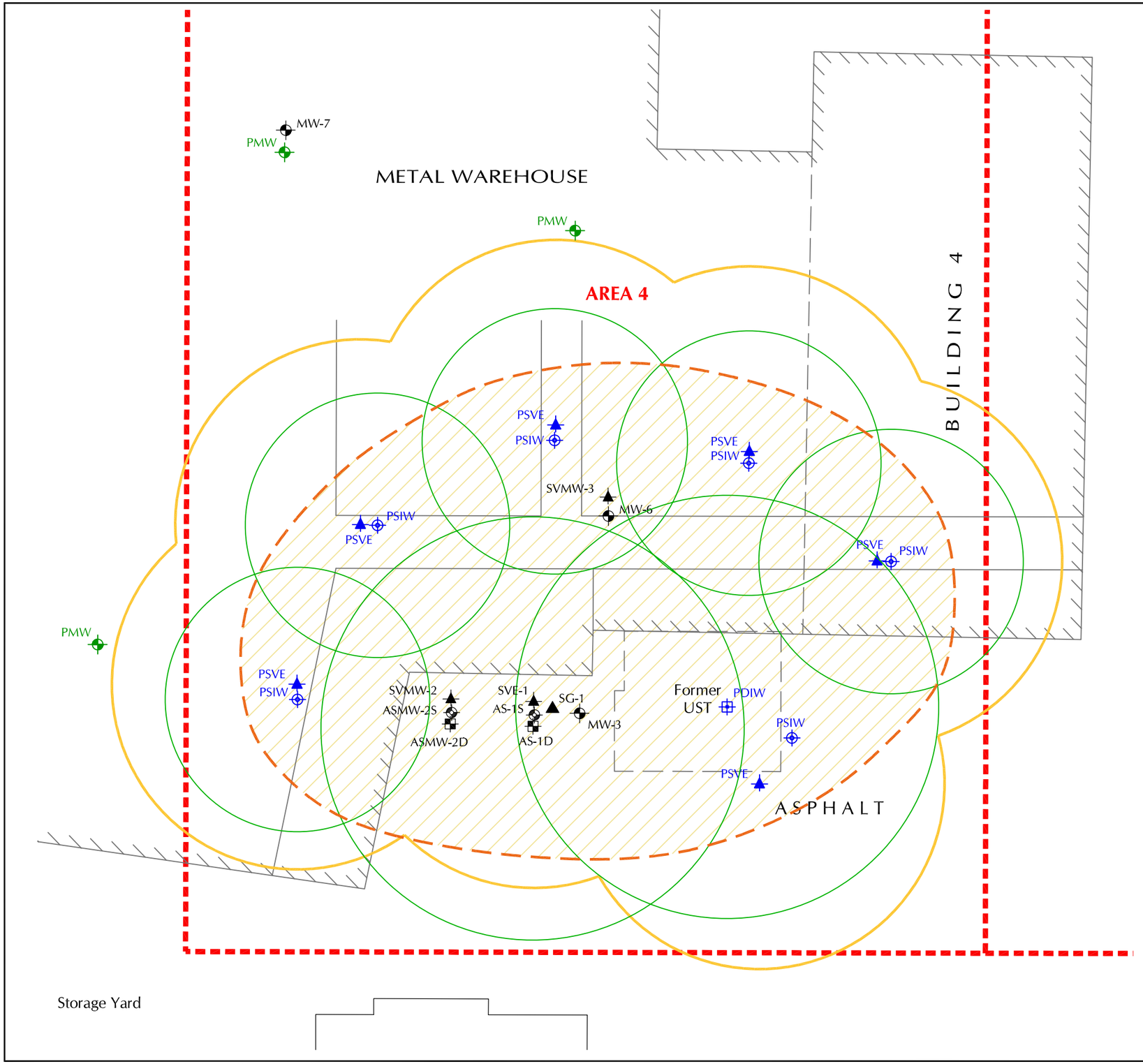
Isoconcentration Contours for Benzene in Shallow Groundwater

9201 San Leandro Street, Oakland, California

Figure 7

LFR an ARCADIS company

I:\Design\001\09679\San Leandro Street AREA 4 ROI.dwg May 06,2009-3:00pm



EXPLANATION:

- AS-1D — Deep groundwater air injection well by LFR January 2009
- ASMW-2D — Deep groundwater air injection monitoring well by LFR January 2009
- AS-1S — Shallow groundwater air injection well by LFR January 2009
- ASMW-2S — Shallow groundwater air injection monitoring well by LFR January 2009
- SVMW-3 — SVE monitoring well by LFR January 2009
- MW-1 — Monitoring well
- SG-1 — Soil-gas sample location by ERAS (2007)
- PDIW — Proposed deep groundwater air injection well
- PSIW — Proposed shallow groundwater air injection well
- PMW — Proposed monitoring well
- PSVE — Proposed SVE well
- Approximate extent of soil-vapor recovery by SVE system (SVE well radius of influence is 35 feet)
- Approximate extent of area within the radius of influence of one or more injection wells (Deep injection well radius of influence is 35 feet) (Shallow injection well radius of influence is 25 feet)
- Approximate area where concentrations of TPHg and/or benzene in groundwater exceed their respective ESLs, extent of targeted treatment area

SVE	Soil-vapor extraction
ESL	Environmental screening level
TPHg	Total petroleum hydrocarbons in gasoline

20' 10' 0' 20'

Approximate Scale in Feet

Proposed SVE, Air/Ozone Injection, and Monitoring Well Layout

9201 San Leandro Street, Oakland, California

Figure 8

LFR an ARCADIS company

I:\Design\001\09679\San Leandro Street AREA 4 ROI.dwg May 06,2009-3:00pm

APPENDIX A

Photographic Log from Excavation Activities

Excavation of Soil Along the Northern Wall

Initial Excavation Looking East

Photolog

9201 San Leandro Street, Oakland, California

Appendix A

LFR an ARCADIS company

DESIGN\001\009679\Photologs\Photolog AppendixA May 09 - 9201 San Leandro St.cdr

Excavation Around Well MW-2

North Wall of Excavation Prior to Excavation Expansion

Photolog

9201 San Leandro Street, Oakland, California

Appendix A

LFR an ARCADIS company

Northwestern Wall of Excavation

Expanding Excavation Looking East

Photolog

9201 San Leandro Street, Oakland, California

Appendix A

LFR an ARCADIS company

Covered Stockpiles of Excavated Soil

Imported Backfill

Photolog

9201 San Leandro Street, Oakland, California

Appendix A

LFR an ARCADIS company

DESIGN\001\009679\Photologs\Photolog AppendixA May 09 - 9201 San Leandro St.cdr

Compacting Excavation-1

Backfilled Excavation

Photolog

9201 San Leandro Street, Oakland, California

Appendix A

LFR an ARCADIS company

DESIGN\001\009679\Photologs\Photolog AppendixA May 09 - 9201 San Leandro St.cdr

Backfilling Excavation Around Well MW-2

Compacting Excavation

Photolog

9201 San Leandro Street, Oakland, California

Appendix A

LFR an ARCADIS company

DESIGN\001\009679\Photologs\Photolog AppendixA May 09 - 9201 San Leandro St.cdr

Area of Excavation Post-Paving

DESIGN\001\009679\Photologs\Photolog AppendixA May 09 - 9201 San Leandro St.cdr

Photolog

9201 San Leandro Street, Oakland, California

Appendix A

LFR an ARCADIS company

APPENDIX B

Laboratory Analytical Reports

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
3585 Cadillac Avenue, Suite A Costa Mesa, CA 92626 * 714-258-8610 * Fax 714-258-0921

January 29, 2009

LABORATORY REPORT

Client:
LFR, Inc. Emeryville
1900 Powell Street 12th Floor
Emeryville, CA 94608
Attn: Lucas Goldstein

Work Order: LSA0155
Project Name: SERVICE WEST
Project Number: [none]
Date Received: 01/20/09

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica.

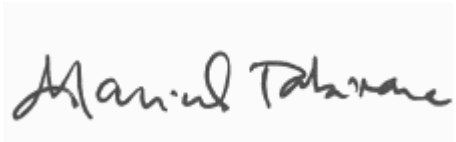
TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the specific sample(s) analyzed.

The Chain of Custody, 1 page, is included and is an integral part of this report. This entire report was reviewed and approved for release.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 714-258-8610.

Analyses included in this report were performed by the laboratory shown at the top of this report unless otherwise indicated.

Approved By:



Marisol Tabirara
Project Manager

NELAP Certification # E87652

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
3585 Cadillac Avenue, Suite A Costa Mesa, CA 92626 * 714-258-8610 * Fax 714-258-0921

LFR, Inc. Emeryville
1900 Powell Street 12th Floor
Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION	MATRIX	CONTAINER TYPE
SVE-1-8:05	LSA0155-01	01/15/09 08:05	Air	Passivated Canister
SVE-1-9:15	LSA0155-02	01/15/09 09:15	Air	Passivated Canister
SVMW2	LSA0155-03	01/15/09 09:48	Air	Passivated Canister
SVE-1-11:25	LSA0155-04	01/15/09 11:25	Air	Passivated Canister
SVE-1-12:40	LSA0155-05	01/15/09 12:40	Air	Passivated Canister
SVE-1-16:30	LSA0155-06	01/15/09 16:30	Air	Passivated Canister

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
3585 Cadillac Avenue, Suite A Costa Mesa, CA 92626 * 714-258-8610 * Fax 714-258-0921

LFR, Inc. Emeryville
1900 Powell Street 12th Floor
Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Sample ID: LSA0155-01 (SVE-1-8:05 - Air) **Sampled: 01/15/09 08:05**

EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Acetone	ND		ug/m3	220	880	37	01/26/09 23:13	MSB	AA	9A27001
Benzene	**25000**		ug/m3	180	350	37	01/26/09 23:13	MSB	AA	9A27001
Benzyl chloride	ND		ug/m3	380	1900	37	01/26/09 23:13	MSB	AA	9A27001
Bromodichloromethane	ND		ug/m3	250	500	37	01/26/09 23:13	MSB	AA	9A27001
Bromoform	ND		ug/m3	190	760	37	01/26/09 23:13	MSB	AA	9A27001
Bromomethane	ND		ug/m3	290	570	37	01/26/09 23:13	MSB	AA	9A27001
2-Butanone (MEK)	ND		ug/m3	220	1100	37	01/26/09 23:13	MSB	AA	9A27001
Carbon disulfide	ND		ug/m3	230	1200	37	01/26/09 23:13	MSB	AA	9A27001
Carbon tetrachloride	ND		ug/m3	230	470	37	01/26/09 23:13	MSB	AA	9A27001
Chlorobenzene	ND		ug/m3	170	340	37	01/26/09 23:13	MSB	AA	9A27001
Dibromochloromethane	ND		ug/m3	320	630	37	01/26/09 23:13	MSB	AA	9A27001
Chloroethane	ND		ug/m3	150	390	37	01/26/09 23:13	MSB	AA	9A27001
Chloroform	ND		ug/m3	180	360	37	01/26/09 23:13	MSB	AA	9A27001
Chloromethane	ND		ug/m3	150	310	37	01/26/09 23:13	MSB	AA	9A27001
1,2-Dibromoethane (EDB)	ND		ug/m3	280	570	37	01/26/09 23:13	MSB	AA	9A27001
1,2-Dichlorobenzene	ND		ug/m3	200	440	37	01/26/09 23:13	MSB	AA	9A27001
1,3-Dichlorobenzene	ND		ug/m3	180	890	37	01/26/09 23:13	MSB	AA	9A27001
1,4-Dichlorobenzene	ND		ug/m3	220	890	37	01/26/09 23:13	MSB	AA	9A27001
Dichlorodifluoromethane	ND		ug/m3	270	550	37	01/26/09 23:13	MSB	AA	9A27001
1,1-Dichloroethane	ND		ug/m3	150	300	37	01/26/09 23:13	MSB	AA	9A27001
1,2-Dichloroethane	ND		ug/m3	220	450	37	01/26/09 23:13	MSB	AA	9A27001
cis-1,2-Dichloroethene	ND		ug/m3	120	290	37	01/26/09 23:13	MSB	AA	9A27001
trans-1,2-Dichloroethene	ND		ug/m3	150	290	37	01/26/09 23:13	MSB	AA	9A27001
1,1-Dichloroethene	ND		ug/m3	150	290	37	01/26/09 23:13	MSB	AA	9A27001
1,2-Dichloropropane	ND		ug/m3	260	510	37	01/26/09 23:13	MSB	AA	9A27001
cis-1,3-Dichloropropene	ND		ug/m3	170	340	37	01/26/09 23:13	MSB	AA	9A27001
trans-1,3-Dichloropropene	ND		ug/m3	170	340	37	01/26/09 23:13	MSB	AA	9A27001
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	260	520	37	01/26/09 23:13	MSB	AA	9A27001
Ethylbenzene	**790**		ug/m3	160	320	37	01/26/09 23:13	MSB	AA	9A27001
4-Ethyltoluene	**2800**		ug/m3	180	360	37	01/26/09 23:13	MSB	AA	9A27001
Hexachlorobutadiene	ND		ug/m3	510	1600	37	01/26/09 23:13	MSB	AA	9A27001
2-Hexanone	ND		ug/m3	300	1500	37	01/26/09 23:13	MSB	AA	9A27001
Methylene chloride	ND		ug/m3	130	260	37	01/26/09 23:13	MSB	AA	9A27001
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	300	1500	37	01/26/09 23:13	MSB	AA	9A27001
Styrene	ND		ug/m3	160	320	37	01/26/09 23:13	MSB	AA	9A27001
1,1,2,2-Tetrachloroethane	ND		ug/m3	250	510	37	01/26/09 23:13	MSB	AA	9A27001
Tetrachloroethene	ND		ug/m3	250	500	37	01/26/09 23:13	MSB	AA	9A27001
Toluene	**1300**		ug/m3	140	280	37	01/26/09 23:13	MSB	AA	9A27001
1,2,4-Trichlorobenzene	ND		ug/m3	690	1400	37	01/26/09 23:13	MSB	AA	9A27001
1,1,1-Trichloroethane	ND		ug/m3	200	400	37	01/26/09 23:13	MSB	AA	9A27001

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Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-01 (SVE-1-8:05 - Air) - cont.								**Sampled: 01/15/09 08:05**		
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS - cont.										
1,1,2-Trichloroethane	ND		ug/m3	200	400	37	01/26/09 23:13	MSB	AA	9A27001
Trichloroethene	ND		ug/m3	200	400	37	01/26/09 23:13	MSB	AA	9A27001
Trichlorofluoromethane	ND		ug/m3	210	420	37	01/26/09 23:13	MSB	AA	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	280	570	37	01/26/09 23:13	MSB	AA	9A27001
1,2,4-Trimethylbenzene	**530**	J	ug/m3	240	550	37	01/26/09 23:13	MSB	AA	9A27001
1,3,5-Trimethylbenzene	**2100**		ug/m3	200	550	37	01/26/09 23:13	MSB	AA	9A27001
Vinyl acetate	ND		ug/m3	260	1300	37	01/26/09 23:13	MSB	AA	9A27001
Vinyl chloride	ND		ug/m3	190	380	37	01/26/09 23:13	MSB	AA	9A27001
m,p-Xylene	**890**		ug/m3	320	640	37	01/26/09 23:13	MSB	AA	9A27001
o-Xylene	**410**		ug/m3	160	320	37	01/26/09 23:13	MSB	AA	9A27001
Xylenes, total	**1300**		ug/m3	160	320	37	01/26/09 23:13	MSB	AA	9A27001

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Project: SERVICE WEST
Project Number: [none]

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ANALYTICAL REPORT

Sample ID: LSA0155-02 (SVE-1-9:15 - Air) **Sampled: 01/15/09 09:15**

EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Acetone	ND		ug/m3	23	90	3.8	01/26/09 23:46	MSB	AA	9A27001
Benzene	**2100**		ug/m3	18	36	3.8	01/26/09 23:46	MSB	AA	9A27001
Benzyl chloride	ND		ug/m3	39	200	3.8	01/26/09 23:46	MSB	AA	9A27001
Bromodichloromethane	ND		ug/m3	26	51	3.8	01/26/09 23:46	MSB	AA	9A27001
Bromoform	ND		ug/m3	20	79	3.8	01/26/09 23:46	MSB	AA	9A27001
Bromomethane	ND		ug/m3	30	59	3.8	01/26/09 23:46	MSB	AA	9A27001
2-Butanone (MEK)	ND		ug/m3	22	110	3.8	01/26/09 23:46	MSB	AA	9A27001
Carbon disulfide	ND		ug/m3	24	120	3.8	01/26/09 23:46	MSB	AA	9A27001
Carbon tetrachloride	ND		ug/m3	24	48	3.8	01/26/09 23:46	MSB	AA	9A27001
Chlorobenzene	ND		ug/m3	18	35	3.8	01/26/09 23:46	MSB	AA	9A27001
Dibromochloromethane	ND		ug/m3	32	65	3.8	01/26/09 23:46	MSB	AA	9A27001
Chloroethane	ND		ug/m3	15	40	3.8	01/26/09 23:46	MSB	AA	9A27001
Chloroform	ND		ug/m3	19	37	3.8	01/26/09 23:46	MSB	AA	9A27001
Chloromethane	ND		ug/m3	16	31	3.8	01/26/09 23:46	MSB	AA	9A27001
1,2-Dibromoethane (EDB)	ND		ug/m3	29	58	3.8	01/26/09 23:46	MSB	AA	9A27001
1,2-Dichlorobenzene	ND		ug/m3	21	46	3.8	01/26/09 23:46	MSB	AA	9A27001
1,3-Dichlorobenzene	ND		ug/m3	18	92	3.8	01/26/09 23:46	MSB	AA	9A27001
1,4-Dichlorobenzene	ND		ug/m3	23	92	3.8	01/26/09 23:46	MSB	AA	9A27001
Dichlorodifluoromethane	ND		ug/m3	28	56	3.8	01/26/09 23:46	MSB	AA	9A27001
1,1-Dichloroethane	ND		ug/m3	15	31	3.8	01/26/09 23:46	MSB	AA	9A27001
1,2-Dichloroethane	ND		ug/m3	23	46	3.8	01/26/09 23:46	MSB	AA	9A27001
cis-1,2-Dichloroethene	ND		ug/m3	12	30	3.8	01/26/09 23:46	MSB	AA	9A27001
trans-1,2-Dichloroethene	ND		ug/m3	15	30	3.8	01/26/09 23:46	MSB	AA	9A27001
1,1-Dichloroethene	ND		ug/m3	15	30	3.8	01/26/09 23:46	MSB	AA	9A27001
1,2-Dichloropropane	ND		ug/m3	26	53	3.8	01/26/09 23:46	MSB	AA	9A27001
cis-1,3-Dichloropropene	ND		ug/m3	17	35	3.8	01/26/09 23:46	MSB	AA	9A27001
trans-1,3-Dichloropropene	ND		ug/m3	17	35	3.8	01/26/09 23:46	MSB	AA	9A27001
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	27	53	3.8	01/26/09 23:46	MSB	AA	9A27001
Ethylbenzene	**97**		ug/m3	17	33	3.8	01/26/09 23:46	MSB	AA	9A27001
4-Ethyltoluene	**570**		ug/m3	19	37	3.8	01/26/09 23:46	MSB	AA	9A27001
Hexachlorobutadiene	ND		ug/m3	53	160	3.8	01/26/09 23:46	MSB	AA	9A27001
2-Hexanone	ND		ug/m3	31	160	3.8	01/26/09 23:46	MSB	AA	9A27001
Methylene chloride	ND		ug/m3	13	26	3.8	01/26/09 23:46	MSB	AA	9A27001
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	31	160	3.8	01/26/09 23:46	MSB	AA	9A27001
Styrene	ND		ug/m3	16	32	3.8	01/26/09 23:46	MSB	AA	9A27001
1,1,2,2-Tetrachloroethane	ND		ug/m3	26	52	3.8	01/26/09 23:46	MSB	AA	9A27001
Tetrachloroethene	ND		ug/m3	26	52	3.8	01/26/09 23:46	MSB	AA	9A27001
Toluene	**140**		ug/m3	14	29	3.8	01/26/09 23:46	MSB	AA	9A27001
1,2,4-Trichlorobenzene	ND		ug/m3	71	140	3.8	01/26/09 23:46	MSB	AA	9A27001
1,1,1-Trichloroethane	ND		ug/m3	21	42	3.8	01/26/09 23:46	MSB	AA	9A27001

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ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-02 (SVE-1-9:15 - Air) - cont.								**Sampled: 01/15/09 09:15**		
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS - cont.										
1,1,2-Trichloroethane	ND		ug/m3	21	42	3.8	01/26/09 23:46	MSB	AA	9A27001
Trichloroethene	ND		ug/m3	20	41	3.8	01/26/09 23:46	MSB	AA	9A27001
Trichlorofluoromethane	ND		ug/m3	21	43	3.8	01/26/09 23:46	MSB	AA	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	29	58	3.8	01/26/09 23:46	MSB	AA	9A27001
1,2,4-Trimethylbenzene	**91**		ug/m3	24	56	3.8	01/26/09 23:46	MSB	AA	9A27001
1,3,5-Trimethylbenzene	**500**		ug/m3	21	56	3.8	01/26/09 23:46	MSB	AA	9A27001
Vinyl acetate	ND		ug/m3	27	130	3.8	01/26/09 23:46	MSB	AA	9A27001
Vinyl chloride	ND		ug/m3	19	39	3.8	01/26/09 23:46	MSB	AA	9A27001
m,p-Xylene	**150**		ug/m3	33	66	3.8	01/26/09 23:46	MSB	AA	9A27001
o-Xylene	**84**		ug/m3	17	33	3.8	01/26/09 23:46	MSB	AA	9A27001
Xylenes, total	**230**		ug/m3	17	33	3.8	01/26/09 23:46	MSB	AA	9A27001

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ANALYTICAL REPORT

Sample ID: LSA0155-03 (SVMW2 - Air) **Sampled: 01/15/09 09:48**

EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Acetone	ND		ug/m3	1800	7000	300	01/27/09 00:22	MSB	AA	9A27001
Benzene	**200000**		ug/m3	1400	2800	300	01/27/09 00:22	MSB	AA	9A27001
Benzyl chloride	ND		ug/m3	3100	15000	300	01/27/09 00:22	MSB	AA	9A27001
Bromodichloromethane	ND		ug/m3	2000	4000	300	01/27/09 00:22	MSB	AA	9A27001
Bromoform	ND		ug/m3	1500	6100	300	01/27/09 00:22	MSB	AA	9A27001
Bromomethane	ND		ug/m3	2300	4600	300	01/27/09 00:22	MSB	AA	9A27001
2-Butanone (MEK)	ND		ug/m3	1700	8700	300	01/27/09 00:22	MSB	AA	9A27001
Carbon disulfide	ND		ug/m3	1800	9200	300	01/27/09 00:22	MSB	AA	9A27001
Carbon tetrachloride	ND		ug/m3	1900	3700	300	01/27/09 00:22	MSB	AA	9A27001
Chlorobenzene	ND		ug/m3	1400	2700	300	01/27/09 00:22	MSB	AA	9A27001
Dibromochloromethane	ND		ug/m3	2500	5000	300	01/27/09 00:22	MSB	AA	9A27001
Chloroethane	ND		ug/m3	1200	3100	300	01/27/09 00:22	MSB	AA	9A27001
Chloroform	ND		ug/m3	1400	2900	300	01/27/09 00:22	MSB	AA	9A27001
Chloromethane	ND		ug/m3	1200	2400	300	01/27/09 00:22	MSB	AA	9A27001
1,2-Dibromoethane (EDB)	ND		ug/m3	2300	4500	300	01/27/09 00:22	MSB	AA	9A27001
1,2-Dichlorobenzene	ND		ug/m3	1600	3600	300	01/27/09 00:22	MSB	AA	9A27001
1,3-Dichlorobenzene	ND		ug/m3	1400	7100	300	01/27/09 00:22	MSB	AA	9A27001
1,4-Dichlorobenzene	ND		ug/m3	1800	7100	300	01/27/09 00:22	MSB	AA	9A27001
Dichlorodifluoromethane	ND		ug/m3	2200	4400	300	01/27/09 00:22	MSB	AA	9A27001
1,1-Dichloroethane	ND		ug/m3	1200	2400	300	01/27/09 00:22	MSB	AA	9A27001
1,2-Dichloroethane	ND		ug/m3	1800	3600	300	01/27/09 00:22	MSB	AA	9A27001
cis-1,2-Dichloroethene	ND		ug/m3	940	2300	300	01/27/09 00:22	MSB	AA	9A27001
trans-1,2-Dichloroethene	ND		ug/m3	1200	2300	300	01/27/09 00:22	MSB	AA	9A27001
1,1-Dichloroethene	ND		ug/m3	1200	2300	300	01/27/09 00:22	MSB	AA	9A27001
1,2-Dichloropropane	ND		ug/m3	2000	4100	300	01/27/09 00:22	MSB	AA	9A27001
cis-1,3-Dichloropropene	ND		ug/m3	1300	2700	300	01/27/09 00:22	MSB	AA	9A27001
trans-1,3-Dichloropropene	ND		ug/m3	1300	2700	300	01/27/09 00:22	MSB	AA	9A27001
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	2100	4100	300	01/27/09 00:22	MSB	AA	9A27001
Ethylbenzene	**11000**		ug/m3	1300	2600	300	01/27/09 00:22	MSB	AA	9A27001
4-Ethyltoluene	**16000**		ug/m3	1500	2900	300	01/27/09 00:22	MSB	AA	9A27001
Hexachlorobutadiene	ND		ug/m3	4100	13000	300	01/27/09 00:22	MSB	AA	9A27001
2-Hexanone	ND		ug/m3	2400	12000	300	01/27/09 00:22	MSB	AA	9A27001
Methylene chloride	ND		ug/m3	1000	2100	300	01/27/09 00:22	MSB	AA	9A27001
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	2400	12000	300	01/27/09 00:22	MSB	AA	9A27001
Styrene	ND		ug/m3	1300	2500	300	01/27/09 00:22	MSB	AA	9A27001
1,1,2,2-Tetrachloroethane	ND		ug/m3	2000	4100	300	01/27/09 00:22	MSB	AA	9A27001
Tetrachloroethene	ND		ug/m3	2000	4000	300	01/27/09 00:22	MSB	AA	9A27001
Toluene	**28000**		ug/m3	1100	2200	300	01/27/09 00:22	MSB	AA	9A27001
1,2,4-Trichlorobenzene	ND		ug/m3	5500	11000	300	01/27/09 00:22	MSB	AA	9A27001
1,1,1-Trichloroethane	ND		ug/m3	1600	3200	300	01/27/09 00:22	MSB	AA	9A27001

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Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

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ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-03 (SVMW2 - Air) - cont.								**Sampled: 01/15/09 09:48**		
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS - cont.										
1,1,2-Trichloroethane	ND		ug/m3	1600	3200	300	01/27/09 00:22	MSB	AA	9A27001
Trichloroethene	ND		ug/m3	1600	3200	300	01/27/09 00:22	MSB	AA	9A27001
Trichlorofluoromethane	ND		ug/m3	1700	3300	300	01/27/09 00:22	MSB	AA	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	2300	4500	300	01/27/09 00:22	MSB	AA	9A27001
1,2,4-Trimethylbenzene	**16000**		ug/m3	1900	4400	300	01/27/09 00:22	MSB	AA	9A27001
1,3,5-Trimethylbenzene	**6800**		ug/m3	1600	4400	300	01/27/09 00:22	MSB	AA	9A27001
Vinyl acetate	ND		ug/m3	2100	10000	300	01/27/09 00:22	MSB	AA	9A27001
Vinyl chloride	ND		ug/m3	1500	3000	300	01/27/09 00:22	MSB	AA	9A27001
m,p-Xylene	**10000**		ug/m3	2600	5100	300	01/27/09 00:22	MSB	AA	9A27001
o-Xylene	**5700**		ug/m3	1300	2600	300	01/27/09 00:22	MSB	AA	9A27001
Xylenes, total	**16000**		ug/m3	1300	2600	300	01/27/09 00:22	MSB	AA	9A27001

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Reported: 01/29/09 15:08

ANALYTICAL REPORT

Sample ID: LSA0155-04 (SVE-1-11:25 - Air) **Sampled: 01/15/09 11:25**

EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Acetone	ND		ug/m3	390	1600	66	01/27/09 00:57	MSB	AA	9A27001
Benzene	**49000**		ug/m3	320	640	66	01/27/09 00:57	MSB	AA	9A27001
Benzyl chloride	ND		ug/m3	690	3400	66	01/27/09 00:57	MSB	AA	9A27001
Bromodichloromethane	ND		ug/m3	440	890	66	01/27/09 00:57	MSB	AA	9A27001
Bromoform	ND		ug/m3	340	1400	66	01/27/09 00:57	MSB	AA	9A27001
Bromomethane	ND		ug/m3	520	1000	66	01/27/09 00:57	MSB	AA	9A27001
2-Butanone (MEK)	ND		ug/m3	390	2000	66	01/27/09 00:57	MSB	AA	9A27001
Carbon disulfide	ND		ug/m3	410	2100	66	01/27/09 00:57	MSB	AA	9A27001
Carbon tetrachloride	ND		ug/m3	420	840	66	01/27/09 00:57	MSB	AA	9A27001
Chlorobenzene	ND		ug/m3	310	610	66	01/27/09 00:57	MSB	AA	9A27001
Dibromochloromethane	ND		ug/m3	570	1100	66	01/27/09 00:57	MSB	AA	9A27001
Chloroethane	ND		ug/m3	260	700	66	01/27/09 00:57	MSB	AA	9A27001
Chloroform	ND		ug/m3	320	650	66	01/27/09 00:57	MSB	AA	9A27001
Chloromethane	ND		ug/m3	270	550	66	01/27/09 00:57	MSB	AA	9A27001
1,2-Dibromoethane (EDB)	ND		ug/m3	510	1000	66	01/27/09 00:57	MSB	AA	9A27001
1,2-Dichlorobenzene	ND		ug/m3	360	800	66	01/27/09 00:57	MSB	AA	9A27001
1,3-Dichlorobenzene	ND		ug/m3	320	1600	66	01/27/09 00:57	MSB	AA	9A27001
1,4-Dichlorobenzene	ND		ug/m3	400	1600	66	01/27/09 00:57	MSB	AA	9A27001
Dichlorodifluoromethane	ND		ug/m3	490	980	66	01/27/09 00:57	MSB	AA	9A27001
1,1-Dichloroethane	ND		ug/m3	270	540	66	01/27/09 00:57	MSB	AA	9A27001
1,2-Dichloroethane	ND		ug/m3	400	810	66	01/27/09 00:57	MSB	AA	9A27001
cis-1,2-Dichloroethene	ND		ug/m3	210	530	66	01/27/09 00:57	MSB	AA	9A27001
trans-1,2-Dichloroethene	ND		ug/m3	260	530	66	01/27/09 00:57	MSB	AA	9A27001
1,1-Dichloroethene	ND		ug/m3	260	530	66	01/27/09 00:57	MSB	AA	9A27001
1,2-Dichloropropane	ND		ug/m3	460	920	66	01/27/09 00:57	MSB	AA	9A27001
cis-1,3-Dichloropropene	ND		ug/m3	300	600	66	01/27/09 00:57	MSB	AA	9A27001
trans-1,3-Dichloropropene	ND		ug/m3	300	600	66	01/27/09 00:57	MSB	AA	9A27001
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	460	930	66	01/27/09 00:57	MSB	AA	9A27001
Ethylbenzene	**2200**		ug/m3	290	580	66	01/27/09 00:57	MSB	AA	9A27001
4-Ethyltoluene	**13000**		ug/m3	330	650	66	01/27/09 00:57	MSB	AA	9A27001
Hexachlorobutadiene	ND		ug/m3	920	2800	66	01/27/09 00:57	MSB	AA	9A27001
2-Hexanone	ND		ug/m3	540	2700	66	01/27/09 00:57	MSB	AA	9A27001
Methylene chloride	ND		ug/m3	230	460	66	01/27/09 00:57	MSB	AA	9A27001
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	540	2700	66	01/27/09 00:57	MSB	AA	9A27001
Styrene	ND		ug/m3	280	570	66	01/27/09 00:57	MSB	AA	9A27001
1,1,2,2-Tetrachloroethane	ND		ug/m3	460	910	66	01/27/09 00:57	MSB	AA	9A27001
Tetrachloroethene	ND		ug/m3	450	900	66	01/27/09 00:57	MSB	AA	9A27001
Toluene	**2300**		ug/m3	250	500	66	01/27/09 00:57	MSB	AA	9A27001
1,2,4-Trichlorobenzene	ND		ug/m3	1200	2500	66	01/27/09 00:57	MSB	AA	9A27001
1,1,1-Trichloroethane	ND		ug/m3	360	720	66	01/27/09 00:57	MSB	AA	9A27001

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LFR, Inc. Emeryville
1900 Powell Street 12th Floor
Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-04 (SVE-1-11:25 - Air) - cont.								**Sampled: 01/15/09 11:25**		
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS - cont.										
1,1,2-Trichloroethane	ND		ug/m3	360	720	66	01/27/09 00:57	MSB	AA	9A27001
Trichloroethene	ND		ug/m3	360	710	66	01/27/09 00:57	MSB	AA	9A27001
Trichlorofluoromethane	ND		ug/m3	370	750	66	01/27/09 00:57	MSB	AA	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	510	1000	66	01/27/09 00:57	MSB	AA	9A27001
1,2,4-Trimethylbenzene	**3000**		ug/m3	420	980	66	01/27/09 00:57	MSB	AA	9A27001
1,3,5-Trimethylbenzene	**11000**		ug/m3	360	980	66	01/27/09 00:57	MSB	AA	9A27001
Vinyl acetate	ND		ug/m3	470	2300	66	01/27/09 00:57	MSB	AA	9A27001
Vinyl chloride	ND		ug/m3	340	680	66	01/27/09 00:57	MSB	AA	9A27001
m,p-Xylene	**2800**		ug/m3	580	1200	66	01/27/09 00:57	MSB	AA	9A27001
o-Xylene	**1500**		ug/m3	290	580	66	01/27/09 00:57	MSB	AA	9A27001
Xylenes, total	**4200**		ug/m3	290	580	66	01/27/09 00:57	MSB	AA	9A27001

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Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Sample ID: LSA0155-05 (SVE-1-12:40 - Air) **Sampled: 01/15/09 12:40**

EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Acetone	ND		ug/m3	770	3100	130	01/27/09 01:37	MSB	AA	9A27001
Benzene	**100000**		ug/m3	620	1200	130	01/27/09 01:37	MSB	AA	9A27001
Benzyl chloride	ND		ug/m3	1300	6700	130	01/27/09 01:37	MSB	AA	9A27001
Bromodichloromethane	ND		ug/m3	870	1700	130	01/27/09 01:37	MSB	AA	9A27001
Bromoform	ND		ug/m3	670	2700	130	01/27/09 01:37	MSB	AA	9A27001
Bromomethane	ND		ug/m3	1000	2000	130	01/27/09 01:37	MSB	AA	9A27001
2-Butanone (MEK)	ND		ug/m3	760	3800	130	01/27/09 01:37	MSB	AA	9A27001
Carbon disulfide	ND		ug/m3	810	4000	130	01/27/09 01:37	MSB	AA	9A27001
Carbon tetrachloride	ND		ug/m3	810	1600	130	01/27/09 01:37	MSB	AA	9A27001
Chlorobenzene	ND		ug/m3	600	1200	130	01/27/09 01:37	MSB	AA	9A27001
Dibromochloromethane	ND		ug/m3	1100	2200	130	01/27/09 01:37	MSB	AA	9A27001
Chloroethane	ND		ug/m3	510	1400	130	01/27/09 01:37	MSB	AA	9A27001
Chloroform	ND		ug/m3	630	1300	130	01/27/09 01:37	MSB	AA	9A27001
Chloromethane	ND		ug/m3	530	1100	130	01/27/09 01:37	MSB	AA	9A27001
1,2-Dibromoethane (EDB)	ND		ug/m3	990	2000	130	01/27/09 01:37	MSB	AA	9A27001
1,2-Dichlorobenzene	ND		ug/m3	700	1600	130	01/27/09 01:37	MSB	AA	9A27001
1,3-Dichlorobenzene	ND		ug/m3	620	3100	130	01/27/09 01:37	MSB	AA	9A27001
1,4-Dichlorobenzene	ND		ug/m3	780	3100	130	01/27/09 01:37	MSB	AA	9A27001
Dichlorodifluoromethane	ND		ug/m3	960	1900	130	01/27/09 01:37	MSB	AA	9A27001
1,1-Dichloroethane	ND		ug/m3	520	1000	130	01/27/09 01:37	MSB	AA	9A27001
1,2-Dichloroethane	ND		ug/m3	790	1600	130	01/27/09 01:37	MSB	AA	9A27001
cis-1,2-Dichloroethene	ND		ug/m3	410	1000	130	01/27/09 01:37	MSB	AA	9A27001
trans-1,2-Dichloroethene	ND		ug/m3	510	1000	130	01/27/09 01:37	MSB	AA	9A27001
1,1-Dichloroethene	ND		ug/m3	510	1000	130	01/27/09 01:37	MSB	AA	9A27001
1,2-Dichloropropane	ND		ug/m3	900	1800	130	01/27/09 01:37	MSB	AA	9A27001
cis-1,3-Dichloropropene	ND		ug/m3	590	1200	130	01/27/09 01:37	MSB	AA	9A27001
trans-1,3-Dichloropropene	ND		ug/m3	590	1200	130	01/27/09 01:37	MSB	AA	9A27001
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	900	1800	130	01/27/09 01:37	MSB	AA	9A27001
Ethylbenzene	**1100**	J	ug/m3	560	1100	130	01/27/09 01:37	MSB	AA	9A27001
4-Ethyltoluene	**2400**		ug/m3	640	1300	130	01/27/09 01:37	MSB	AA	9A27001
Hexachlorobutadiene	ND		ug/m3	1800	5500	130	01/27/09 01:37	MSB	AA	9A27001
2-Hexanone	ND		ug/m3	1100	5300	130	01/27/09 01:37	MSB	AA	9A27001
Methylene chloride	ND		ug/m3	450	900	130	01/27/09 01:37	MSB	AA	9A27001
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	1100	5300	130	01/27/09 01:37	MSB	AA	9A27001
Styrene	ND		ug/m3	550	1100	130	01/27/09 01:37	MSB	AA	9A27001
1,1,2,2-Tetrachloroethane	ND		ug/m3	890	1800	130	01/27/09 01:37	MSB	AA	9A27001
Tetrachloroethene	ND		ug/m3	880	1800	130	01/27/09 01:37	MSB	AA	9A27001
Toluene	**1500**		ug/m3	490	980	130	01/27/09 01:37	MSB	AA	9A27001
1,2,4-Trichlorobenzene	ND		ug/m3	2400	4800	130	01/27/09 01:37	MSB	AA	9A27001
1,1,1-Trichloroethane	ND		ug/m3	710	1400	130	01/27/09 01:37	MSB	AA	9A27001

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ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-05 (SVE-1-12:40 - Air) - cont.								**Sampled: 01/15/09 12:40**		
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS - cont.										
1,1,2-Trichloroethane	ND		ug/m3	710	1400	130	01/27/09 01:37	MSB	AA	9A27001
Trichloroethene	ND		ug/m3	700	1400	130	01/27/09 01:37	MSB	AA	9A27001
Trichlorofluoromethane	ND		ug/m3	730	1500	130	01/27/09 01:37	MSB	AA	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	990	2000	130	01/27/09 01:37	MSB	AA	9A27001
1,2,4-Trimethylbenzene	**1400**	J	ug/m3	830	1900	130	01/27/09 01:37	MSB	AA	9A27001
1,3,5-Trimethylbenzene	**1700**	J	ug/m3	700	1900	130	01/27/09 01:37	MSB	AA	9A27001
Vinyl acetate	ND		ug/m3	910	4600	130	01/27/09 01:37	MSB	AA	9A27001
Vinyl chloride	ND		ug/m3	660	1300	130	01/27/09 01:37	MSB	AA	9A27001
m,p-Xylene	**1500**	J	ug/m3	1100	2200	130	01/27/09 01:37	MSB	AA	9A27001
o-Xylene	ND		ug/m3	560	1100	130	01/27/09 01:37	MSB	AA	9A27001
Xylenes, total	**1500**		ug/m3	560	1100	130	01/27/09 01:37	MSB	AA	9A27001

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Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Sample ID: LSA0155-06 (SVE-1-16:30 - Air) **Sampled: 01/15/09 16:30**

EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Acetone	ND		ug/m3	270	1100	46	01/27/09 02:18	MSB	AA	9A27001
Benzene	**270000**		ug/m3	2200	4400	460	01/27/09 21:52	MSB	AA	9A28003
Benzyl chloride	ND		ug/m3	480	2400	46	01/27/09 02:18	MSB	AA	9A27001
Bromodichloromethane	ND		ug/m3	310	620	46	01/27/09 02:18	MSB	AA	9A27001
Bromoform	ND		ug/m3	240	950	46	01/27/09 02:18	MSB	AA	9A27001
Bromomethane	ND		ug/m3	360	710	46	01/27/09 02:18	MSB	AA	9A27001
2-Butanone (MEK)	ND		ug/m3	270	1400	46	01/27/09 02:18	MSB	AA	9A27001
Carbon disulfide	ND		ug/m3	290	1400	46	01/27/09 02:18	MSB	AA	9A27001
Carbon tetrachloride	ND		ug/m3	290	580	46	01/27/09 02:18	MSB	AA	9A27001
Chlorobenzene	ND		ug/m3	210	420	46	01/27/09 02:18	MSB	AA	9A27001
Dibromochloromethane	ND		ug/m3	390	780	46	01/27/09 02:18	MSB	AA	9A27001
Chloroethane	ND		ug/m3	180	490	46	01/27/09 02:18	MSB	AA	9A27001
Chloroform	ND		ug/m3	220	450	46	01/27/09 02:18	MSB	AA	9A27001
Chloromethane	ND		ug/m3	190	380	46	01/27/09 02:18	MSB	AA	9A27001
1,2-Dibromoethane (EDB)	ND		ug/m3	350	710	46	01/27/09 02:18	MSB	AA	9A27001
1,2-Dichlorobenzene	ND		ug/m3	250	550	46	01/27/09 02:18	MSB	AA	9A27001
1,3-Dichlorobenzene	ND		ug/m3	220	1100	46	01/27/09 02:18	MSB	AA	9A27001
1,4-Dichlorobenzene	ND		ug/m3	280	1100	46	01/27/09 02:18	MSB	AA	9A27001
Dichlorodifluoromethane	ND		ug/m3	340	680	46	01/27/09 02:18	MSB	AA	9A27001
1,1-Dichloroethane	ND		ug/m3	190	370	46	01/27/09 02:18	MSB	AA	9A27001
1,2-Dichloroethane	ND		ug/m3	280	560	46	01/27/09 02:18	MSB	AA	9A27001
cis-1,2-Dichloroethene	ND		ug/m3	150	360	46	01/27/09 02:18	MSB	AA	9A27001
trans-1,2-Dichloroethene	ND		ug/m3	180	360	46	01/27/09 02:18	MSB	AA	9A27001
1,1-Dichloroethene	ND		ug/m3	180	360	46	01/27/09 02:18	MSB	AA	9A27001
1,2-Dichloropropane	ND		ug/m3	320	640	46	01/27/09 02:18	MSB	AA	9A27001
cis-1,3-Dichloropropene	ND		ug/m3	210	420	46	01/27/09 02:18	MSB	AA	9A27001
trans-1,3-Dichloropropene	ND		ug/m3	210	420	46	01/27/09 02:18	MSB	AA	9A27001
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	320	640	46	01/27/09 02:18	MSB	AA	9A27001
Ethylbenzene	**9700**		ug/m3	200	400	46	01/27/09 02:18	MSB	AA	9A27001
4-Ethyltoluene	**5600**		ug/m3	230	450	46	01/27/09 02:18	MSB	AA	9A27001
Hexachlorobutadiene	ND		ug/m3	640	2000	46	01/27/09 02:18	MSB	AA	9A27001
2-Hexanone	ND		ug/m3	380	1900	46	01/27/09 02:18	MSB	AA	9A27001
Methylene chloride	ND		ug/m3	160	320	46	01/27/09 02:18	MSB	AA	9A27001
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	380	1900	46	01/27/09 02:18	MSB	AA	9A27001
Styrene	ND		ug/m3	200	390	46	01/27/09 02:18	MSB	AA	9A27001
1,1,2,2-Tetrachloroethane	ND		ug/m3	320	630	46	01/27/09 02:18	MSB	AA	9A27001
Tetrachloroethene	ND		ug/m3	310	620	46	01/27/09 02:18	MSB	AA	9A27001
Toluene	**42000**		ug/m3	1700	3500	460	01/27/09 21:52	MSB	AA	9A28003
1,2,4-Trichlorobenzene	ND		ug/m3	850	1700	46	01/27/09 02:18	MSB	AA	9A27001
1,1,1-Trichloroethane	ND		ug/m3	250	500	46	01/27/09 02:18	MSB	AA	9A27001

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1900 Powell Street 12th Floor
Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-06 (SVE-1-16:30 - Air) - cont.								**Sampled: 01/15/09 16:30**		
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS - cont.										
1,1,2-Trichloroethane	ND		ug/m3	250	500	46	01/27/09 02:18	MSB	AA	9A27001
Trichloroethene	ND		ug/m3	250	490	46	01/27/09 02:18	MSB	AA	9A27001
Trichlorofluoromethane	ND		ug/m3	260	520	46	01/27/09 02:18	MSB	AA	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	350	700	46	01/27/09 02:18	MSB	AA	9A27001
1,2,4-Trimethylbenzene	**2400**		ug/m3	290	680	46	01/27/09 02:18	MSB	AA	9A27001
1,3,5-Trimethylbenzene	**2500**		ug/m3	250	680	46	01/27/09 02:18	MSB	AA	9A27001
Vinyl acetate	ND		ug/m3	320	1600	46	01/27/09 02:18	MSB	AA	9A27001
Vinyl chloride	ND		ug/m3	240	470	46	01/27/09 02:18	MSB	AA	9A27001
m,p-Xylene	**6600**		ug/m3	400	800	46	01/27/09 02:18	MSB	AA	9A27001
o-Xylene	**2000**		ug/m3	200	400	46	01/27/09 02:18	MSB	AA	9A27001
Xylenes, total	**8600**		ug/m3	200	400	46	01/27/09 02:18	MSB	AA	9A27001

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Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-01 (SVE-1-8:05 - Air)								**Sampled: 01/15/09 08:05**		
EPA TO3 - Volatile Organic Compounds by GC										
TPH as Gasoline	**1600**		ppmv	4.8	16	16	01/23/09 04:14	GC7	YZ	9A23001

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Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-02 (SVE-1-9:15 - Air)								**Sampled: 01/15/09 09:15**		
EPA TO3 - Volatile Organic Compounds by GC										
TPH as Gasoline	**110**		ppmv	0.57	1.9	1.9	01/23/09 03:54	GC7	YZ	9A23001

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Project: SERVICE WEST
Project Number: [none]

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ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-03 (SVMW2 - Air)									**Sampled: 01/15/09 09:48**	
EPA TO3 - Volatile Organic Compounds by GC										
TPH as Gasoline	**4400**		ppmv	13	45	45	01/23/09 04:54	GC7	YZ	9A23001

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ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-04 (SVE-1-11:25 - Air)								**Sampled: 01/15/09 11:25**		
EPA TO3 - Volatile Organic Compounds by GC										
TPH as Gasoline	**6300**		ppmv	11	38	38	01/23/09 05:13	GC7	YZ	9A23001

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ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-05 (SVE-1-12:40 - Air)								**Sampled: 01/15/09 12:40**		
EPA TO3 - Volatile Organic Compounds by GC										
TPH as Gasoline	**28000**		ppmv	120	390	390	01/23/09 06:51	GC7	YZ	9A23001

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ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: LSA0155-06 (SVE-1-16:30 - Air)								**Sampled: 01/15/09 16:30**		
EPA TO3 - Volatile Organic Compounds by GC										
TPH as Gasoline	**60000**		ppmv	100	350	350	01/23/09 06:31	GC7	jga	9A23001

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PROJECT QUALITY CONTROL DATA

Blank

Analyte	Result	Data Qualifier	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: 9A27001-BLK1 (Blank - Air)										
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS										
Acetone	ND		ug/m3	5.9	24	1.00	01/26/09 18:52	MSB	AA	9A27001
Benzene	ND		ug/m3	4.8	9.6	1.00	01/26/09 18:52	MSB	AA	9A27001
Benzyl chloride	ND		ug/m3	10	52	1.00	01/26/09 18:52	MSB	AA	9A27001
Bromodichloromethane	ND		ug/m3	6.7	13	1.00	01/26/09 18:52	MSB	AA	9A27001
Bromoform	ND		ug/m3	5.2	21	1.00	01/26/09 18:52	MSB	AA	9A27001
Bromomethane	ND		ug/m3	7.8	16	1.00	01/26/09 18:52	MSB	AA	9A27001
2-Butanone (MEK)	ND		ug/m3	5.9	29	1.00	01/26/09 18:52	MSB	AA	9A27001
Carbon disulfide	ND		ug/m3	6.2	31	1.00	01/26/09 18:52	MSB	AA	9A27001
Carbon tetrachloride	ND		ug/m3	6.3	13	1.00	01/26/09 18:52	MSB	AA	9A27001
Chlorobenzene	ND		ug/m3	4.6	9.2	1.00	01/26/09 18:52	MSB	AA	9A27001
Dibromochloromethane	ND		ug/m3	8.5	17	1.00	01/26/09 18:52	MSB	AA	9A27001
Chloroethane	ND		ug/m3	4.0	11	1.00	01/26/09 18:52	MSB	AA	9A27001
Chloroform	ND		ug/m3	4.9	9.8	1.00	01/26/09 18:52	MSB	AA	9A27001
Chloromethane	ND		ug/m3	4.1	8.3	1.00	01/26/09 18:52	MSB	AA	9A27001
1,2-Dibromoethane (EDB)	ND		ug/m3	7.7	15	1.00	01/26/09 18:52	MSB	AA	9A27001
1,2-Dichlorobenzene	ND		ug/m3	5.4	12	1.00	01/26/09 18:52	MSB	AA	9A27001
1,3-Dichlorobenzene	ND		ug/m3	4.8	24	1.00	01/26/09 18:52	MSB	AA	9A27001
1,4-Dichlorobenzene	ND		ug/m3	6.0	24	1.00	01/26/09 18:52	MSB	AA	9A27001
Dichlorodifluoromethane	ND		ug/m3	7.4	15	1.00	01/26/09 18:52	MSB	AA	9A27001
1,1-Dichloroethane	ND		ug/m3	4.0	8.1	1.00	01/26/09 18:52	MSB	AA	9A27001
1,2-Dichloroethane	ND		ug/m3	6.1	12	1.00	01/26/09 18:52	MSB	AA	9A27001
cis-1,2-Dichloroethene	ND		ug/m3	3.2	7.9	1.00	01/26/09 18:52	MSB	AA	9A27001
trans-1,2-Dichloroethene	ND		ug/m3	4.0	7.9	1.00	01/26/09 18:52	MSB	AA	9A27001
1,1-Dichloroethene	ND		ug/m3	4.0	7.9	1.00	01/26/09 18:52	MSB	AA	9A27001
1,2-Dichloropropane	ND		ug/m3	6.9	14	1.00	01/26/09 18:52	MSB	AA	9A27001
cis-1,3-Dichloropropene	ND		ug/m3	4.5	9.1	1.00	01/26/09 18:52	MSB	AA	9A27001
trans-1,3-Dichloropropene	ND		ug/m3	4.5	9.1	1.00	01/26/09 18:52	MSB	AA	9A27001
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	7.0	14	1.00	01/26/09 18:52	MSB	AA	9A27001
Ethylbenzene	ND		ug/m3	4.3	8.7	1.00	01/26/09 18:52	MSB	AA	9A27001
4-Ethyltoluene	ND		ug/m3	4.9	9.8	1.00	01/26/09 18:52	MSB	AA	9A27001
Hexachlorobutadiene	ND		ug/m3	14	43	1.00	01/26/09 18:52	MSB	AA	9A27001
2-Hexanone	ND		ug/m3	8.2	41	1.00	01/26/09 18:52	MSB	AA	9A27001
Methylene chloride	ND		ug/m3	3.5	6.9	1.00	01/26/09 18:52	MSB	AA	9A27001
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	8.2	41	1.00	01/26/09 18:52	MSB	AA	9A27001
Styrene	ND		ug/m3	4.3	8.5	1.00	01/26/09 18:52	MSB	AA	9A27001
1,1,2,2-Tetrachloroethane	ND		ug/m3	6.9	14	1.00	01/26/09 18:52	MSB	AA	9A27001
Tetrachloroethene	ND		ug/m3	6.8	14	1.00	01/26/09 18:52	MSB	AA	9A27001
Toluene	ND		ug/m3	3.8	7.5	1.00	01/26/09 18:52	MSB	AA	9A27001
1,2,4-Trichlorobenzene	ND		ug/m3	19	37	1.00	01/26/09 18:52	MSB	AA	9A27001

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PROJECT QUALITY CONTROL DATA

Blank - Cont.

Analyte	Result	Data Qualifier	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: 9A27001-BLK1 (Blank - Air) - cont.										
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS										
1,1,1-Trichloroethane	ND		ug/m3	5.5	11	1.00	01/26/09 18:52	MSB	AA	9A27001
1,1,2-Trichloroethane	ND		ug/m3	5.5	11	1.00	01/26/09 18:52	MSB	AA	9A27001
Trichloroethene	ND		ug/m3	5.4	11	1.00	01/26/09 18:52	MSB	AA	9A27001
Trichlorofluoromethane	ND		ug/m3	5.6	11	1.00	01/26/09 18:52	MSB	AA	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	7.7	15	1.00	01/26/09 18:52	MSB	AA	9A27001
1,2,4-Trimethylbenzene	ND		ug/m3	6.4	15	1.00	01/26/09 18:52	MSB	AA	9A27001
1,3,5-Trimethylbenzene	ND		ug/m3	5.4	15	1.00	01/26/09 18:52	MSB	AA	9A27001
Vinyl acetate	ND		ug/m3	7.0	35	1.00	01/26/09 18:52	MSB	AA	9A27001
Vinyl chloride	ND		ug/m3	5.1	10	1.00	01/26/09 18:52	MSB	AA	9A27001
m,p-Xylene	ND		ug/m3	8.7	17	1.00	01/26/09 18:52	MSB	AA	9A27001
o-Xylene	ND		ug/m3	4.3	8.7	1.00	01/26/09 18:52	MSB	AA	9A27001
Xylenes, total	ND		ug/m3	4.3	8.7	1.00	01/26/09 18:52	MSB	AA	9A27001
Sample ID: 9A28003-BLK1 (Blank - Air)										
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS										
Acetone	ND		ug/m3	5.9	24	1.00	01/27/09 17:51	MSB	AA	9A28003
Benzene	ND		ug/m3	4.8	9.6	1.00	01/27/09 17:51	MSB	AA	9A28003
Benzyl chloride	ND		ug/m3	10	52	1.00	01/27/09 17:51	MSB	AA	9A28003
Bromodichloromethane	ND		ug/m3	6.7	13	1.00	01/27/09 17:51	MSB	AA	9A28003
Bromoform	ND		ug/m3	5.2	21	1.00	01/27/09 17:51	MSB	AA	9A28003
Bromomethane	ND		ug/m3	7.8	16	1.00	01/27/09 17:51	MSB	AA	9A28003
2-Butanone (MEK)	ND		ug/m3	5.9	29	1.00	01/27/09 17:51	MSB	AA	9A28003
Carbon disulfide	ND		ug/m3	6.2	31	1.00	01/27/09 17:51	MSB	AA	9A28003
Carbon tetrachloride	ND		ug/m3	6.3	13	1.00	01/27/09 17:51	MSB	AA	9A28003
Chlorobenzene	ND		ug/m3	4.6	9.2	1.00	01/27/09 17:51	MSB	AA	9A28003
Dibromochloromethane	ND		ug/m3	8.5	17	1.00	01/27/09 17:51	MSB	AA	9A28003
Chloroethane	ND		ug/m3	4.0	11	1.00	01/27/09 17:51	MSB	AA	9A28003
Chloroform	ND		ug/m3	4.9	9.8	1.00	01/27/09 17:51	MSB	AA	9A28003
Chloromethane	ND		ug/m3	4.1	8.3	1.00	01/27/09 17:51	MSB	AA	9A28003
1,2-Dibromoethane (EDB)	ND		ug/m3	7.7	15	1.00	01/27/09 17:51	MSB	AA	9A28003
1,2-Dichlorobenzene	ND		ug/m3	5.4	12	1.00	01/27/09 17:51	MSB	AA	9A28003
1,3-Dichlorobenzene	ND		ug/m3	4.8	24	1.00	01/27/09 17:51	MSB	AA	9A28003
1,4-Dichlorobenzene	ND		ug/m3	6.0	24	1.00	01/27/09 17:51	MSB	AA	9A28003
Dichlorodifluoromethane	ND		ug/m3	7.4	15	1.00	01/27/09 17:51	MSB	AA	9A28003
1,1-Dichloroethane	ND		ug/m3	4.0	8.1	1.00	01/27/09 17:51	MSB	AA	9A28003
1,2-Dichloroethane	ND		ug/m3	6.1	12	1.00	01/27/09 17:51	MSB	AA	9A28003
cis-1,2-Dichloroethene	ND		ug/m3	3.2	7.9	1.00	01/27/09 17:51	MSB	AA	9A28003
trans-1,2-Dichloroethene	ND		ug/m3	4.0	7.9	1.00	01/27/09 17:51	MSB	AA	9A28003

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PROJECT QUALITY CONTROL DATA

Blank - Cont.

Analyte	Result	Data Qualifier	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: 9A28003-BLK1 (Blank - Air) - cont.										
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS										
1,1-Dichloroethene	ND		ug/m3	4.0	7.9	1.00	01/27/09 17:51	MSB	AA	9A28003
1,2-Dichloropropane	ND		ug/m3	6.9	14	1.00	01/27/09 17:51	MSB	AA	9A28003
cis-1,3-Dichloropropene	ND		ug/m3	4.5	9.1	1.00	01/27/09 17:51	MSB	AA	9A28003
trans-1,3-Dichloropropene	ND		ug/m3	4.5	9.1	1.00	01/27/09 17:51	MSB	AA	9A28003
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		ug/m3	7.0	14	1.00	01/27/09 17:51	MSB	AA	9A28003
Ethylbenzene	ND		ug/m3	4.3	8.7	1.00	01/27/09 17:51	MSB	AA	9A28003
4-Ethyltoluene	ND		ug/m3	4.9	9.8	1.00	01/27/09 17:51	MSB	AA	9A28003
Hexachlorobutadiene	ND		ug/m3	14	43	1.00	01/27/09 17:51	MSB	AA	9A28003
2-Hexanone	ND		ug/m3	8.2	41	1.00	01/27/09 17:51	MSB	AA	9A28003
Methylene chloride	ND		ug/m3	3.5	6.9	1.00	01/27/09 17:51	MSB	AA	9A28003
4-Methyl-2-pentanone (MIBK)	ND		ug/m3	8.2	41	1.00	01/27/09 17:51	MSB	AA	9A28003
Styrene	ND		ug/m3	4.3	8.5	1.00	01/27/09 17:51	MSB	AA	9A28003
1,1,2,2-Tetrachloroethane	ND		ug/m3	6.9	14	1.00	01/27/09 17:51	MSB	AA	9A28003
Tetrachloroethene	ND		ug/m3	6.8	14	1.00	01/27/09 17:51	MSB	AA	9A28003
Toluene	ND		ug/m3	3.8	7.5	1.00	01/27/09 17:51	MSB	AA	9A28003
1,2,4-Trichlorobenzene	ND		ug/m3	19	37	1.00	01/27/09 17:51	MSB	AA	9A28003
1,1,1-Trichloroethane	ND		ug/m3	5.5	11	1.00	01/27/09 17:51	MSB	AA	9A28003
1,1,2-Trichloroethane	ND		ug/m3	5.5	11	1.00	01/27/09 17:51	MSB	AA	9A28003
Trichloroethene	ND		ug/m3	5.4	11	1.00	01/27/09 17:51	MSB	AA	9A28003
Trichlorofluoromethane	ND		ug/m3	5.6	11	1.00	01/27/09 17:51	MSB	AA	9A28003
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		ug/m3	7.7	15	1.00	01/27/09 17:51	MSB	AA	9A28003
1,2,4-Trimethylbenzene	ND		ug/m3	6.4	15	1.00	01/27/09 17:51	MSB	AA	9A28003
1,3,5-Trimethylbenzene	ND		ug/m3	5.4	15	1.00	01/27/09 17:51	MSB	AA	9A28003
Vinyl acetate	ND		ug/m3	7.0	35	1.00	01/27/09 17:51	MSB	AA	9A28003
Vinyl chloride	ND		ug/m3	5.1	10	1.00	01/27/09 17:51	MSB	AA	9A28003
m,p-Xylene	ND		ug/m3	8.7	17	1.00	01/27/09 17:51	MSB	AA	9A28003
o-Xylene	ND		ug/m3	4.3	8.7	1.00	01/27/09 17:51	MSB	AA	9A28003
Xylenes, total	ND		ug/m3	4.3	8.7	1.00	01/27/09 17:51	MSB	AA	9A28003

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Analyte	Result	Data Qualifier	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch
Sample ID: 9A23001-BLK1 (Blank - Air)										
EPA TO3 - Volatile Organic Compounds by GC										
TPH as Gasoline	ND		ppmv	0.30	1.0	1.00	01/23/09 3:13	GC7	YZ	9A23001

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PROJECT QUALITY CONTROL DATA

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Analyte	Result	Data Qualifier	Units	MDL	RL	Dilution	Date Analyzed	Instrument	Analyst	QC Batch

LFR, Inc. Emeryville	Work Order:	LSA0155	Received: 01/20/09 10:00
1900 Powell Street 12th Floor			Reported: 01/29/09 15:08
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Lucas Goldstein	Project Number:	[none]	

PROJECT QUALITY CONTROL DATA

LCS

Analyte	Result	Data Qualifiers	Units	RL	Dilution	Spike Conc	% Rec	Target Range	Instrument	Date Analyzed	QC Batch
Sample ID: 9A27001-BS1 (LCS - Air)											
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS											
Acetone	127		ug/m3	24	1.00	126	101%	70 - 130	MSB	01/26/09 11:40	9A27001
Bromodichloromethane	397		ug/m3	13	1.00	335	118%	70 - 125	MSB	01/26/09 11:40	9A27001
Bromomethane	176		ug/m3	16	1.00	194	91%	50 - 125	MSB	01/26/09 11:40	9A27001
Carbon disulfide	187		ug/m3	31	1.00	156	120%	70 - 130	MSB	01/26/09 11:40	9A27001
Chloroform	242		ug/m3	9.8	1.00	244	99%	70 - 130	MSB	01/26/09 11:40	9A27001
1,3-Dichlorobenzene	241		ug/m3	24	1.00	319	76%	55 - 110	MSB	01/26/09 11:40	9A27001
1,2-Dichloroethane	199		ug/m3	12	1.00	215	93%	65 - 120	MSB	01/26/09 11:40	9A27001
trans-1,2-Dichloroethene	184		ug/m3	7.9	1.00	208	89%	70 - 120	MSB	01/26/09 11:40	9A27001
cis-1,3-Dichloropropene	243		ug/m3	9.1	1.00	227	107%	55 - 125	MSB	01/26/09 11:40	9A27001
Ethylbenzene	192		ug/m3	8.7	1.00	228	84%	70 - 120	MSB	01/26/09 11:40	9A27001
4-Ethyltoluene	210		ug/m3	9.8	1.00	268	79%	60 - 130	MSB	01/26/09 11:40	9A27001
Styrene	174		ug/m3	8.5	1.00	213	82%	70 - 130	MSB	01/26/09 11:40	9A27001
1,1,2-Trichloroethane	255		ug/m3	11	1.00	273	93%	70 - 110	MSB	01/26/09 11:40	9A27001
Trichlorofluoromethane	283		ug/m3	11	1.00	298	95%	40 - 140	MSB	01/26/09 11:40	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	371		ug/m3	15	1.00	410	91%	70 - 130	MSB	01/26/09 11:40	9A27001
Vinyl chloride	110		ug/m3	10	1.00	128	86%	70 - 115	MSB	01/26/09 11:40	9A27001
Sample ID: 9A28003-BS1 (LCS - Air)											
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS											
Acetone	117		ug/m3	24	1.00	126	93%	70 - 130	MSB	01/27/09 16:21	9A28003
Bromodichloromethane	283		ug/m3	13	1.00	335	84%	70 - 125	MSB	01/27/09 16:21	9A28003
Bromomethane	149		ug/m3	16	1.00	194	77%	50 - 125	MSB	01/27/09 16:21	9A28003
Carbon disulfide	168		ug/m3	31	1.00	156	108%	70 - 130	MSB	01/27/09 16:21	9A28003
Chloroform	226		ug/m3	9.8	1.00	244	93%	70 - 130	MSB	01/27/09 16:21	9A28003
1,3-Dichlorobenzene	222		ug/m3	24	1.00	319	70%	55 - 110	MSB	01/27/09 16:21	9A28003
1,2-Dichloroethane	189		ug/m3	12	1.00	215	88%	65 - 120	MSB	01/27/09 16:21	9A28003
trans-1,2-Dichloroethene	183		ug/m3	7.9	1.00	208	88%	70 - 120	MSB	01/27/09 16:21	9A28003
cis-1,3-Dichloropropene	198		ug/m3	9.1	1.00	227	87%	55 - 125	MSB	01/27/09 16:21	9A28003
Ethylbenzene	188		ug/m3	8.7	1.00	228	82%	70 - 120	MSB	01/27/09 16:21	9A28003
4-Ethyltoluene	198		ug/m3	9.8	1.00	268	74%	60 - 130	MSB	01/27/09 16:21	9A28003
Styrene	173		ug/m3	8.5	1.00	213	81%	70 - 130	MSB	01/27/09 16:21	9A28003
1,1,2-Trichloroethane	235		ug/m3	11	1.00	273	86%	70 - 110	MSB	01/27/09 16:21	9A28003
Trichlorofluoromethane	242		ug/m3	11	1.00	298	81%	40 - 140	MSB	01/27/09 16:21	9A28003
1,1,2-Trichloro-1,2,2-trifluoroethane	365		ug/m3	15	1.00	410	89%	70 - 130	MSB	01/27/09 16:21	9A28003
Vinyl chloride	113		ug/m3	10	1.00	128	88%	70 - 115	MSB	01/27/09 16:21	9A28003

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
3585 Cadillac Avenue, Suite A Costa Mesa, CA 92626 * 714-258-8610 * Fax 714-258-0921

LFR, Inc. Emeryville
1900 Powell Street 12th Floor
Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

PROJECT QUALITY CONTROL DATA

LCS - Cont.

Analyte	Result	Data Qualifiers	Units	RL	Dilution	Spike Conc	% Rec	Target Range	Instrument	Date Analyzed	QC Batch
Sample ID: 9A23001-BS1 (LCS - Air)											
EPA TO3 - Volatile Organic Compounds by GC											
TPH as Gasoline	17.7		ppmv	1.0	1.00	15.0	118%	80 - 125	GC7	01/23/09 01:10	9A23001

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LFR, Inc. Emeryville
1900 Powell Street 12th Floor
Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Result	Data Qualifiers	Units	RL	Dilution	Spike Conc	% Rec	Target Range	RPD	Limit	Date Analyzed	QC Batch
Sample ID: 9A27001-BSD1 (LCS Dup - Air)												
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS												
Acetone	126		ug/m3	24	1.00	126	100%	70 - 130	0.8	25	01/26/09 12:16	9A27001
Bromodichloromethane	379		ug/m3	13	1.00	335	113%	70 - 125	4	25	01/26/09 12:16	9A27001
Bromomethane	177		ug/m3	16	1.00	194	91%	50 - 125	0.6	25	01/26/09 12:16	9A27001
Carbon disulfide	190		ug/m3	31	1.00	156	122%	70 - 130	2	25	01/26/09 12:16	9A27001
Chloroform	238		ug/m3	9.8	1.00	244	98%	70 - 130	2	25	01/26/09 12:16	9A27001
1,3-Dichlorobenzene	228		ug/m3	24	1.00	319	71%	55 - 110	6	25	01/26/09 12:16	9A27001
1,2-Dichloroethane	200		ug/m3	12	1.00	215	93%	65 - 120	0.6	25	01/26/09 12:16	9A27001
trans-1,2-Dichloroethene	184		ug/m3	7.9	1.00	208	88%	70 - 120	0.3	25	01/26/09 12:16	9A27001
cis-1,3-Dichloropropene	230		ug/m3	9.1	1.00	227	101%	55 - 125	5	25	01/26/09 12:16	9A27001
Ethylbenzene	193		ug/m3	8.7	1.00	228	85%	70 - 120	0.4	25	01/26/09 12:16	9A27001
4-Ethyltoluene	206		ug/m3	9.8	1.00	268	77%	60 - 130	2	25	01/26/09 12:16	9A27001
Styrene	175		ug/m3	8.5	1.00	213	82%	70 - 130	0.2	25	01/26/09 12:16	9A27001
1,1,2-Trichloroethane	242		ug/m3	11	1.00	273	89%	70 - 110	5	25	01/26/09 12:16	9A27001
Trichlorofluoromethane	278		ug/m3	11	1.00	298	93%	40 - 140	2	25	01/26/09 12:16	9A27001
1,1,2-Trichloro-1,2,2-trifluoroethane	368		ug/m3	15	1.00	410	90%	70 - 130	0.8	25	01/26/09 12:16	9A27001
Vinyl chloride	107		ug/m3	10	1.00	128	83%	70 - 115	3	25	01/26/09 12:16	9A27001
Sample ID: 9A28003-BSD1 (LCS Dup - Air)												
EPA TO15 (Med-level) - Volatile Organic Compounds by GC/MS												
Acetone	116		ug/m3	24	1.00	126	92%	70 - 130	0.9	25	01/27/09 17:11	9A28003
Bromodichloromethane	284		ug/m3	13	1.00	335	85%	70 - 125	0.5	25	01/27/09 17:11	9A28003
Bromomethane	157		ug/m3	16	1.00	194	81%	50 - 125	5	25	01/27/09 17:11	9A28003
Carbon disulfide	172		ug/m3	31	1.00	156	110%	70 - 130	3	25	01/27/09 17:11	9A28003
Chloroform	233		ug/m3	9.8	1.00	244	96%	70 - 130	3	25	01/27/09 17:11	9A28003
1,3-Dichlorobenzene	228		ug/m3	24	1.00	319	72%	55 - 110	2	25	01/27/09 17:11	9A28003
1,2-Dichloroethane	193		ug/m3	12	1.00	215	90%	65 - 120	2	25	01/27/09 17:11	9A28003
trans-1,2-Dichloroethene	185		ug/m3	7.9	1.00	208	89%	70 - 120	0.9	25	01/27/09 17:11	9A28003
cis-1,3-Dichloropropene	197		ug/m3	9.1	1.00	227	87%	55 - 125	0.2	25	01/27/09 17:11	9A28003
Ethylbenzene	190		ug/m3	8.7	1.00	228	84%	70 - 120	1	25	01/27/09 17:11	9A28003
4-Ethyltoluene	206		ug/m3	9.8	1.00	268	77%	60 - 130	4	25	01/27/09 17:11	9A28003
Styrene	178		ug/m3	8.5	1.00	213	83%	70 - 130	2	25	01/27/09 17:11	9A28003
1,1,2-Trichloroethane	227		ug/m3	11	1.00	273	83%	70 - 110	3	25	01/27/09 17:11	9A28003
Trichlorofluoromethane	253		ug/m3	11	1.00	298	85%	40 - 140	5	25	01/27/09 17:11	9A28003
1,1,2-Trichloro-1,2,2-trifluoroethane	373		ug/m3	15	1.00	410	91%	70 - 130	2	25	01/27/09 17:11	9A28003
Vinyl chloride	115		ug/m3	10	1.00	128	90%	70 - 115	2	25	01/27/09 17:11	9A28003

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
3585 Cadillac Avenue, Suite A Costa Mesa, CA 92626 * 714-258-8610 * Fax 714-258-0921

LFR, Inc. Emeryville
1900 Powell Street 12th Floor
Emeryville, CA 94608
Lucas Goldstein

Work Order: LSA0155
Project: SERVICE WEST
Project Number: [none]

Received: 01/20/09 10:00
Reported: 01/29/09 15:08

PROJECT QUALITY CONTROL DATA

LCS Dup - Cont.

Analyte	Result	Data Qualifiers	Units	RL	Dilution	Spike Conc	% Rec	Target Range	RPD	Limit	Date Analyzed	QC Batch
Sample ID: 9A23001-BSD1 (LCS Dup - Air)												
EPA TO3 - Volatile Organic Compounds by GC												
TPH as Gasoline	17.6		ppmv	1.0	1.00	15.0	117%	80 - 125	0.7	20	01/23/09 01:32	9A23001

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
3585 Cadillac Avenue, Suite A Costa Mesa, CA 92626 * 714-258-8610 * Fax 714-258-0921

LFR, Inc. Emeryville	Work Order:	LSA0155	Received:	01/20/09 10:00
1900 Powell Street 12th Floor			Reported:	01/29/09 15:08
Emeryville, CA 94608	Project:	SERVICE WEST		
Lucas Goldstein	Project Number:	[none]		

DATA QUALIFIERS AND DEFINITIONS

J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
ND	Not detected at the reporting limit (or method detection limit if shown)

TestAmerica Los Angeles
1721 South Grand Ave
Santa Ana, CA 92705
Phone 714-258-8610 Fax 714-258-0921

Canister Samples Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

LSA0155

1 of 1 COCs

Client Contact Information	Project Manager: LUCAS GOLDSTEIN	Samples Collected By: MAX MACLEOD
Company: LFR	Phone: 510 652-4500	
Address: 1900 POWELL ST., 12TH FLOOR	Email: lucas.goldstein@lfr.com	
City/State/Zip EMERYVILLE CA 94608	Site Contact:	
Phone: 510 652-4500	LAB Contact:	
FAX: 510 652-4906	Analysis Turnaround Time	
Project Name: SERVICE WEST	Standard (Specify)	
Site:	Rush (Specify)	
PO # 001-09679		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15 - VOCs	TO-14A	TO-3 TPHg	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
SVE-1-8:05	1/15/09	8:05	8:35	30	~5		A-190	✓		✓										
SVE-1-9:15	"	9:15	9:37	26	~2		GL-829	✓		✓										
SVMW2-	"	9:48	10:03	30+	~12		GL0857	✓		✓										
SVE-1-11:25	"	11:25	11:37	30+	8		9388 B	✓		✓										
SVE-1-12:40	"	12:40	12:58	30+	10		9245 B	✓		✓										
SVE-1-16:30	"	16:30	16:38	29	9		9413 BB	✓		✓										

Temperature (Fahrenheit)			
	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)			
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments: THIS IS FOR A NON-DTSC SITE. HOLD TIME MAY EXCEED 72 HOURS.

Samples Shipped by:	Date/Time: 1/16/09	Samples Received by:
Samples Relinquished by:	Date/Time: 1/20/09 1000	Received by:
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

CLIENT: LFR

CANISTER SERIAL #: A-180

DATE CLEANED: 121708B

CLIENT SAMPLE #:

SITE LOCATION:

VFR ID: HF137

Duration of comp. : ____ Hrs. / mins.

Flow setting: 100-200 ml/min

Initials:

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/12/09	
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (Inches Hg / PSIA (circle unit used))	12.63	1/20/09	
FINAL PRESSURE (PSIA)	23.29	1/20/09	

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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2

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2

CANISTER FIELD DATA RECORD

CLIENT: LFR

CANISTER SERIAL #: GL0029

DATE CLEANED: 121708B

CLIENT SAMPLE #: _____

SITE LOCATION: _____

VFR ID: HF133

Duration of comp. : ____ Hrs. / mins.

Flow setting: 100-200 ml/min

Initials: _____

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/12/09	
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (Inches Hg/ PSIA) (circle unit used))	12.42	1/20/09	
FINAL PRESSURE (PSIA)	23.65	1/20/09	

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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3

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

3

CANISTER FIELD DATA RECORD

CLIENT: LFR

CANISTER SERIAL #: GL0057

DATE CLEANED: 121708B

CLIENT SAMPLE #: _____

SITE LOCATION: _____

VFR ID: HF130

Duration of comp. : ____ Hrs. / mins.

Flow setting: 100-200 ml/min

Initials: [signature]

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/12/09	[signature]
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (Inches Hg / PSIA (circle unit used))	9.01	1/20/09	[signature]
FINAL PRESSURE (PSIA)	21.22	1/20/09	[signature]

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

4

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4

CANISTER FIELD DATA RECORD

CLIENT: LFR

CANISTER SERIAL #: 9388B

DATE CLEANED: 121708B

CLIENT SAMPLE #: _____

SITE LOCATION: _____

VFR ID: HF094

Duration of comp. : ____ Hrs. / mins.

Flow setting: 100-200 ml/min

Initials: _____

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/12/09	
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (Inches Hg / PSIA) (circle unit used))	11.78	1/20/09	
FINAL PRESSURE (PSIA)	23.48	1/20/09	

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CANISTER FIELD DATA RECORD

CLIENT: LFR

CANISTER SERIAL #: 924SB

DATE CLEANED: 121708B

CLIENT SAMPLE #:

SITE LOCATION:

VFR ID: HF079

Duration of comp. : ____ Hrs. / mins.

Flow setting: 100-200 ml/min

Initials:

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/12/09	
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (Inches Hg / PSIA (circle unit used))	18.05	1/20/09	JS
FINAL PRESSURE (PSIA)	20.69	1/20/09	JS

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

6

TestAmerica

CANISTER FIELD DATA RECORD

6

CLIENT: LFR

CANISTER SERIAL #: 9413BB

DATE CLEANED: 121708B

CLIENT SAMPLE #:

SITE LOCATION:

VFR ID: HF081

Duration of comp. : ____ Hrs. / mins.

Flow setting: 100-200 ml/min

Initials:

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/12/09	
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (Inches Hg / PSIA (circle unit used))	11.21	1/20/09	
FINAL PRESSURE (PSIA)	20.61	1/20/09	

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

x2

CANISTER QC CERTIFICATION

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Certification Type: TO-15 ML

Date Cleaned/Batch 12-17-08B

Date of QC 12-31-08

Data File Number LW312303 (MSA)

CANISTER ID NUMBERS

* 9149B	✓ 9413BB
✓ GL0029	✓ 9388B
A-270	DL0880
✓ GL0057	063223
✓ 9245B	A-268
9296B	✓ A-180

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By: _____ Date: 12-31-08

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TestAmerica Los Angeles

AIR TOXICS - TO-14A/TO-15 MEDIUM LEVEL

Data file : \\LAPC065\MSA_C\CHEM\MSA.I\081230.B\MB12303.D
Lab Smp Id: BLANK Client Smp ID: 9149B
Inj Date : 31-DEC-2008 05:43
Operator : AD Inst ID: MSA.i
Smp Info : BLANK,9149B,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,CORP.SUB,0,
Comment :
Method : \\LAPC065\MSA_C\CHEM\MSA.I\081230.B\TO14A.m
Meth Date : 30-Dec-2008 23:49 donga Quant Type: ISTD
Cal Date : 05-DEC-2008 16:03 Cal File: IC12057.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CORP.SUB
Subtraction File: \\LAPC065\MSA_C
Target Version: 4.04
Processing Host: LAPC065

Concentration Formula: Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol)

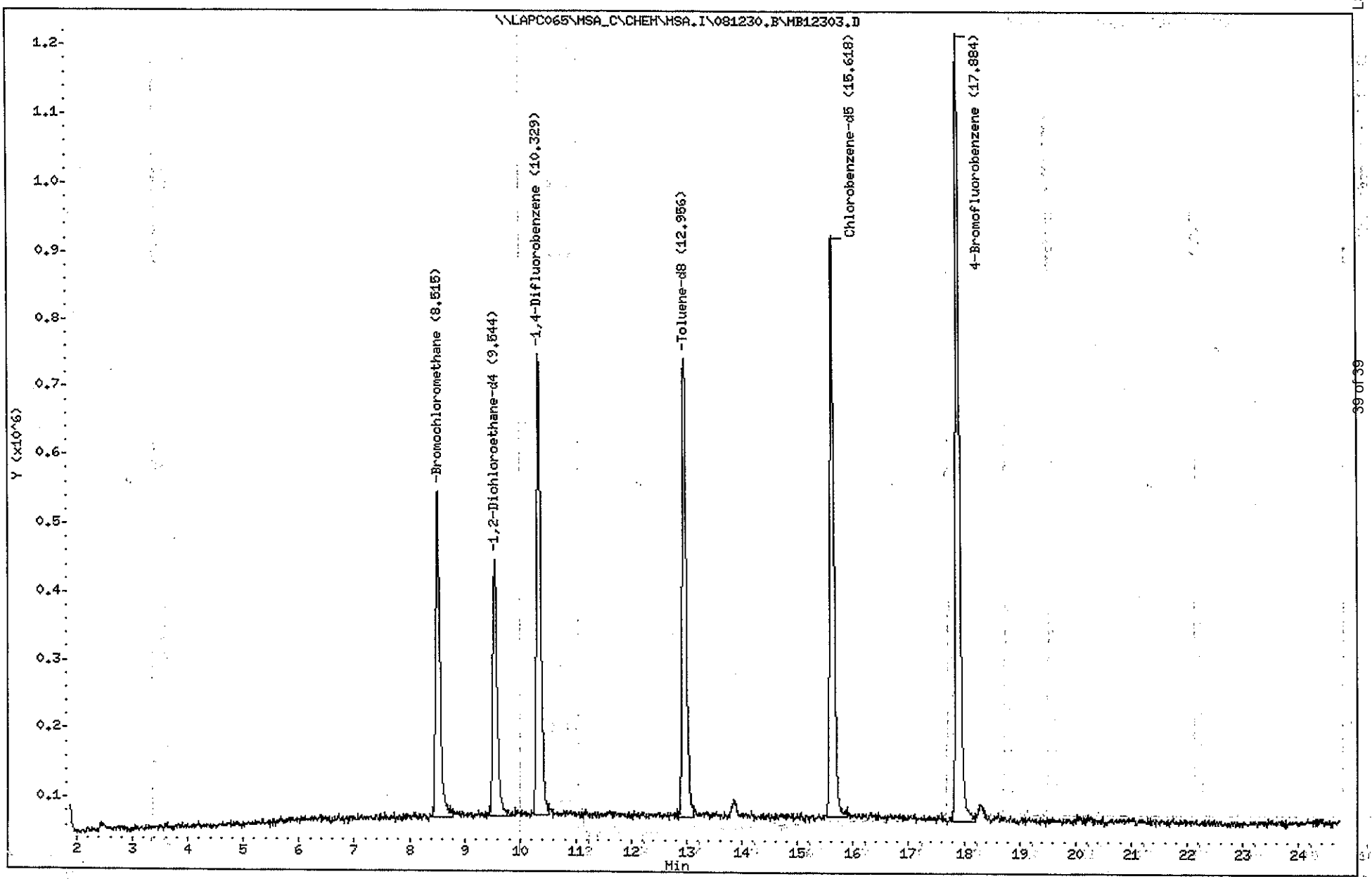
Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
* 58 Bromochloromethane	49	8.514	8.516	(1.000)	755548	50.0000	
$ 66 1,2-Dichloroethane-d4	65	9.543	9.545	(1.121)	544864	49.2798	49.28
* 75 1,4-Difluorobenzene	114	10.329	10.339	(1.000)	1317924	50.0000	
$ 90 Toluene-d8	100	12.946	12.957	(1.253)	729114	49.6623	49.66
* 101 Chlorobenzene-d5	117	15.609	15.620	(1.000)	1194612	50.0000	
$ 117 4-Bromofluorobenzene	95	17.884	17.885	(1.146)	1324984	46.2253	46.22

Data File: \\LAPC065\MSA_C\CHEM\MSA.I\081230.B\MB12303.D
Date : 31-DEC-2008 05:43
Client ID: 9149B
Sample Info: BLANK,9149B,,SCREEN BLANK

Instrument: MSA.i
Operator: AD
Column diameter: 0.53

Column phase: J&W DB-624



LSA0155

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THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-17658-1

Job Description: Services West

For:
LFR, Inc.
1900 Powell St 12th Floor
Emeryville, CA 94608-1827

Attention: Mr. Ron Goloubow

Approved for release.
Melissa Brewer
Project Manager I
1/22/2009 9:51 AM

Melissa Brewer
Project Manager I
melissa.brewer@testamericainc.com
01/22/2009

Job Narrative
720-J17658-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
Method 8260B/CA_LUFTMS: LCS spike recoveries are within acceptable range using updated limit. Batch 45997.

Method 8260B/CA_LUFTMS: LCS spike recoveries are within acceptable range using updated limit. Batch 46041.

No other analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: LFR, Inc. Job Number: 720-17658-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
720-17658-1	**AS-1S**					
Gasoline Range Organics (GRO)-C5-C12		41000		2500	ug/L	8260B/CA_LUFTMS
Benzene		4100		25	ug/L	8260B/CA_LUFTMS
Toluene		2700	*	25	ug/L	8260B/CA_LUFTMS
Ethylbenzene		510		25	ug/L	8260B/CA_LUFTMS
Xylenes, Total		1000		50	ug/L	8260B/CA_LUFTMS
720-17658-2	**ASMW-2S**					
Gasoline Range Organics (GRO)-C5-C12		9100		1000	ug/L	8260B/CA_LUFTMS
Benzene		2800		10	ug/L	8260B/CA_LUFTMS
Toluene		430	*	10	ug/L	8260B/CA_LUFTMS
Ethylbenzene		140		10	ug/L	8260B/CA_LUFTMS
Xylenes, Total		230		20	ug/L	8260B/CA_LUFTMS
1,2-Dichloroethane		25		10	ug/L	8260B/CA_LUFTMS
720-17658-3	**ASMW-2D**					
Benzene		0.80		0.50	ug/L	8260B/CA_LUFTMS
Toluene		0.78	*	0.50	ug/L	8260B/CA_LUFTMS
MTBE		0.56		0.50	ug/L	8260B/CA_LUFTMS
720-17658-4	**MW-6**					
Gasoline Range Organics (GRO)-C5-C12		740		50	ug/L	8260B/CA_LUFTMS
Benzene		66		0.50	ug/L	8260B/CA_LUFTMS
Toluene		48	*	0.50	ug/L	8260B/CA_LUFTMS
Ethylbenzene		6.3		0.50	ug/L	8260B/CA_LUFTMS
Xylenes, Total		23		1.0	ug/L	8260B/CA_LUFTMS
MTBE		1.2		0.50	ug/L	8260B/CA_LUFTMS
1,2-Dichloroethane		17		0.50	ug/L	8260B/CA_LUFTMS
720-17658-5	**MW-7**					
MTBE		1.1		0.50	ug/L	8260B/CA_LUFTMS
720-17658-6	**AS-1D**					
Benzene		0.69		0.50	ug/L	8260B/CA_LUFTMS
Toluene		0.54	*	0.50	ug/L	8260B/CA_LUFTMS

METHOD SUMMARY

Client: LFR, Inc. Job Number: 720-17658-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	TAL SF	SW846 8260B/CA_LUFTMS	
Purge and Trap	TAL SF		SW846 5030B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

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

SAMPLE SUMMARY

Client: LFR, Inc. Job Number: 720-17658-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-17658-1	AS-1S	Water	01/13/2009 1510	01/14/2009 1650
720-17658-2	ASMW-2S	Water	01/13/2009 1350	01/14/2009 1650
720-17658-3	ASMW-2D	Water	01/13/2009 1215	01/14/2009 1650
720-17658-4	MW-6	Water	01/14/2009 1150	01/14/2009 1650
720-17658-5	MW-7	Water	01/14/2009 1005	01/14/2009 1650
720-17658-6	AS-1D	Water	01/13/2009 1010	01/14/2009 1650

Client: LFR, Inc. Job Number: 720-17658-1

Client Sample ID: AS-1S

Lab Sample ID: 720-17658-1 Date Sampled: 01/13/2009 1510
Client Matrix: Water Date Received: 01/14/2009 1650

8260B/CA_LUFTMS Volatile Organic Compounds by GC/MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-46041 Instrument ID: Varian 3900E
Preparation: 5030B Lab File ID: e:\data\200901\012109\sa-
Dilution: 50 Initial Weight/Volume: 10 mL
Date Analyzed: 01/21/2009 1648 Final Weight/Volume: 10 mL
Date Prepared: 01/21/2009 1648

Analyte	Result (ug/L)	Qualifier	RL
Gasoline Range Organics (GRO)-C5-C12	41000		2500
Benzene	4100		25
Toluene	2700	*	25
Ethylbenzene	510		25
Xylenes, Total	1000		50
MTBE	ND		25
TAME	ND		25
Ethyl tert-butyl ether	ND		25
TBA	ND		250
DIPE	ND		50
1,2-Dichloroethane	ND		25
Ethylene Dibromide	ND		25

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	99	78 - 112
1,2-Dichloroethane-d4 (Surr)	101	67 - 126

Client: LFR, Inc. Job Number: 720-17658-1

Client Sample ID: ASMW-2S

Lab Sample ID: 720-17658-2 Date Sampled: 01/13/2009 1350
Client Matrix: Water Date Received: 01/14/2009 1650

8260B/CA_LUFTMS Volatile Organic Compounds by GC/MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-46041 Instrument ID: Varian 3900E
Preparation: 5030B Lab File ID: e:\data\200901\012109\sa-
Dilution: 20 Initial Weight/Volume: 10 mL
Date Analyzed: 01/21/2009 1320 Final Weight/Volume: 10 mL
Date Prepared: 01/21/2009 1320

Analyte	Result (ug/L)	Qualifier	RL
Gasoline Range Organics (GRO)-C5-C12	9100		1000
Benzene	2800		10
Toluene	430	*	10
Ethylbenzene	140		10
Xylenes, Total	230		20
MTBE	ND		10
TAME	ND		10
Ethyl tert-butyl ether	ND		10
TBA	ND		100
DIPE	ND		20
1,2-Dichloroethane	25		10
Ethylene Dibromide	ND		10

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	96	78 - 112
1,2-Dichloroethane-d4 (Surr)	109	67 - 126

Client: LFR, Inc. Job Number: 720-17658-1

Client Sample ID: ASMW-2D

Lab Sample ID: 720-17658-3 Date Sampled: 01/13/2009 1215
Client Matrix: Water Date Received: 01/14/2009 1650

8260B/CA_LUFTMS Volatile Organic Compounds by GC/MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-46041 Instrument ID: Varian 3900E
Preparation: 5030B Lab File ID: e:\data\200901\012109\sa-
Dilution: 1.0 Initial Weight/Volume: 10 mL
Date Analyzed: 01/21/2009 1211 Final Weight/Volume: 10 mL
Date Prepared: 01/21/2009 1211

Analyte	Result (ug/L)	Qualifier	RL
Gasoline Range Organics (GRO)-C5-C12	ND		50
Benzene	0.80		0.50
Toluene	0.78	*	0.50
Ethylbenzene	ND		0.50
Xylenes, Total	ND		1.0
MTBE	0.56		0.50
TAME	ND		0.50
Ethyl tert-butyl ether	ND		0.50
TBA	ND		5.0
DIPE	ND		1.0
1,2-Dichloroethane	ND		0.50
Ethylene Dibromide	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	97	78 - 112
1,2-Dichloroethane-d4 (Surr)	98	67 - 126

Client: LFR, Inc. Job Number: 720-17658-1

Client Sample ID: MW-6

Lab Sample ID: 720-17658-4 Date Sampled: 01/14/2009 1150
Client Matrix: Water Date Received: 01/14/2009 1650

8260B/CA_LUFTMS Volatile Organic Compounds by GC/MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-45997 Instrument ID: Varian 3900E
Preparation: 5030B Lab File ID: e:\data\200901\012009\sa-
Dilution: 1.0 Initial Weight/Volume: 10 mL
Date Analyzed: 01/20/2009 1934 Final Weight/Volume: 10 mL
Date Prepared: 01/20/2009 1934

Analyte	Result (ug/L)	Qualifier	RL
Gasoline Range Organics (GRO)-C5-C12	740		50
Benzene	66		0.50
Toluene	48	*	0.50
Ethylbenzene	6.3		0.50
Xylenes, Total	23		1.0
MTBE	1.2		0.50
TAME	ND		0.50
Ethyl tert-butyl ether	ND		0.50
TBA	ND		5.0
DIPE	ND		1.0
1,2-Dichloroethane	17		0.50
Ethylene Dibromide	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	98	78 - 112
1,2-Dichloroethane-d4 (Surr)	99	67 - 126

Client: LFR, Inc. Job Number: 720-17658-1

Client Sample ID: MW-7

Lab Sample ID: 720-17658-5 Date Sampled: 01/14/2009 1005
Client Matrix: Water Date Received: 01/14/2009 1650

8260B/CA_LUFTMS Volatile Organic Compounds by GC/MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-46041 Instrument ID: Varian 3900E
Preparation: 5030B Lab File ID: e:\data\200901\012109\sa-
Dilution: 1.0 Initial Weight/Volume: 10 mL
Date Analyzed: 01/21/2009 1234 Final Weight/Volume: 10 mL
Date Prepared: 01/21/2009 1234

Analyte	Result (ug/L)	Qualifier	RL
Gasoline Range Organics (GRO)-C5-C12	ND		50
Benzene	ND		0.50
Toluene	ND	*	0.50
Ethylbenzene	ND		0.50
Xylenes, Total	ND		1.0
MTBE	1.1		0.50
TAME	ND		0.50
Ethyl tert-butyl ether	ND		0.50
TBA	ND		5.0
DIPE	ND		1.0
1,2-Dichloroethane	ND		0.50
Ethylene Dibromide	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	94	78 - 112
1,2-Dichloroethane-d4 (Surr)	105	67 - 126

Client: LFR, Inc. Job Number: 720-17658-1

Client Sample ID: AS-1D

Lab Sample ID: 720-17658-6 Date Sampled: 01/13/2009 1010
Client Matrix: Water Date Received: 01/14/2009 1650

8260B/CA_LUFTMS Volatile Organic Compounds by GC/MS

Method: 8260B/CA_LUFTMS Analysis Batch: 720-45997 Instrument ID: Varian 3900E
Preparation: 5030B Lab File ID: e:\data\200901\012009\sa-
Dilution: 1.0 Initial Weight/Volume: 10 mL
Date Analyzed: 01/20/2009 2020 Final Weight/Volume: 10 mL
Date Prepared: 01/20/2009 2020

Analyte	Result (ug/L)	Qualifier	RL
Gasoline Range Organics (GRO)-C5-C12	ND		50
Benzene	0.69		0.50
Toluene	0.54	*	0.50
Ethylbenzene	ND		0.50
Xylenes, Total	ND		1.0
MTBE	ND		0.50
TAME	ND		0.50
Ethyl tert-butyl ether	ND		0.50
TBA	ND		5.0
DIPE	ND		1.0
1,2-Dichloroethane	ND		0.50
Ethylene Dibromide	ND		0.50

Surrogate	%Rec	Acceptance Limits
Toluene-d8 (Surr)	97	78 - 112
1,2-Dichloroethane-d4 (Surr)	108	67 - 126

DATA REPORTING QUALIFIERS

Client: LFR, Inc. Job Number: 720-17658-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits

Client: LFR, Inc. Job Number: 720-17658-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-45997					
LCS 720-45997/6	Lab Control Spike	T	Water	8260B/CA_LUFT	
LCSD 720-45997/3	Lab Control Spike Duplicate	T	Water	8260B/CA_LUFT	
MB 720-45997/7	Method Blank	T	Water	8260B/CA_LUFT	
720-17658-4	MW-6	T	Water	8260B/CA_LUFT	
720-17658-6	AS-1D	T	Water	8260B/CA_LUFT	
Analysis Batch:720-46041					
LCS 720-46041/2	Lab Control Spike	T	Water	8260B/CA_LUFT	
LCSD 720-46041/1	Lab Control Spike Duplicate	T	Water	8260B/CA_LUFT	
MB 720-46041/3	Method Blank	T	Water	8260B/CA_LUFT	
720-17658-1	AS-1S	T	Water	8260B/CA_LUFT	
720-17658-2	ASMW-2S	T	Water	8260B/CA_LUFT	
720-17658-3	ASMW-2D	T	Water	8260B/CA_LUFT	
720-17658-5	MW-7	T	Water	8260B/CA_LUFT	

Report Basis
T = Total

Client: LFR, Inc.

Job Number: 720-17658-1

Method Blank - Batch: 720-45997

Method: 8260B/CA_LUFTMS
Preparation: 5030B

Lab Sample ID: MB 720-45997/7
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/20/2009 0934
Date Prepared: 01/20/2009 0934

Analysis Batch: 720-45997
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900E
Lab File ID: e:\data\200901\012009\mb
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Gasoline Range Organics (GRO)-C5-C12	ND		50
Benzene	ND		0.50
Toluene	ND		0.50
Ethylbenzene	ND		0.50
Xylenes, Total	ND		1.0
MTBE	ND		0.50
TAME	ND		0.50
Ethyl tert-butyl ether	ND		0.50
TBA	ND		5.0
DIPE	ND		1.0
1,2-Dichloroethane	ND		0.50
Ethylene Dibromide	ND		0.50

Surrogate	% Rec	Acceptance Limits
Toluene-d8 (Surr)	93	78 - 112
1,2-Dichloroethane-d4 (Surr)	101	67 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: LFR, Inc. Job Number: 720-17658-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-45997

Method: 8260B/CA_LUFTMS
Preparation: 5030B

LCS Lab Sample ID: LCS 720-45997/6
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/20/2009 1203
Date Prepared: 01/20/2009 1203

Analysis Batch: 720-45997
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900E
Lab File ID: e:\data\200901\012009\ls-v
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-45997/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/20/2009 1226
Date Prepared: 01/20/2009 1226

Analysis Batch: 720-45997
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900E
Lab File ID: e:\data\200901\012009\ld-wa
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	65	68	43 - 95	4	20		
Benzene	76	78	67 - 120	2	20		
Toluene	72	70	73 - 122	3	20	*	*
MTBE	75	86	61 - 134	14	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8 (Surr)	97	94	78 - 112
1,2-Dichloroethane-d4 (Surr)	108	106	67 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: LFR, Inc.

Job Number: 720-17658-1

Method Blank - Batch: 720-46041

Method: 8260B/CA_LUFTMS
Preparation: 5030B

Lab Sample ID: MB 720-46041/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/21/2009 1047
Date Prepared: 01/21/2009 1047

Analysis Batch: 720-46041
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900E
Lab File ID: e:\data\200901\012109\mb
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Gasoline Range Organics (GRO)-C5-C12	ND		50
Benzene	ND		0.50
Toluene	ND		0.50
Ethylbenzene	ND		0.50
Xylenes, Total	ND		1.0
MTBE	ND		0.50
TAME	ND		0.50
Ethyl tert-butyl ether	ND		0.50
TBA	ND		5.0
DIPE	ND		1.0
1,2-Dichloroethane	ND		0.50
Ethylene Dibromide	ND		0.50

Surrogate	% Rec	Acceptance Limits
Toluene-d8 (Surr)	101	78 - 112
1,2-Dichloroethane-d4 (Surr)	101	67 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: LFR, Inc. Job Number: 720-17658-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-46041

Method: 8260B/CA_LUFTMS
Preparation: 5030B

LCS Lab Sample ID: LCS 720-46041/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/21/2009 1116
Date Prepared: 01/21/2009 1116

Analysis Batch: 720-46041
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900E
Lab File ID: e:\data\200901\012109\ls-v
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-46041/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/21/2009 1139
Date Prepared: 01/21/2009 1139

Analysis Batch: 720-46041
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 3900E
Lab File ID: e:\data\200901\012109\ld-wa
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C5-C12	60	62	43 - 95	3	20		
Benzene	75	75	67 - 120	1	20		
Toluene	69	70	73 - 122	2	20	*	*
MTBE	84	84	61 - 134	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Toluene-d8 (Surr)	96	97	78 - 112
1,2-Dichloroethane-d4 (Surr)	108	97	67 - 126

Calculations are performed before rounding to avoid round-off errors in calculated results.

Brewer, Melissa

From: Goloubow, Ron [Ron.Goloubow@lfr.com]
Sent: Thursday, January 15, 2009 4:39 PM
To: Brewer, Melissa
Subject: RE: Sample Login Confirmation for 720-17658: Services West

Please leave them in.

Ron Goloubow
LFR Inc.
510-596-9550 Direct Dial
510-501-1789 Cell
510-652-4906 Facsimile
ron.goloubow@lfr.com

From: Brewer, Melissa [mailto:melissa.brewer@testamericainc.com]
Sent: Thursday, January 15, 2009 4:36 PM
To: Goloubow, Ron
Subject: Sample Login Confirmation for 720-17658: Services West

I believe that we've also done 1,2-DCA and EDB for this project in the past. Do you need those reported for this submission? It's not requested on the COC. I've left them in the login for now. Please let me know if I should delete them.

Thanks.

MELISSA BREWER

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 925.484,1919
www.testamericainc.com

Reference: [037067]
Attachments: 3

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TESTAMERICA San Francisco Chain of Custody
1220 Quarry Lane • Pleasanton CA 94566-4756
Phone (925) 484-1919 • Fax (925) 600-3002

720-17658

Reference #: 114152
Date 1-14-09 Page 1 of 1

Report To

Attn: Rob Goldyben
Company: LFR
Address: 1900 Powell St
Phone: 510 Email: Emeryville, CA
Bill To: LFR
Sampled By: REM
Attn:
Phone: 5104097383

Analysis Request

Sample ID	Date	Time	Matrix	Preserv.	TPH EPA - ☐ 8015B ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M* ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other	Fuel Tests EPA 8260B ☐ Gas ☐ BTEX ☐ Oxygenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease ☐ Petroleum (EPA 1664) ☐ Total	Pesticides ☐ EPA 8081 ☐ 608 PCBs ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS)	W.E.T (STLC) ☐ TCLP	Hexavalent Chromium ☐ pH (24h hold time for H_2O)	Spec Cond. ☐ Alkalinity ☐ TSS ☐ TDS ☐	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4			Number of Containers
AS-1S	1-13	1510		HCl				X																	6
ASMW-2S	1-13	1350						X																	6
ASMW-2D	1-13	1215						X																	6
MW-6	1-14	1150						X																	6
MW-7	1-14	1005						X																	6
AS-1D	1-13	1010						X																	6

Project Info.

Project Name: Service West
Project#: 001-09679-01
PO#:
Credit Card#:

Sample Receipt

of Containers: 36
Head Space:
Temp: 2.4
Conforms to record:

TAT: 5 Day | 72h | 48h | 24h | Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF
Special Instructions / Comments: ☐ Global ID

See Terms and Conditions on reverse
*TestAmerica SF reports 8015M from C_5-C_{24} (industry norm). Default for 8015B is C_6-C_{28}

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature: Rob Mang	Signature:	Signature:
Time: 1400	Time: 1650	Time:
Printed Name: Rob Male	Printed Name: T. Lewis	Printed Name:
Date: 1-14-09	Date: 1/14/09	Date:
Company: LFR	Company: TAS	Company:

1) Received by:	2) Received by:	3) Received by:
Signature:	Signature: 1650	Signature:
Time: 1400	Time:	Time:
Printed Name: T Lewis	Printed Name: Jennifer Mulley 1-14-09	Printed Name:
Date: 1/14/09	Date:	Date:
Company: TAS	Company: TestAmerica	Company:

Rev 06/04

01/22/2009

Page 19 of 20

Login Sample Receipt Check List

Client: LFR, Inc.

Job Number: 720-17658-1

Login Number: 17658
List Source: TestAmerica San Francisco
Creator: Mullen, Joan
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	


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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 210532
ANALYTICAL REPORT

LFR Levine Fricke	Project : 001-09679-00
1900 Powell Street	Location : Service West
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
EX-1	210532-001
EX-2	210532-002
EX-3	210532-003
EX-4	210532-004
EX-5	210532-005

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 03/11/2009
Project Manager

Signature: _____ Date: 03/11/2009
Senior Program Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**210532**
Client:	**LFR Levine Fricke**
Project:	**001-09679-00**
Location:	**Service West**
Request Date:	**03/10/09**
Samples Received:	**03/10/09**

This data package contains sample and QC results for five soil samples, requested for the above referenced project on 03/10/09. The samples were received cold and intact. All data were e-mailed to Ron Goloubow on 03/11/09.

TPH-Extractables by GC (EPA 8015B):

High RPD was observed for diesel C10-C24 in the MS/MSD for batch 148731; the parent sample was not a project sample. A number of samples were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

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CHAIN OF CUSTODY

C & T LOGIN #: CT# 210532

Project No.: 001-09679-00
Project Name: Service West
Project P.O.:
Turnaround Time: 24 hr

Sampler: Rob Monlz
Report To: Ron Goloubow
Company: LFR
Telephone: 510-652-4500
Fax: 510-652-2246

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	Analysis: TPH diesel, motor oil, and kerosene (8015 modified)	Note: TPH extracted w/ Silica gel clean-up for All Samples	TPH diesel, motor oil, + gas	BTEX compounds	CAM 17 Metals
1	EX-1	3/10 1310	X			1					X				
2	EX-2	3/10 1315	X			1					X				
3	EX-3	3/10 1325	X			1					X				
4	EX-4	3/10 1330	X			1					X				
5	EX-5	3/10 1320	X			1					X				
6	SP-031009	3/10 1340	X			2							X	X	X

Notes: 24 hr Rush

SAMPLE RECEIPT
☐ Intact ☐ Cold
☒ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☒ N/A

RELINQUISHED BY:
Rob Monlz — 3/10/09 1511 DATE / TIME
DATE / TIME
DATE / TIME

RECEIVED BY:
Pat Hanly — 3/10/09 15:11 DATE / TIME
DATE / TIME
DATE / TIME

SIGNATURE

COOLER RECEIPT CHECKLIST Curtis & Tompkins, Ltd.

CT#21052

Login # CT#21053 Date Received 3/10/09 Number of coolers 1

Client LFR Project 001-69679-02

Date Opened 3/10 By (print) Tracy Bitz (sign) Tracy Bitz

Date Logged in By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO

Shipping info

2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☒ NO

How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) 1 CO & 1 DVD

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☐ None

☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation:

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C)

☒ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	210532	Location:	Service West
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09679-00	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	03/10/09
Units:	mg/Kg	Received:	03/10/09
Basis:	as received	Prepared:	03/10/09
Batch#:	148731		

Field ID:	EX-1	Diln Fac:	20.00
Type:	SAMPLE	Analyzed:	03/10/09
Lab ID:	210532-001	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	62 Y	20
Diesel C10-C24	530 Y	20
Motor Oil C24-C36	2,400	100

Surrogate	%REC	Limits
o-Terphenyl	DO	53-133

Field ID:	EX-2	Diln Fac:	20.00
Type:	SAMPLE	Analyzed:	03/10/09
Lab ID:	210532-002	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	1,100 Y	20
Diesel C10-C24	6,200 Y	20
Motor Oil C24-C36	12,000	99

Surrogate	%REC	Limits
o-Terphenyl	DO	53-133

Field ID:	EX-3	Diln Fac:	20.00
Type:	SAMPLE	Analyzed:	03/10/09
Lab ID:	210532-003	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	120 Y	20
Diesel C10-C24	690 Y	20
Motor Oil C24-C36	2,900	100

Surrogate	%REC	Limits
o-Terphenyl	DO	53-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	210532	Location:	Service West
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09679-00	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	03/10/09
Units:	mg/Kg	Received:	03/10/09
Basis:	as received	Prepared:	03/10/09
Batch#:	148731		

Field ID:	EX-4	Diln Fac:	20.00
Type:	SAMPLE	Analyzed:	03/10/09
Lab ID:	210532-004	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	20
Diesel C10-C24	1,000 Y	20
Motor Oil C24-C36	4,300	100

Surrogate	%REC	Limits
o-Terphenyl	DO	53-133

Field ID:	EX-5	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	03/11/09
Lab ID:	210532-005	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Kerosene C10-C16	ND	0.99
Diesel C10-C24	8.8 Y	0.99
Motor Oil C24-C36	23	5.0

Surrogate	%REC	Limits
o-Terphenyl	71	53-133

Type:	BLANK	Analyzed:	03/11/09
Lab ID:	QC486729	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	95	53-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	210532	Location:	Service West
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09679-00	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC486730	Batch#:	148731
Matrix:	Soil	Prepared:	03/10/09
Units:	mg/Kg	Analyzed:	03/11/09
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.96	51.31	103	52-128

Surrogate	%REC	Limits
o-Terphenyl	104	53-133

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	210532	Location:	Service West
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09679-00	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	148731
MSS Lab ID:	210310-015	Sampled:	02/25/09
Matrix:	Soil	Received:	02/26/09
Units:	mg/Kg	Prepared:	03/10/09
Basis:	as received	Analyzed:	03/11/09
Diln Fac:	1.000		

Type: MS Lab ID: QC486731

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	1.391	49.58	32.53	63	33-145

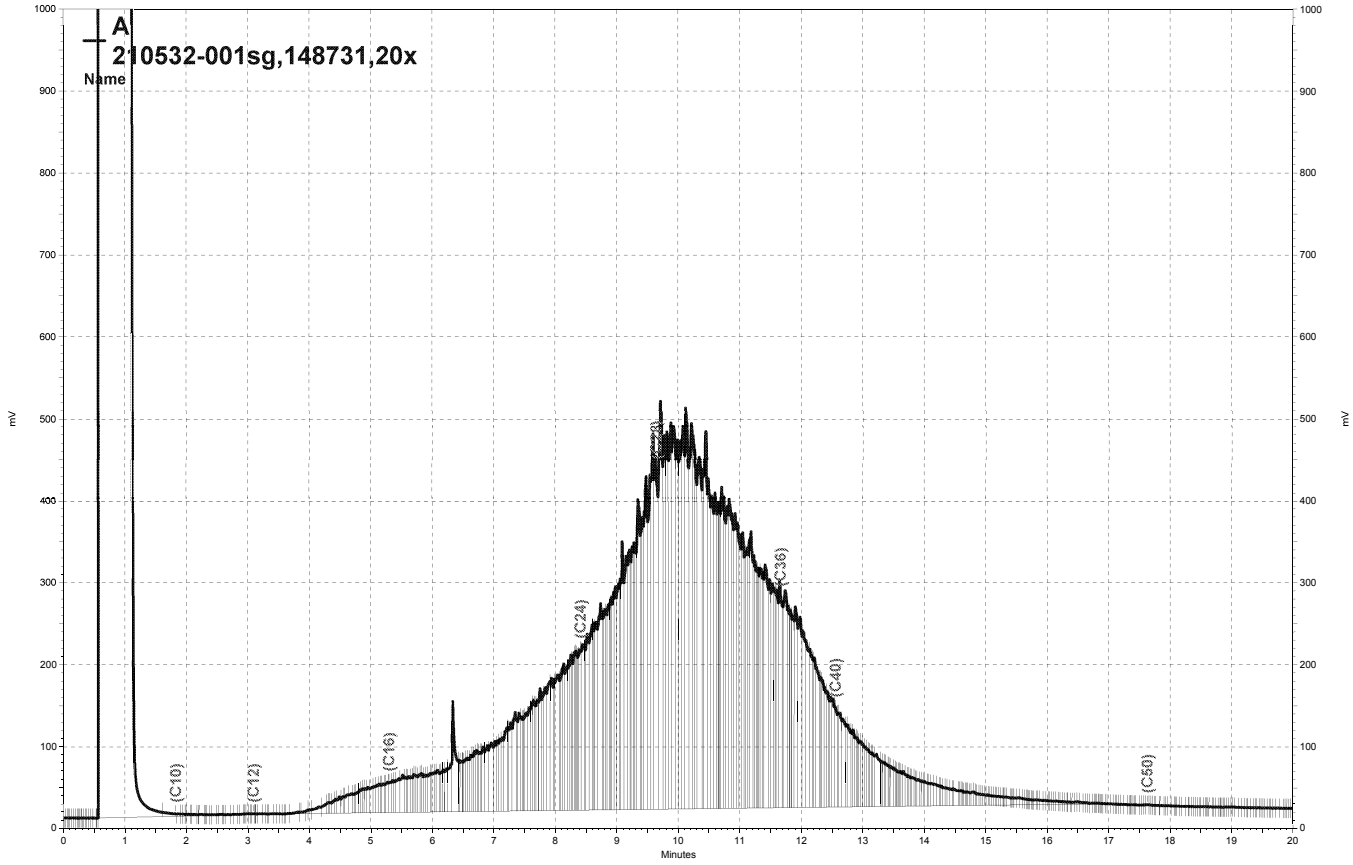
Surrogate	%REC	Limits
o-Terphenyl	70	53-133

Type: MSD Lab ID: QC486732

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.85	52.35	102	33-145	46 *	44

Surrogate	%REC	Limits
o-Terphenyl	96	53-133

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference



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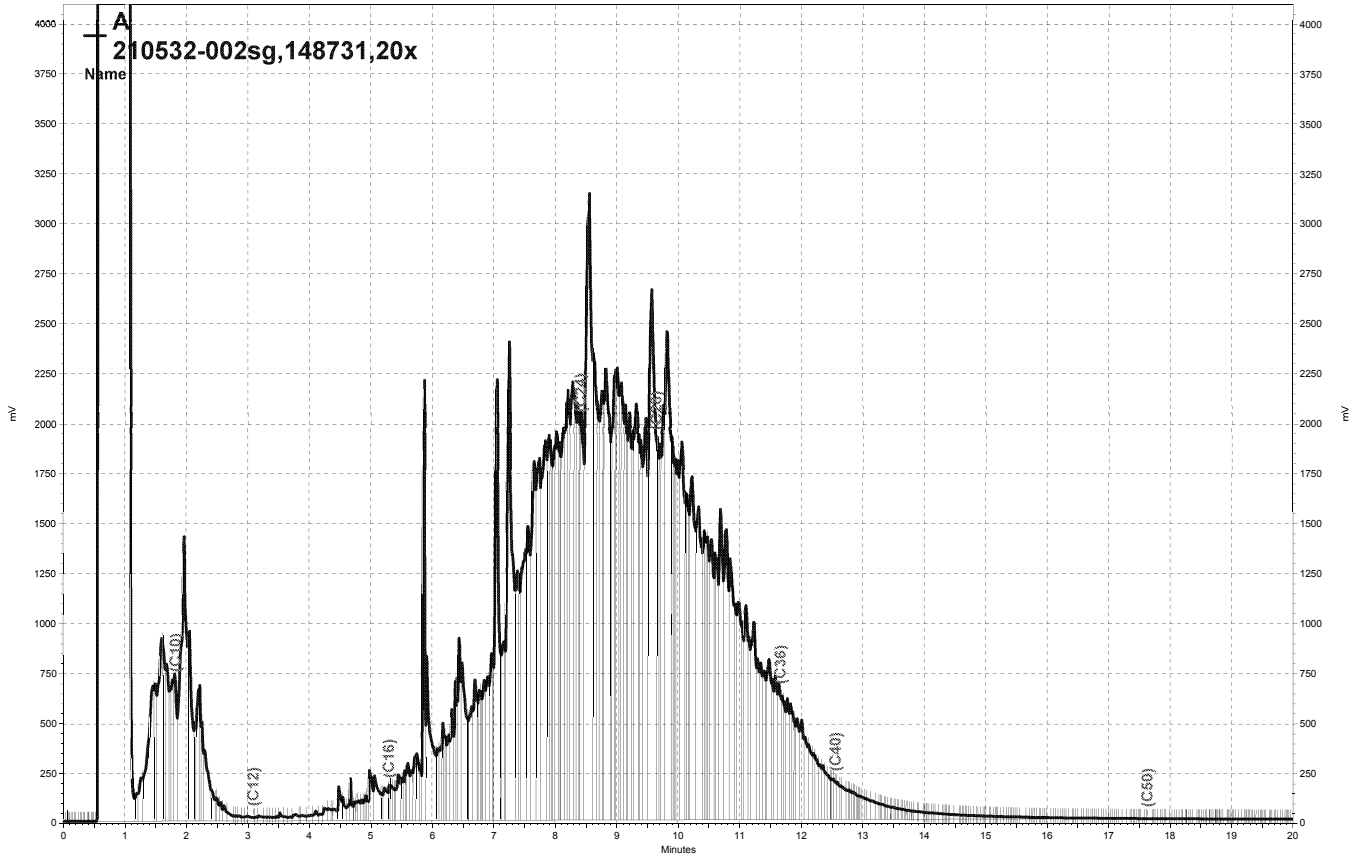

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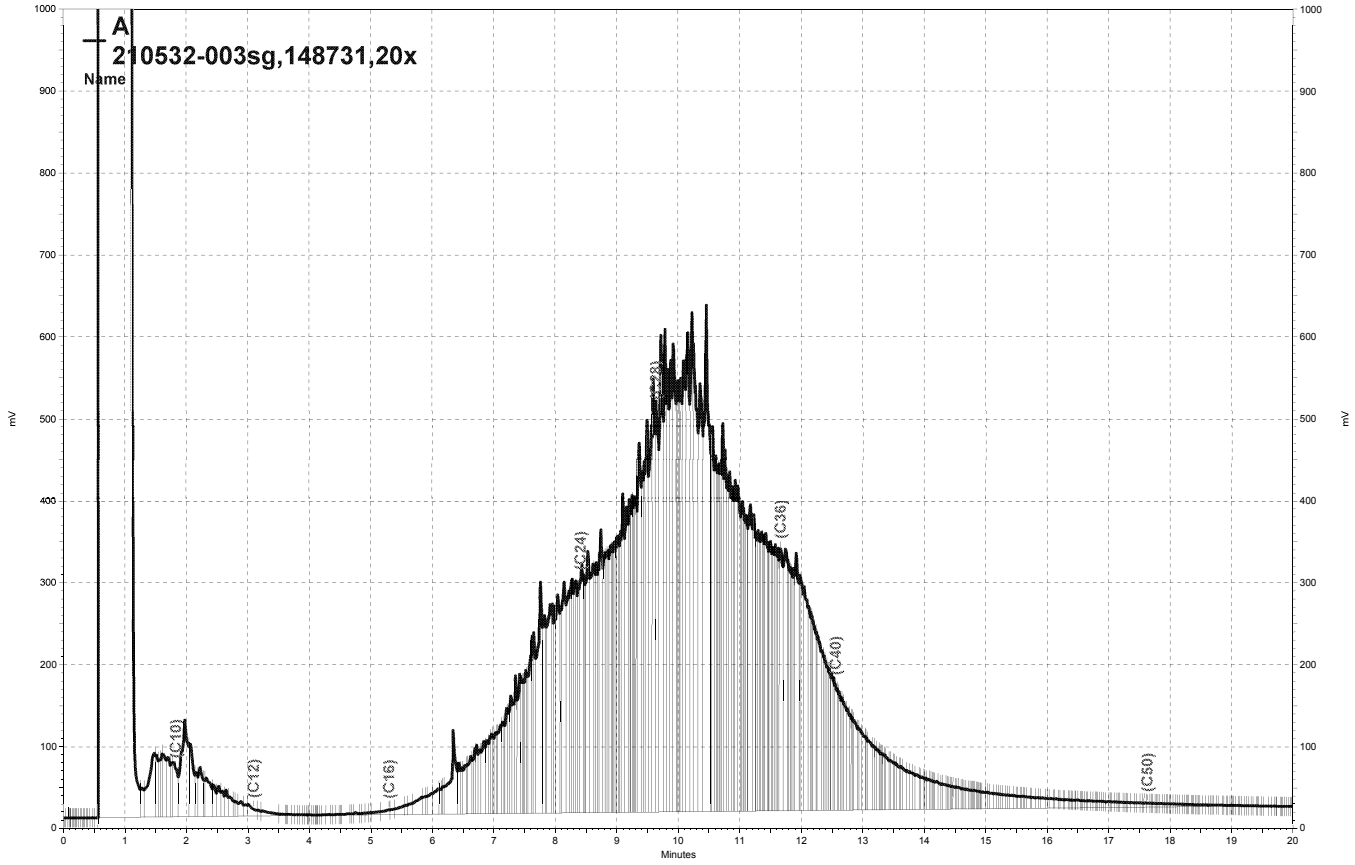

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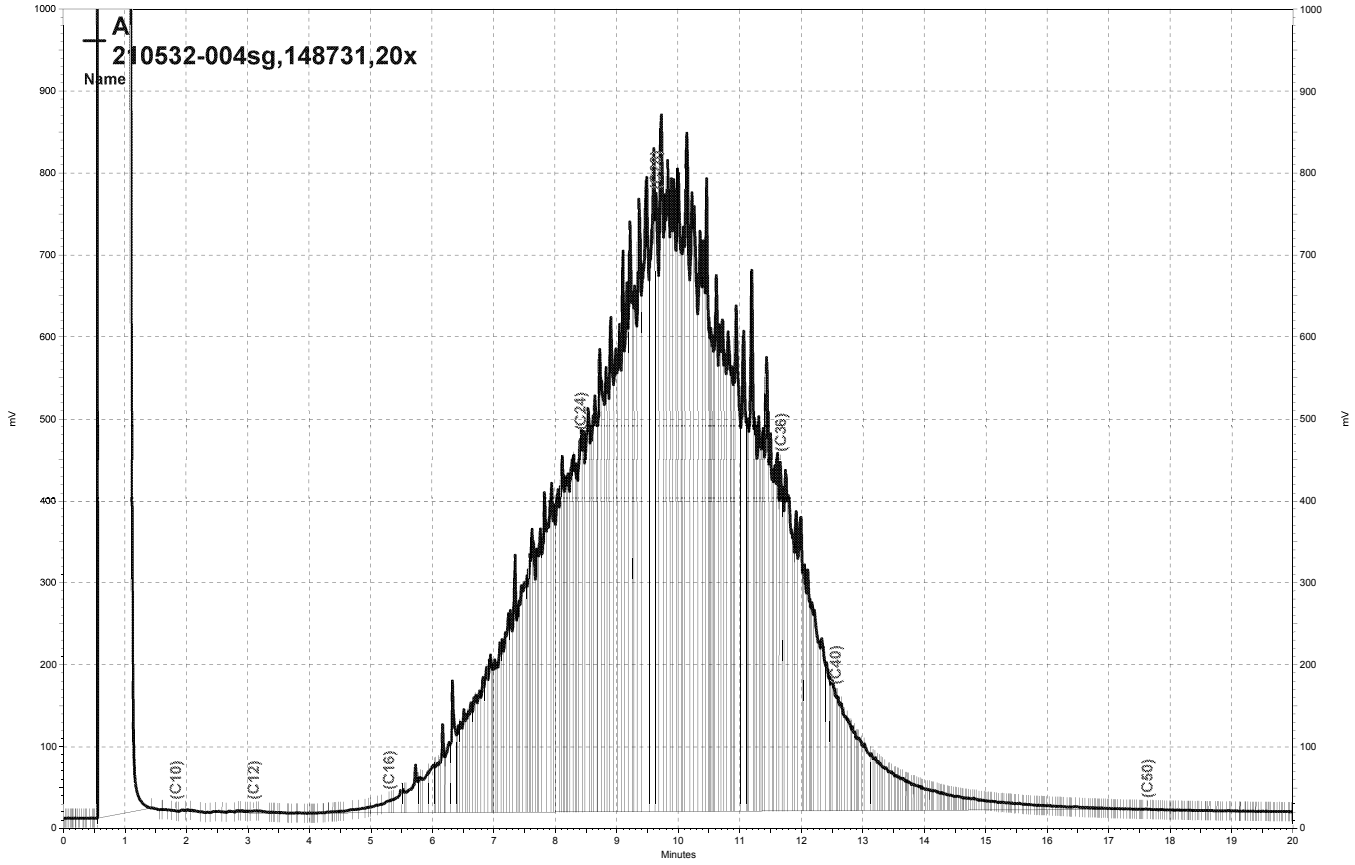

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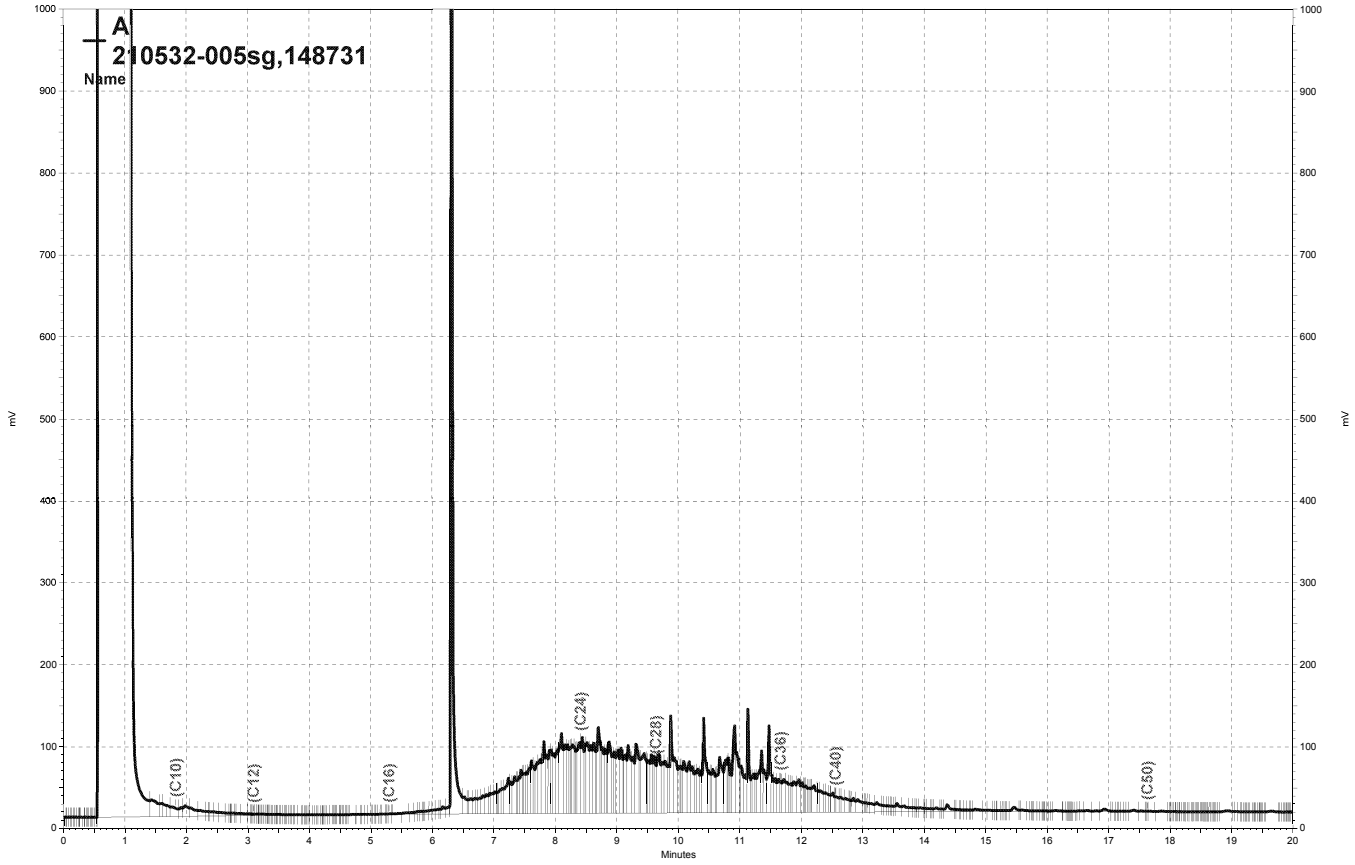

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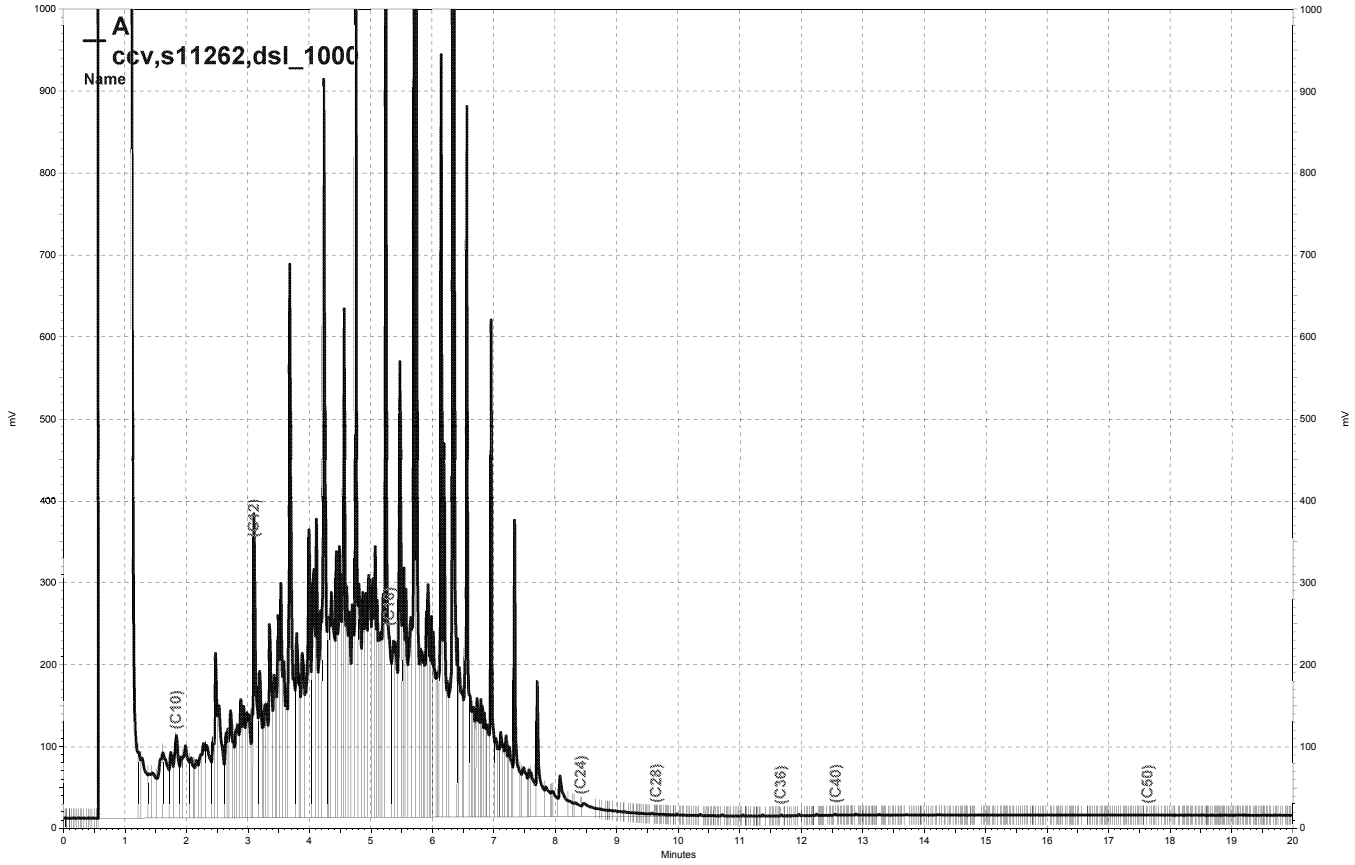

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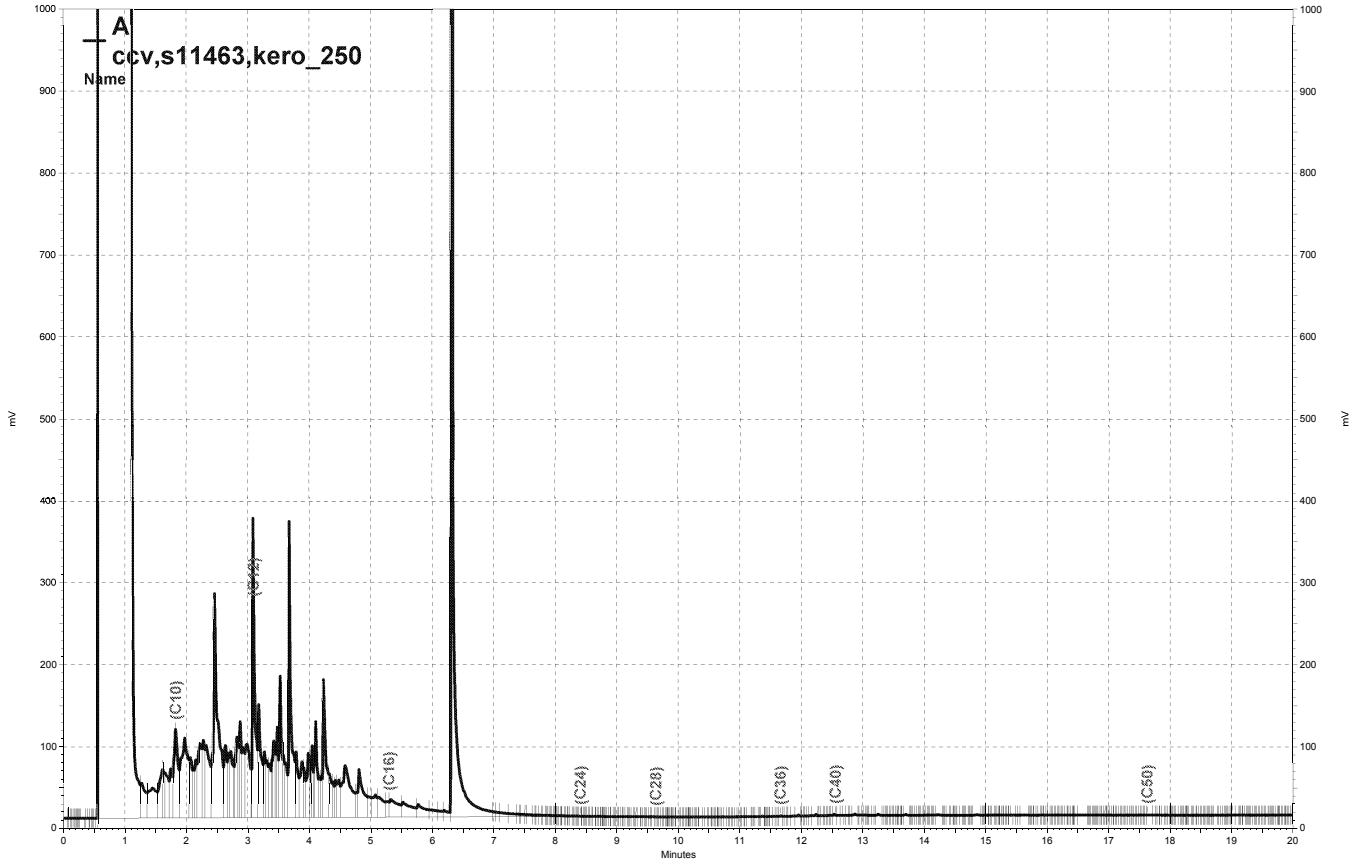

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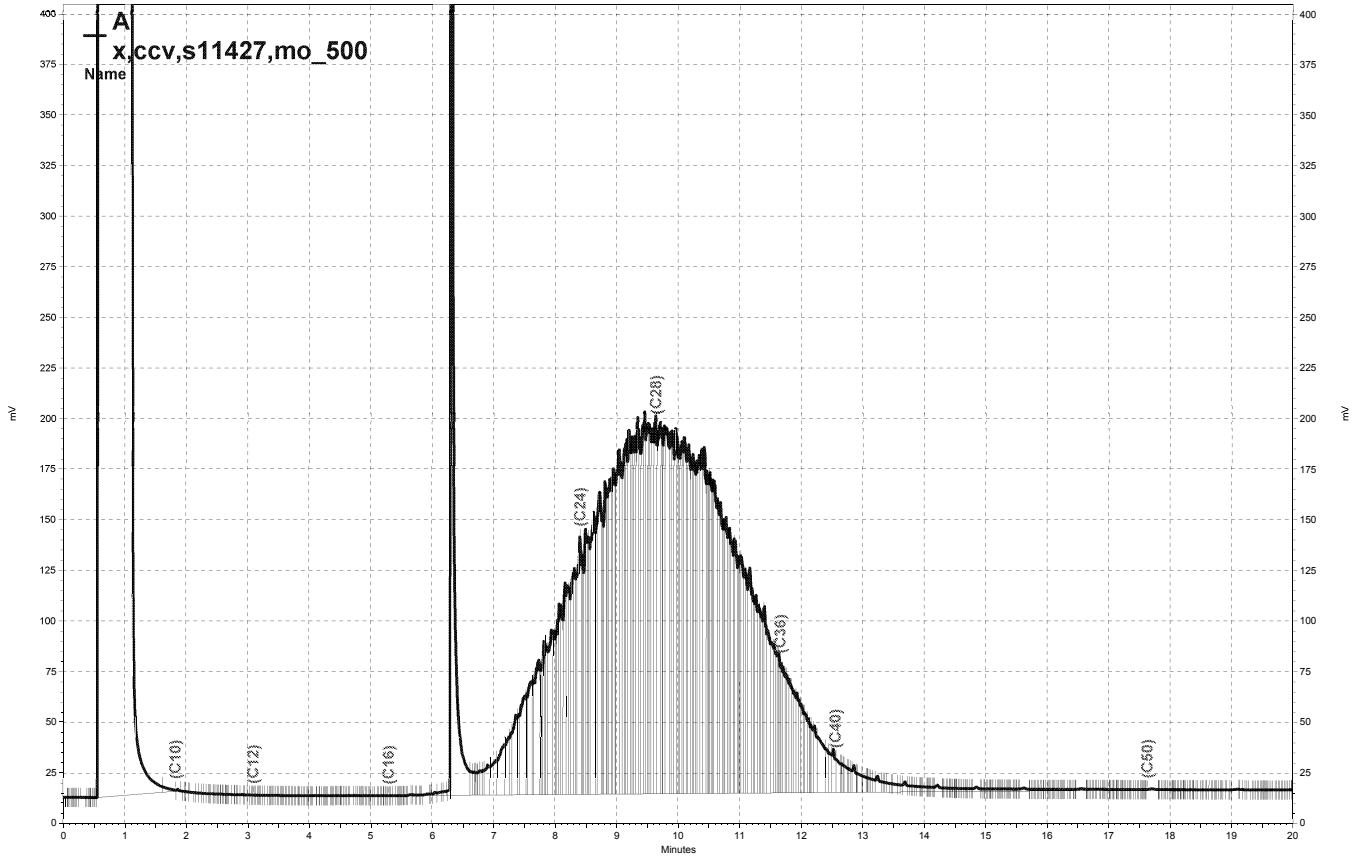

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Laboratory Job Number 210767
ANALYTICAL REPORT

LFR Levine Fricke	Project : 001-09679-00
1900 Powell Street	Location : Service West
Emeryville, CA 94608	Level : II

Sample ID	Lab ID
NWALL-2-031909	210767-001
WWALL-2-031909	210767-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 03/30/2009
Project Manager

Signature: _____ Date: 03/30/2009
Senior Program Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**210767**
Client:	**LFR Levine Fricke**
Project:	**001-09679-00**
Location:	**Service West**
Request Date:	**03/19/09**
Samples Received:	**03/19/09**

This data package contains sample and QC results for two soil samples, requested for the above referenced project on 03/19/09. The samples were received cold and intact. All data were e-mailed to Ron Goloubow on 03/23/09.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

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Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 210707

Project No.: 001-09679-
Project Name: Service West
Project P.O.:
Turnaround Time: 48 hr.

Sampler: Rob Moniz (REM)
Report To: Ron Goloubow
Company: LFR
Telephone: 510-652-4500
Fax:

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	Analysis: TEH extractable TPHd, TPHmo + TPHk (Method 8015 modified)
1	NWall-2-031909	3/19 1200	X			1					X
2	WWall-2-031909	3/19 1210	X			1					X

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☒ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☒ N/A

RELINQUISHED BY:
Rob Moniz 3/19/09 1400 DATE / TIME
DATE / TIME
DATE / TIME
SIGNATURE

RECEIVED BY:
3/19/09 1400 DATE / TIME
DATE / TIME
DATE / TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 210767 Date Received 3-19-09 Number of coolers 1
Client LFR Project SERVICE WEST

Date Opened 3-19-9 By (print) S. EVANS (sign) [signature]
Date Logged in [illegible] By (print) [illegible] (sign) [illegible]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
   Shipping info _____
2A. Were custody seals present? ... ☐ YES (circle) on cooler on samples ☒ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received? _____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☒ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation:

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

☒ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ YES NO
10. Are samples in the appropriate containers for indicated tests? _____ YES NO
11. Are sample labels present, in good condition and complete? _____ YES NO
12. Do the sample labels agree with custody papers? _____ YES NO
13. Was sufficient amount of sample sent for tests requested? _____ YES NO
14. Are the samples appropriately preserved? _____ YES NO N/A
15. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A
16. Was the client contacted concerning this sample delivery? _____ YES NO
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____
_____
_____

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	210767	Location:	Service West
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09679-00	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	03/19/09
Units:	mg/Kg	Received:	03/19/09
Basis:	as received	Prepared:	03/23/09
Diln Fac:	1.000	Analyzed:	03/23/09
Batch#:	149119		

Field ID: NWALL-2-031909 Lab ID: 210767-001
Type: SAMPLE

Analyte	Result	RL
Kerosene C10-C16	5.2 Y	1.0
Diesel C10-C24	38 Y	1.0
Motor Oil C24-C36	170	5.0

Surrogate	%REC	Limits
o-Terphenyl	114	53-133

Field ID: WWALL-2-031909 Lab ID: 210767-002
Type: SAMPLE

Analyte	Result	RL
Kerosene C10-C16	3.4 Y	0.99
Diesel C10-C24	74 Y	0.99
Motor Oil C24-C36	380	5.0

Surrogate	%REC	Limits
o-Terphenyl	113	53-133

Type: BLANK Lab ID: QC488301

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
o-Terphenyl	98	53-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	210767	Location:	Service West
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09679-00	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC488302	Batch#:	149119
Matrix:	Soil	Prepared:	03/23/09
Units:	mg/Kg	Analyzed:	03/23/09
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.87	59.78	120	52-128

Surrogate	%REC	Limits
o-Terphenyl	115	53-133

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	210767	Location:	Service West
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09679-00	Analysis:	EPA 8015B
Field ID:	NWALL-2-031909	Batch#:	149119
MSS Lab ID:	210767-001	Sampled:	03/19/09
Matrix:	Soil	Received:	03/19/09
Units:	mg/Kg	Prepared:	03/23/09
Basis:	as received	Analyzed:	03/24/09
Diln Fac:	1.000		

Type: MS Lab ID: QC488303

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	38.02	49.74	101.9	128	33-145

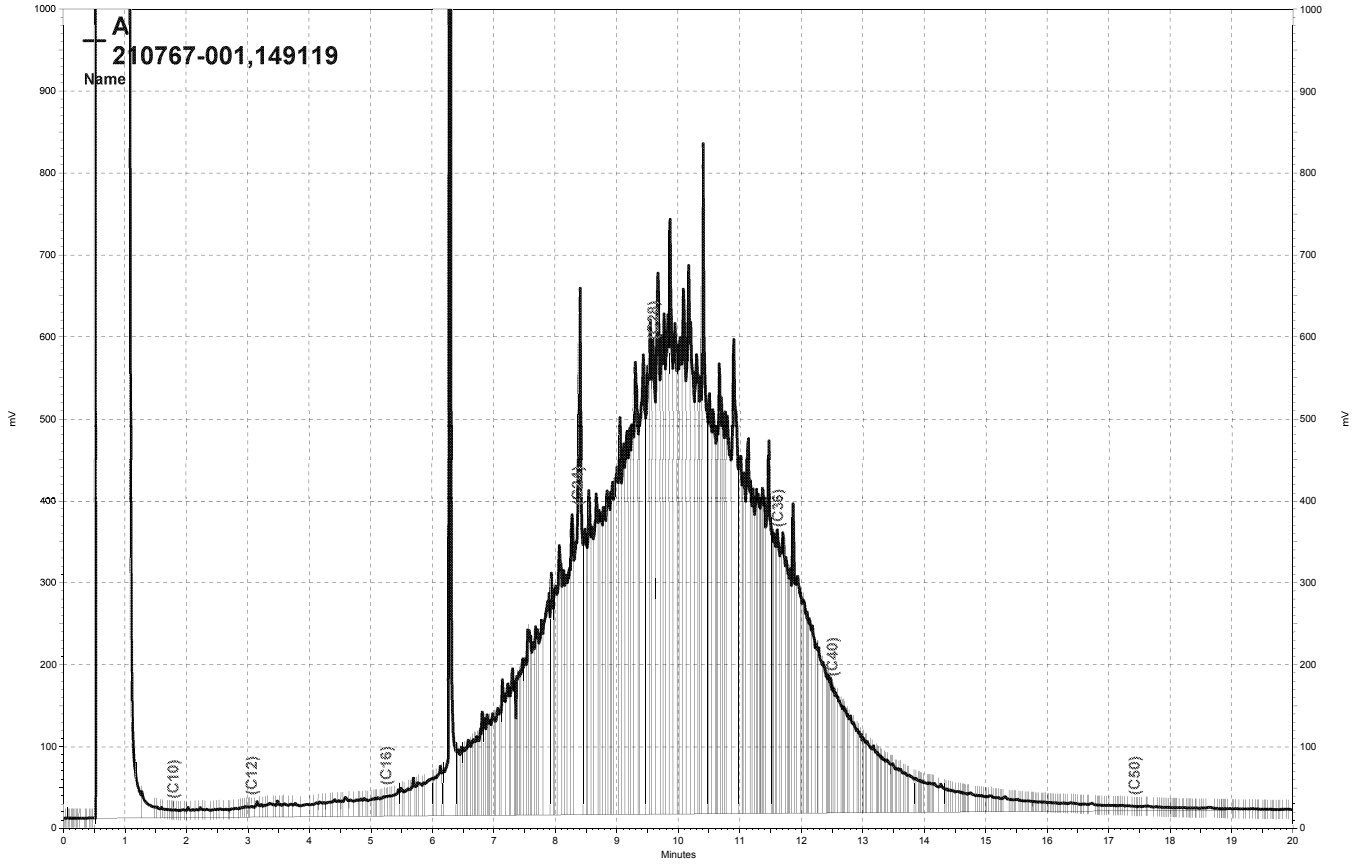
Surrogate	%REC	Limits
o-Terphenyl	115	53-133

Type: MSD Lab ID: QC488304

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.81	76.75	78	33-145	28	44

Surrogate	%REC	Limits
o-Terphenyl	95	53-133

RPD= Relative Percent Difference



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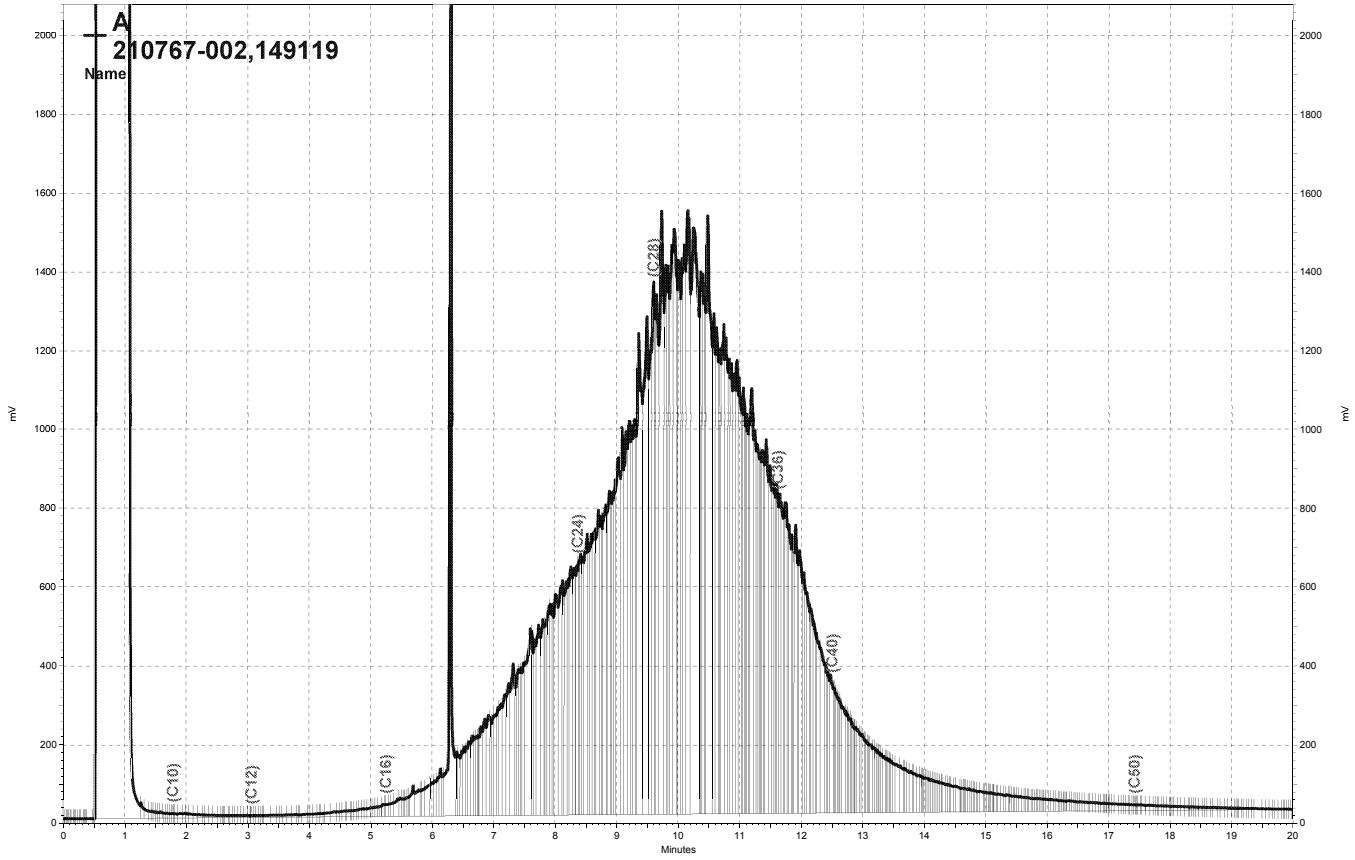

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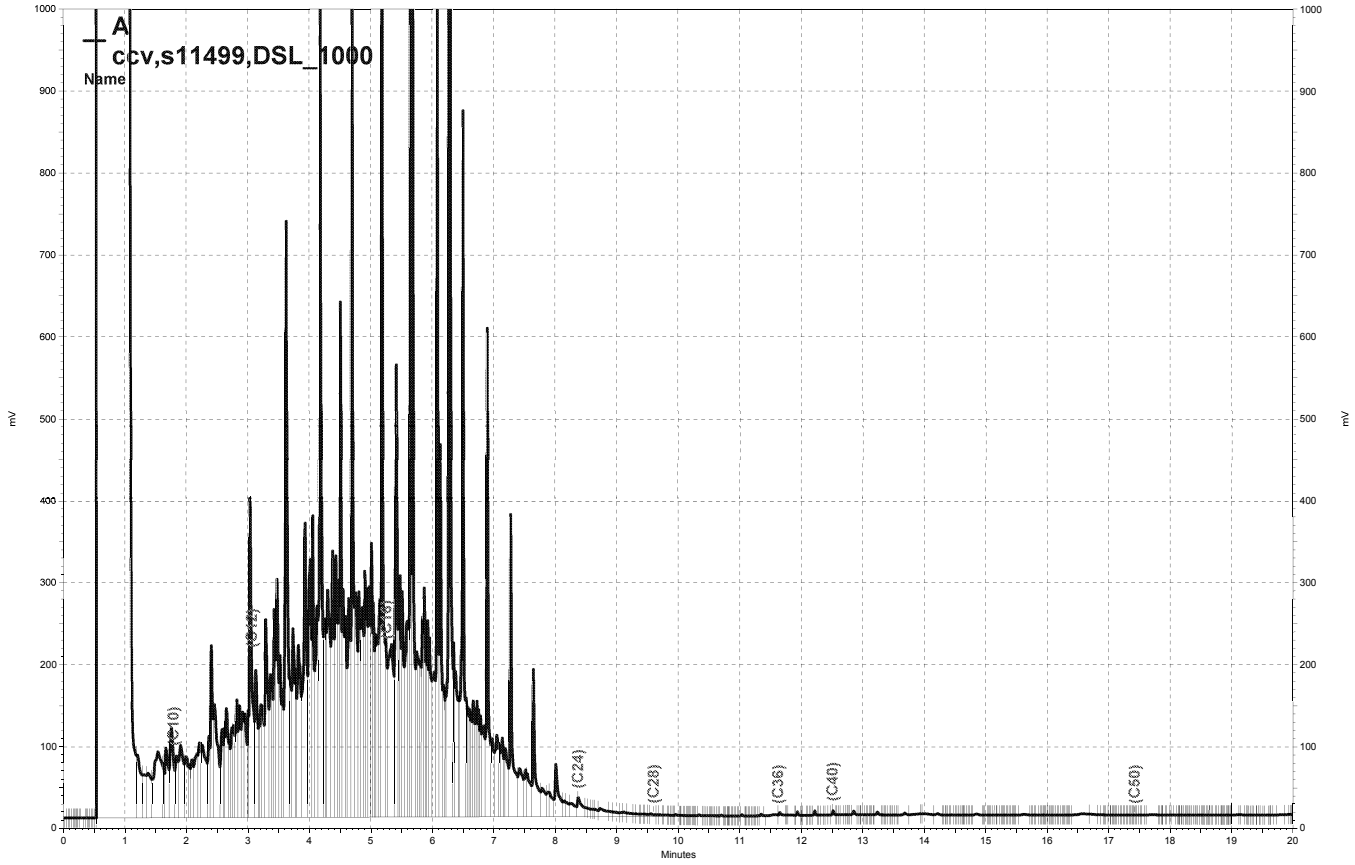

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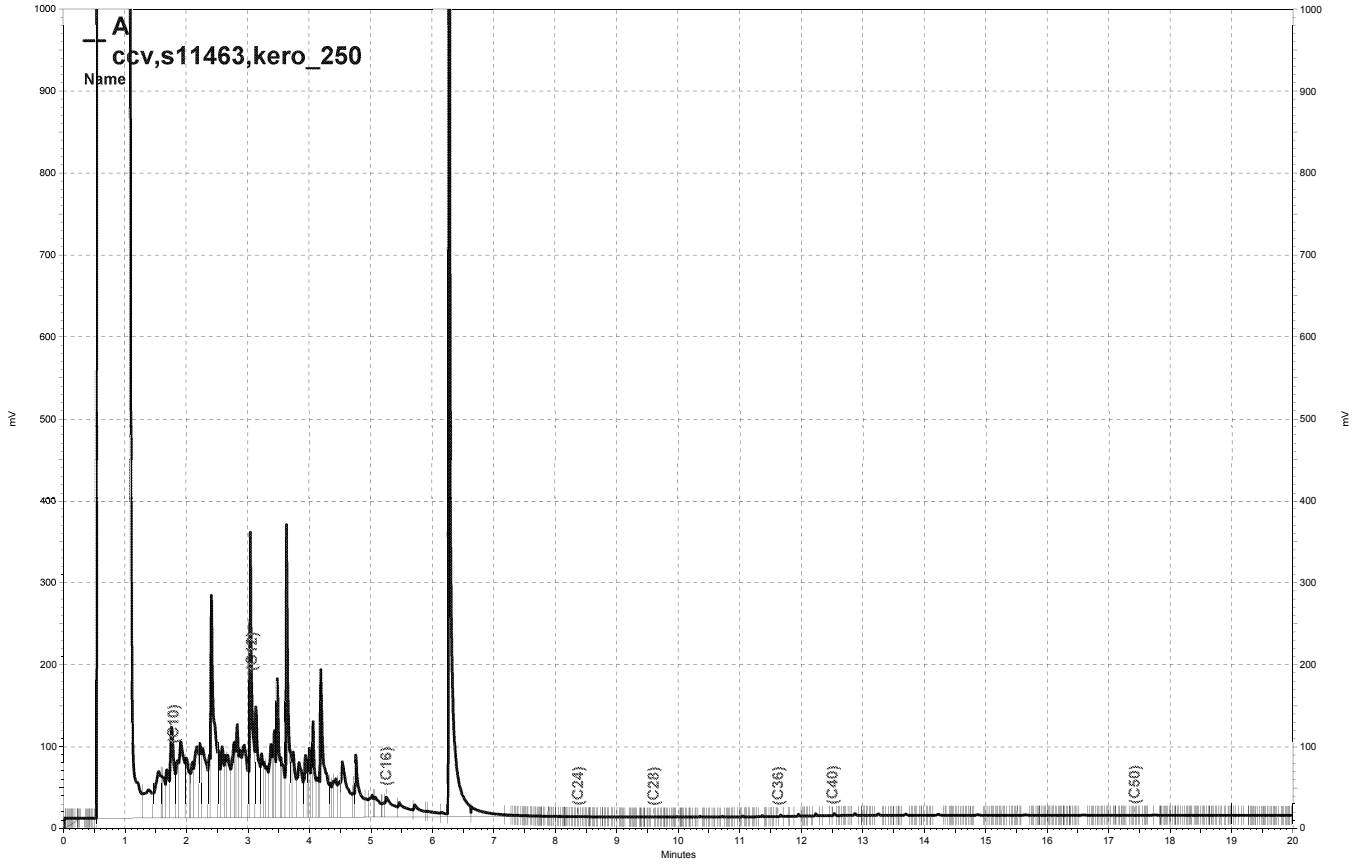

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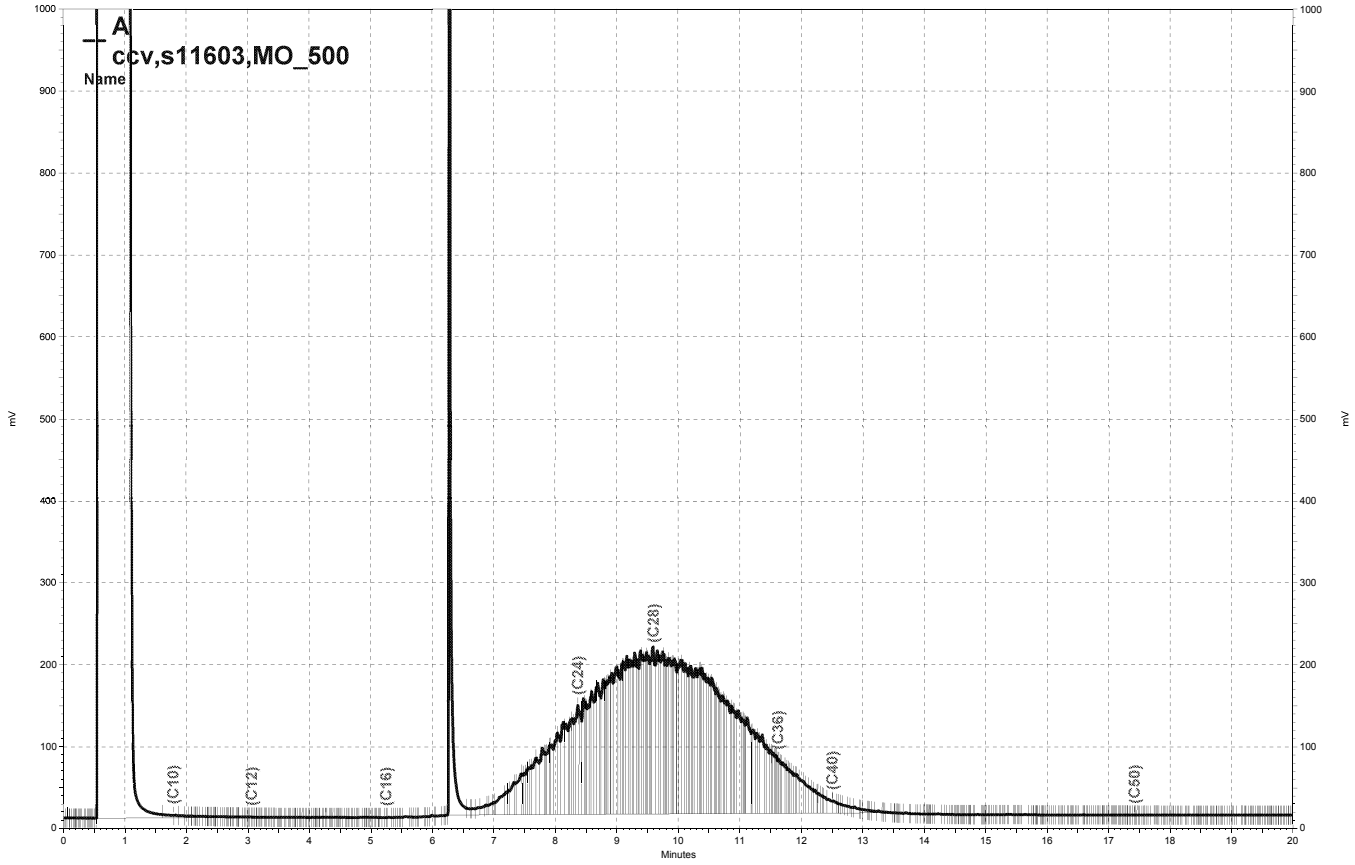

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APPENDIX C

MIP Logs and Soil Boring Lithology and Well Construction Field Logs

Report
Membrane Interface Probe Services
LFR
9201 San Leandro St, Oakland, CA
Service West



Prepared By:

Vironex, Inc.
Frank Stolfi - National Director of MIP Services
1225 East McFadden Ave.
Santa Ana, CA 92705
Email: fstolfi@vironex.com
Website: www.vironex.com
P: 714-647-6290
F: 714-647-6291
C: 714-863-0988

Prepared For:

LFR
Ron Goloubow
ron.goloubow@lfr.com
1900 Powell St,
Suite 1200
Emeryville, CA 94608

"Expect Performance"

Table of Contents

1. Project Background

a. Site History –The main contaminants of concern are TPHg and BTEX.

Geology / Hydrology – The site lithology is primarily sand, silty sand, silt and clay with first ground water found at approximately 17’ to 30’ below ground surface.

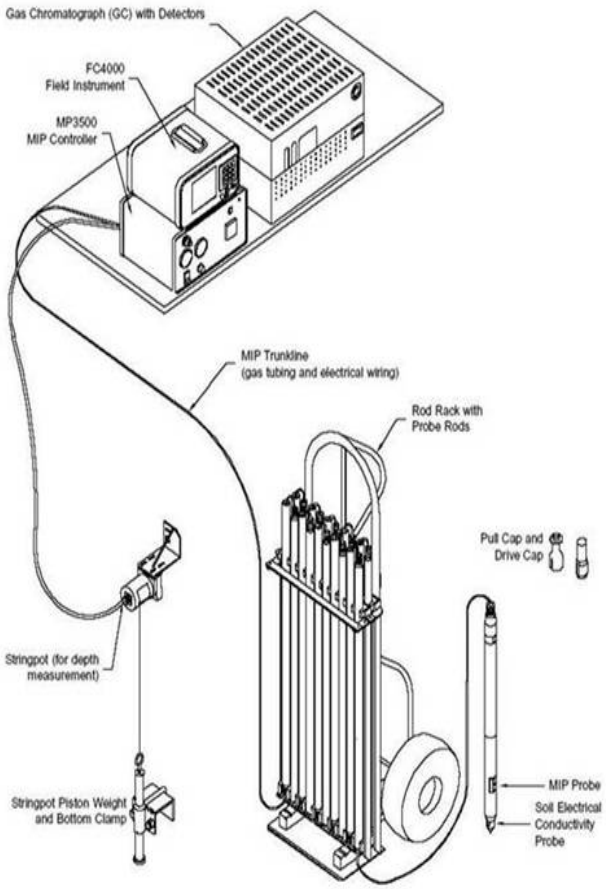
b. Objectives - Define the vertical and lateral extent of a diesel / gasoline plume. The exploratory area included 4 locations inside a warehouse and 2 locations outside the building.

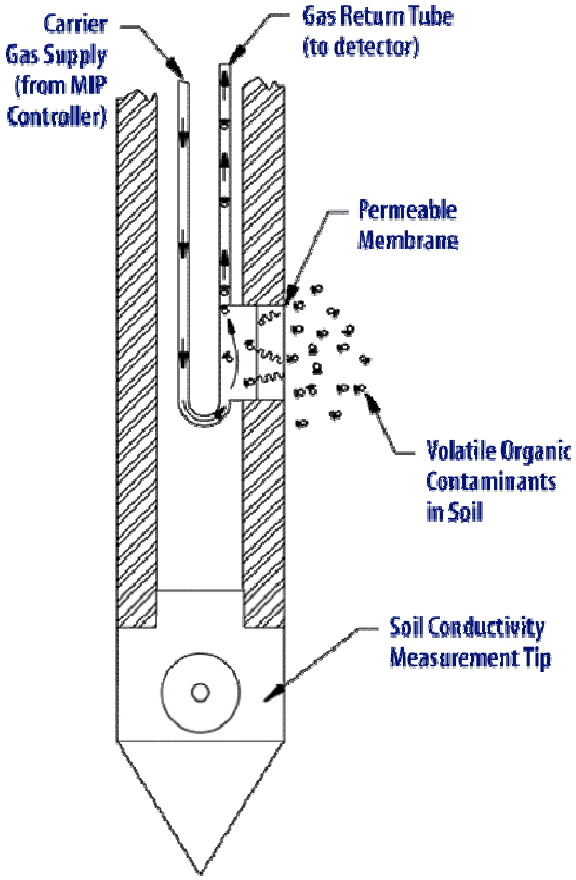
c. MIP Scope - The MIP scope consisted of completing 6 scheduled borings at depths ranging from 31 – 35 feet below ground surface.

2. MIP System Overview:

The MIP is a direct push tool that produces continuous chemical and physical logs of the vadose and saturated zones. It locates VOCs in-situ and shows you where they occur relative to the geologic and hydrologic units. Vertical profiles, transects, 3D pictures and maps can all be made from the electronic data generated by the MIP logs. Its unique capability of providing reliable, real-time information allows you to make better and timely decisions while your team is still in the field.

The MIP is a down hole tool that heats the soils and groundwater adjacent to the probe to 120 degrees C. This increases volatility and the vapor phase diffuses across a membrane into a closed, inert gas loop that carries these vapors to a series of detectors housed at the surface. Continuous chemical logs or profiles are generated from each hole. Soil conductivity is also measured and these logs can be compared to the chemical logs to better understand where the VOCs occur. The MIP technology is only appropriate for volatile organic compounds (VOCs). The gas stream can be analyzed with multiple detectors, for example an electron capture detector is used to detect chlorinated solvents, a photo-ionization detector is used to detect petroleum hydrocarbons, and a flame ionization detector is used to detect methane.





2.a Equipment Used:

- Geoprobe 6610
- MIP Controller (Nitrogen Flow and Heater)
- Geoprobe FC 5000 Computer
- HP 5890 Gas Chromatograph
- ECD (Electron Capture Detector)
- PID (Photo Ionization Detector) 10.2 eV Lamp
- FID (Photo Ionization Detector)
- 150' Geoprobe Trunkline
- 1.75" O.D. 6510 MIP Probe
- 1.5" O.D. Drive Rods

2.b Detector Overview

- ECD – Electron Capture Detector uses a radioactive Beta emitter (electrons) to ionize some of the carrier gas and produce a current between a biased pair of electrodes. When organic molecules contain electronegative functional groups, such as halogens, phosphorous, and nitro groups pass by the detector, they capture some of the electrons and reduce the current measured between the electrodes.

- PID – Photo Ionization Detector sample stream flows through the detector's reaction chamber where it is continuously irradiated with high energy ultraviolet light. When compounds are present that have a lower ionization potential than that of the irradiation energy (10.2 electron volts with standard lamp) they are ionized. The ions formed are collected in an electrical field, producing an ion current that is proportional to compound concentration. The ion current is amplified and output by the gas chromatograph's electrometer.

- FID – Flame Ionization Detector consists of a hydrogen / air flame and a collector plate. The effluent from the GC (trunkline) passes through the flame, which breaks down organic molecules and produces ions. The ions are collected on a biased electrode and produce an electric signal.

2.c MIP Data Collected

- Depth - Data is collected from twenty data points per foot. 0.05', 0.10', 0.15', etc…

- Electrical Conductivity - Electrical Conductivity data is measured/collected in milli-siemens per Meter (ms/M). The conductivity of soils is different for each type of media. Finer grained sediments, such as silts or clays, will have a higher EC signal. While coarser grained sediments, sands and gravel, will have a lower EC signal. The coarser grained sediments will allow the migration of contaminants and the finer grained sediments will trap the contaminant.

- Speed / Advancement Rate - Speed data is measured / collected in feet per minute (ft/min). Speed is an indication of the physical advancement rate of the MIP probe. Speed of the MIP probe can vary due to operator advancement and dense soil types. Speed log can provide soil type information which can be correlated with electrical conductivity. Lower advancement speed, correlated with lower conductivity or larger grained soils would more than likely be associated with dense or compacted sands.

- Temperature - Temperature data is measured / collected in Degrees Celsius. Temperature is an indication of the physical temperature of the MIP block. Minimum and Maximum temperature is collected at each vertical interval. Vironex's temperature protocol indicates that the MIP probe temperature shall maintain a minimum temperature of 75 Degrees Celsius.

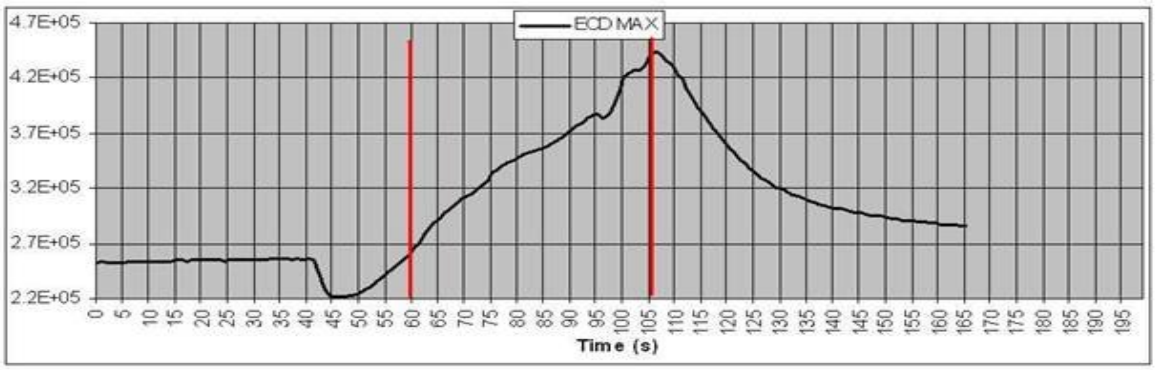
- Pressure - Pressure data is measured / collected in PSI. Pressure is an indication of the internal pressure of the nitrogen lines located within the trunkline and the pressure behind the membrane. Minimum and Maximum temperature is collected at each vertical interval. Geoprobes temperature protocol indicates that the MIP probe pressure shall not exceed 1.5 PSI difference from baseline.

- Detector (ECD, PID, FID) - Detector responses are measured/collected in micro Volts (uV). Detector responses are an indication of relative contaminant responses. Minimum and Maximum detector responses are collected at each vertical interval.

3. MIP QA/QC

Vironex adheres to Geoprobes Standard Operating Procedure, technical Bulletin No. MK3010, prepared: May, 2003. The response testing is a necessary part of the MIP logging process because it ensures that the system is working correctly and also enables the operator to measure the response time. Response time is the time it takes for the contaminant to go from the probe, through the trunk line, and to the detectors. This time is entered into the FC5000 computer for depth calculations. A response test is completed at the beginning of the day, between each boring, and at the end of each day. The response time will vary due to weather temperatures and length of the trunkline.

Per Geoprobe's SOP, a pass response is indicated as double the noise above the baseline.



APPENDIX A

Physical Properties Chart

Compound	Formula	Density	Flashpoint* (°C)	Molecular Weight	Melting Point (°C)	Boiling Point (°C)	Water Solubility**	ECD	PID	FID
1,1,1,2-Tetrachloroethane	$C_2H_2Cl_4$	1.5532	6	167.8498	-70.2	130.5	<0.1 g/100 mL at 20.5 C	●		
1,1,1-Trichloroethane	$C_2H_3Cl_3$	1.3376	N/A	133.4047	-32.6	74.1	Slightly soluble. 0.1495 g/100 mL	●		
1,1,2,2-Tetrachloroethane	$C_2H_2Cl_4$	1.595	N/A	167.8498	-43	146.3	Soluble. 0.2962 g/100 mL	●		
1,1,2-Trichloroethane	$C_2H_3Cl_3$	1.4411	N/A	133.4047	-36.5	113.8	Insoluble. 0.442 g/100 mL	●		
1,1-Dichloroethane	$C_2H_4Cl_2$	1.176	-5	98.9596	-97.4	57.3	Slightly soluble. 0.506 g/100 mL	●		
1,1-Dichloroethene	$C_2H_2Cl_2$	1.213	-28	96.9438	-122.1	31.7	Insoluble. 0.225 g/100 mL	●	●	
2,3-Dichloropropene	$C_3H_4Cl_2$	1.204	10	110.9706	10	94	<0.1 g/100 mL at 22 C	●	●	
1,2,3-Trichlorobenzene	$C_6H_3Cl_3$	1.69	126	181.4487	52.6	219	Insoluble	●	●	
1,2,3-Trichloropropane	$C_3H_5Cl_3$	1.389	82	147.4315	-14.7	156	insoluble. 0.18 g/100 mL	●		
1,2,4-Trichlorobenzene	$C_6H_3Cl_3$	1.4634	110	181.4487	16.95	214.4	Insoluble. 0.0049 g/100 mL	●	●	
1,2-Dichlorobenzene	$C_6H_4Cl_2$	1.306	67	147.0036	-15	180.5	slightly soluble. 0.008396 g/100 mL	●	●	
1,2-Dichloroethane	$C_2H_4Cl_2$	1.253	13	98.9596	-35.3	83.5	Slightly soluble. 0.8608 g/100 mL	●		
1,2-Dichloropropane	$C_3H_6Cl_2$	1.1558	15	112.9864	-100.4	96.8	Slightly soluble. 0.27 g/100 mL	●		
1,3-Dichlorobenzene	$C_6H_4Cl_2$	1.288	67	147.0036	-24.76	173	insoluble. 0.0125 g/100 mL	●	●	
1,4-Dichlorobenzene	$C_6H_4Cl_2$	1.2417	67	147.0036	53.1	173.4	Insoluble. 0.00813 g/100 mL	●	●	
1,2-Dichloropropane	$C_3H_6Cl_2$	1.1558	15	112.9864	-100.4	96.8	Slightly soluble. 0.27 g/100 mL	●		
2-Chloropropane	C_3H_7Cl	0.862	-32	78.5413	-117.18	35.74	0.31 g/100 mL at 20 C	●		
2-Chlorotoluene	C_7H_7Cl	1.082	47	126.5853	-35.1	158.97	Slightly soluble	●	●	
3-Chloropropene	C_3H_5Cl	0.938	-29	76.5255	-134.5	44 - 46	Slightly soluble. 0.337 g/100 mL	●	●	
4-Chlorotoluene	C_7H_7Cl	1.07	49	126.5853	7.5	161.9	<0.1 g/100 mL at 20 C	●	●	
Carbon tetrachloride	CCl_4	1.594	N/A	153.823	-22.9	76.7	Slightly sol. 0.08048 g/100 mL	●		
Chlorobenzene	C_6H_5Cl	1.1066	29	112.5585	-45.6	130	Slightly soluble. 0.0497 g/100 mL	●	●	
Chloroethane	C_2H_5Cl	0.92	-50	64.5145	-136.4	12.3	Soluble. 0.574 g/100 mL at 20 C	●		
Chloroform	$CHCl_3$	1.49845	N/A	119.3779	-63.7	61.7	Slightly sol. 0.795 g/100 mL	●		
Chloromethane	CH_3Cl	0.991	N/A	50.4877	-97.1	-24.2	insoluble. 0.5325 g/100 mL	●		
cis-1,2-Dichloroethene	$C_2H_2Cl_2$	1.284	6	96.9438	-80.5	60	0.08 g/100 mL	●	●	
cis-1,3-Dichloropropene	$C_3H_4Cl_2$	1.22	N/A	110.9706	-50	104.3	<0.1 g/100 mL at 20.5 C	●	●	
cis-1,4-Dichloro-2-butene	$C_4H_6Cl_2$	1.188	56	124.9974	-48	152	0.058 g/100 mL	●	●	
Methylene Chloride	CH_2Cl_2	1.3255	N/A	84.9328	-96.7	39.8	Slightly sol. 1.32 g/100 mL	●		
Tetrachloroethene	C_2Cl_4	1.623	N/A	165.834	-22.3	121.1	Almost insoluble 0.015 g/100 mL	●	●	
Trans-1,2-Dichloroethene	$C_2H_2Cl_2$	1.257	6	96.9438	-50	47.5	Slightly. 0.63 g/100 mL	●	●	

Compound	Formula	Density	Flashpoint* (°C)	Molecular Weight	Melting Point (°C)	Boiling Point (°C)	Water Solubility**	ECD	PID	FID
trans-1,3-Dichloropropene	$C_3H_4Cl_2$	1.217	27	110.9706	N/A	112	<0.1 g/100 mL at 20.5 C	●	●	
trans-1,4-Dichloro-2-butene	$C_4H_6Cl_2$	1.183	N/A	124.9974	2	155.5	0.085 g/100 mL at 25 C	●	●	
Trichloroethene	C_2HCl_3	1.462	N/A	131.3889	-86	86.7	Slightly soluble. 0.11 g/100 mL	●	●	
Vinyl Chloride	C_2H_3Cl	0.9106	42	62.4987	-153.7	-13.9	Slightly soluble 0.11 g/100 mL	●	●	
Benzene	C_6H_6	0.8786	-11	78.1134	5.5	80.1	Slightly sol. 0.18 g/100 mL		●	●
Hexane	C_6H_{14}	0.6548	-22	86.1766	-95	69	Slightly sol. .000947 g/100 mL		●	●
n-Butylbenzene	$C_{10}H_{14}$	0.86	59	134.2206	-88	183	insoluble		●	●
1,2,4-Trimethylbenzene	C_9H_{12}	0.876	48	120.1938	-43.8	169	Slightly soluble		●	●
1,3,5-Trimethylbenzene	C_9H_{12}	0.865	44	120.1938	-44.7	165	insoluble		●	●
Ethyl Benzene	C_8H_{10}	0.867	15	106.167	-94.9	136.2	0.0206 g/100 mL		●	●
m,p-Xylene	C_8H_{10}	0.862	25	106.167	-50	140	Insoluble. 0.0175 g/100 mL		●	●
Naphthalene	$C_{10}H_8$	0.997	78	128.1732	80.6	218	Slightly soluble. 0.0031 g/100 mL		●	●
o-Xylene	C_8H_{10}	0.897	32	106.167	-25.2	144	0.00 g/100 mL. Insoluble		●	●
n-Propylbenzene	C_9H_{12}	0.862	47	120.1938	-101.6	159	insoluble		●	●
Toluene	C_7H_8	0.867	4	92.1402	-93	110.6	Slightly sol. 0.0526 g/100 mL		●	●
1,2-Dibromo-3-chloropropane	$C_3H_5Br_2Cl$	2.05	N/A	236.3335	6	195	0.123 g/100 mL	●		
1,2-Dibromoethane	$C_2H_4Br_2$	2.17	1	187.8616	9.97	131.7	Slightly sol. 0.4152 g/100 mL	●		
1,3-Dichloropropane	$C_3H_6Cl_2$	1.188	20	112.9864	-99	120.4	insoluble	●		
Acrylonitrile	C_3H_3N	0.8075	-5	53.0634	-83.55	77.3	Soluble. 7.45 g/100 mL		●	
Bromobenzene	C_6H_5Br	1.495	51	157.0095	-30.8	155	insoluble. <0.1 g/100 mL at 20.5 C	●	●	
Bromochloromethane	CH_2BrCl	1.991	N/A	129.3838	-88	67.8	Slightly soluble. 0.1-0.5 g/100 mL at 20 C	●		
Bromodichloromethane	$CHBrCl_2$	1.971	N/A	163.8289	-57.1	90.1	Slightly soluble. 0.6735 g/100 mL	●		
Bromoform	$CHBr_3$	2.894	N/A	252.7309	8.3	149.5	Slightly soluble. 0.301 g/100 mL	●		
Bromomethane	CH_3Br	1.732	N/A	94.9387	-93.7	3.56	Very slightly soluble. 1.522 g/100 mL	●		
Carbon disulfide	CS_2	1.2632	-30	76.131	-110	46.2	Slightly sol. 0.1185 g/100 mL		●	
Cumene	C_9H_{12}	0.862	31	120.1938	-96	151	insoluble. 0.00499 g/100 mL		●	
Dibromochloromethane	$CHBr_2Cl$	2.451	N/A	208.2799	-22	120	0.4 g/100 mL	●		
Dibromomethane	CH_2Br_2	2.497	N/A	173.8348	-53	97	Soluble. 1.193 g/100 mL	●		
Freon 11	CCl_3F	1.494	N/A	137.3684	-111	23.8	insoluble. 0.124 g/100 mL	●		
Freon 113	$C_2Cl_3F_3$	1.575	N/A	187.3762	-36.4	47.6	0.02 g/100 mL. Slightly soluble. Insoluble	●		

Compound	Formula	Density	Flashpoint* (°C)	Molecular Weight	Melting Point (°C)	Boiling Point (°C)	Water Solubility**	ECD	PID	FID
Hexachlorobutadiene	C_4Cl_6	1.68	N/A	260.762	-21	210	Insoluble. 0.00032 g/100 mL	●	●	
p-Cymene	$C_{10}H_{14}$	0.86	47	134.2206	-67	176 - 178	insoluble		●	
sec-Butylbenzene	$C_{10}H_{14}$	0.862	45	134.2206	-75	173	0.00176 g/100mL		●	
Styrene	C_8H_8	0.9045	32	104.1512	-30.6	145.2	0.032 g/100 mL		●	●
tert-Butylbenzene	$C_{10}H_{14}$	0.867	44	134.2206	-58	169	0.00295 g/100 mL		●	

* Compound with no flashpoint are not ignitable.

** If temperature is not otherwise noted, assume 25° C.

● indicates a possible response on specific detector

Associated Parent Compound
Chlorinated
Gasoline
Diesel
Gasoline and Diesel
Not typical of primary compounds

Compound	Formula	Density	Flashpoint* (°C)	Molecular Weight	Melting Point (°C)	Boiling Point (°C)	Water Solubility**	ECD	PID	FID
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1,1-Dichloroethene	$C_2H_2Cl_2$	1.213	-28	96.9438	-122.1	31.7	Insoluble. 0.225 g/100 mL	●	●	
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1,2-Dichlorobenzene	$C_6H_4Cl_2$	1.306	67	147.0036	-15	180.5	slightly soluble. 0.008396 g/100 mL	●	●	
1,2-Dichloroethane	$C_2H_4Cl_2$	1.253	13	98.9596	-35.3	83.5	Slightly soluble. 0.8608 g/100 mL	●		
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Chlorobenzene	C_6H_5Cl	1.1066	29	112.5585	-45.6	130	Slightly soluble. 0.0497 g/100 mL	●	●	
Chloroethane	C_2H_5Cl	0.92	-50	64.5145	-136.4	12.3	Soluble. 0.574 g/100 mL at 20 C	●		
Chloroform	$CHCl_3$	1.49845	N/A	119.3779	-63.7	61.7	Slightly sol. 0.795 g/100 mL	●		
Chloromethane	CH_3Cl	0.991	N/A	50.4877	-97.1	-24.2	insoluble. 0.5325 g/100 mL	●		
cis-1,2-Dichloroethene	$C_2H_2Cl_2$	1.284	6	96.9438	-80.5	60	0.08 g/100 mL	●	●	
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cis-1,4-Dichloro-2-butene	$C_4H_6Cl_2$	1.188	56	124.9974	-48	152	0.058 g/100 mL	●	●	
Methylene Chloride	CH_2Cl_2	1.3255	N/A	84.9328	-96.7	39.8	Slightly sol. 1.32 g/100 mL	●		
Tetrachloroethene	C_2Cl_4	1.623	N/A	165.834	-22.3	121.1	Almost insoluble 0.015 g/100 mL	●	●	
Trans-1,2-Dichloroethene	$C_2H_2Cl_2$	1.257	6	96.9438	-50	47.5	Slightly. 0.63 g/100 mL	●	●	

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trans-1,4-Dichloro-2-butene	$C_4H_6Cl_2$	1.183	N/A	124.9974	2	155.5	0.085 g/100 mL at 25 C	●	●	
Trichloroethene	C_2HCl_3	1.462	N/A	131.3889	-86	86.7	Slightly soluble. 0.11 g/100 mL	●	●	
Vinyl Chloride	C_2H_3Cl	0.9106	42	62.4987	-153.7	-13.9	Slightly soluble 0.11 g/100 mL	●	●	
Benzene	C_6H_6	0.8786	-11	78.1134	5.5	80.1	Slightly sol. 0.18 g/100 mL		●	●
Hexane	C_6H_{14}	0.6548	-22	86.1766	-95	69	Slightly sol. .000947 g/100 mL		●	●
n-Butylbenzene	$C_{10}H_{14}$	0.86	59	134.2206	-88	183	insoluble		●	●
1,2,4-Trimethylbenzene	C_9H_{12}	0.876	48	120.1938	-43.8	169	Slightly soluble		●	●
1,3,5-Trimethylbenzene	C_9H_{12}	0.865	44	120.1938	-44.7	165	insoluble		●	●
Ethyl Benzene	C_8H_{10}	0.867	15	106.167	-94.9	136.2	0.0206 g/100 mL		●	●
m,p-Xylene	C_8H_{10}	0.862	25	106.167	-50	140	Insoluble. 0.0175 g/100 mL		●	●
Naphthalene	$C_{10}H_8$	0.997	78	128.1732	80.6	218	Slightly soluble. 0.0031 g/100 mL		●	●
o-Xylene	C_8H_{10}	0.897	32	106.167	-25.2	144	0.00 g/100 mL. Insoluble		●	●
n-Propylbenzene	C_9H_{12}	0.862	47	120.1938	-101.6	159	insoluble		●	●
Toluene	C_7H_8	0.867	4	92.1402	-93	110.6	Slightly sol. 0.0526 g/100 mL		●	●
1,2-Dibromo-3-chloropropane	$C_3H_5Br_2Cl$	2.05	N/A	236.3335	6	195	0.123 g/100 mL	●		
1,2-Dibromoethane	$C_2H_4Br_2$	2.17	1	187.8616	9.97	131.7	Slightly sol. 0.4152 g/100 mL	●		
1,3-Dichloropropane	$C_3H_6Cl_2$	1.188	20	112.9864	-99	120.4	insoluble	●		
Acrylonitrile	C_3H_3N	0.8075	-5	53.0634	-83.55	77.3	Soluble. 7.45 g/100 mL		●	
Bromobenzene	C_6H_5Br	1.495	51	157.0095	-30.8	155	insoluble. <0.1 g/100 mL at 20.5 C	●	●	
Bromochloromethane	CH_2BrCl	1.991	N/A	129.3838	-88	67.8	Slightly soluble. 0.1-0.5 g/100 mL at 20 C	●		
Bromodichloromethane	$CHBrCl_2$	1.971	N/A	163.8289	-57.1	90.1	Slightly soluble. 0.6735 g/100 mL	●		
Bromoform	$CHBr_3$	2.894	N/A	252.7309	8.3	149.5	Slightly soluble. 0.301 g/100 mL	●		
Bromomethane	CH_3Br	1.732	N/A	94.9387	-93.7	3.56	Very slightly soluble. 1.522 g/100 mL	●		
Carbon disulfide	CS_2	1.2632	-30	76.131	-110	46.2	Slightly sol. 0.1185 g/100 mL		●	
Cumene	C_9H_{12}	0.862	31	120.1938	-96	151	insoluble. 0.00499 g/100 mL		●	
Dibromochloromethane	$CHBr_2Cl$	2.451	N/A	208.2799	-22	120	0.4 g/100 mL	●		
Dibromomethane	CH_2Br_2	2.497	N/A	173.8348	-53	97	Soluble. 1.193 g/100 mL	●		
Freon 11	CCl_3F	1.494	N/A	137.3684	-111	23.8	insoluble. 0.124 g/100 mL	●		
Freon 113	$C_2Cl_3F_3$	1.575	N/A	187.3762	-36.4	47.6	0.02 g/100 mL. Slightly soluble. Insoluble	●		

Compound	Formula	Density	Flashpoint* (°C)	Molecular Weight	Melting Point (°C)	Boiling Point (°C)	Water Solubility**	ECD	PID	FID
Hexachlorobutadiene	C_4Cl_6	1.68	N/A	260.762	-21	210	Insoluble. 0.00032 g/100 mL	●	●	
p-Cymene	$C_{10}H_{14}$	0.86	47	134.2206	-67	176 - 178	insoluble		●	
sec-Butylbenzene	$C_{10}H_{14}$	0.862	45	134.2206	-75	173	0.00176 g/100mL		●	
Styrene	C_8H_8	0.9045	32	104.1512	-30.6	145.2	0.032 g/100 mL		●	●
tert-Butylbenzene	$C_{10}H_{14}$	0.867	44	134.2206	-58	169	0.00295 g/100 mL		●	

* Compound with no flashpoint are not ignitable.

** If temperature is not otherwise noted, assume 25° C.

● indicates a possible response on specific detector

Associated Parent Compound
Chlorinated
Gasoline
Diesel
Gasoline and Diesel
Not typical of primary compounds

APPENDIX B

MIP BORINGS

5292 Pacheco Boulevard
Pacheco, CA 94553
P:(925) 521-1490
F:(925) 521-1494
www.vironex.com

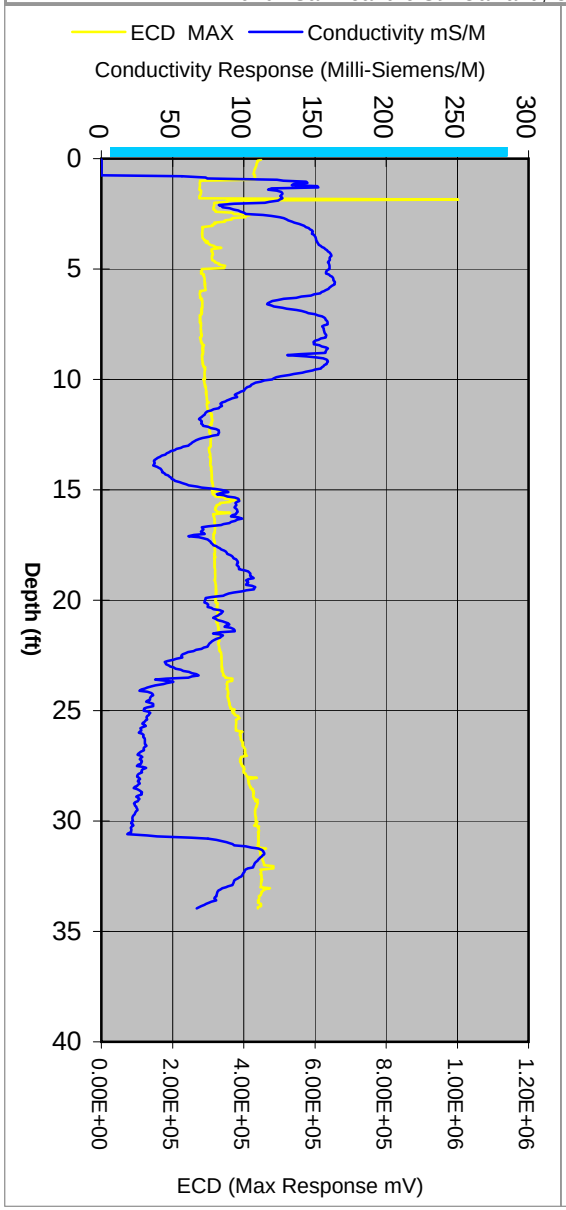
Boring Name: MIP-3

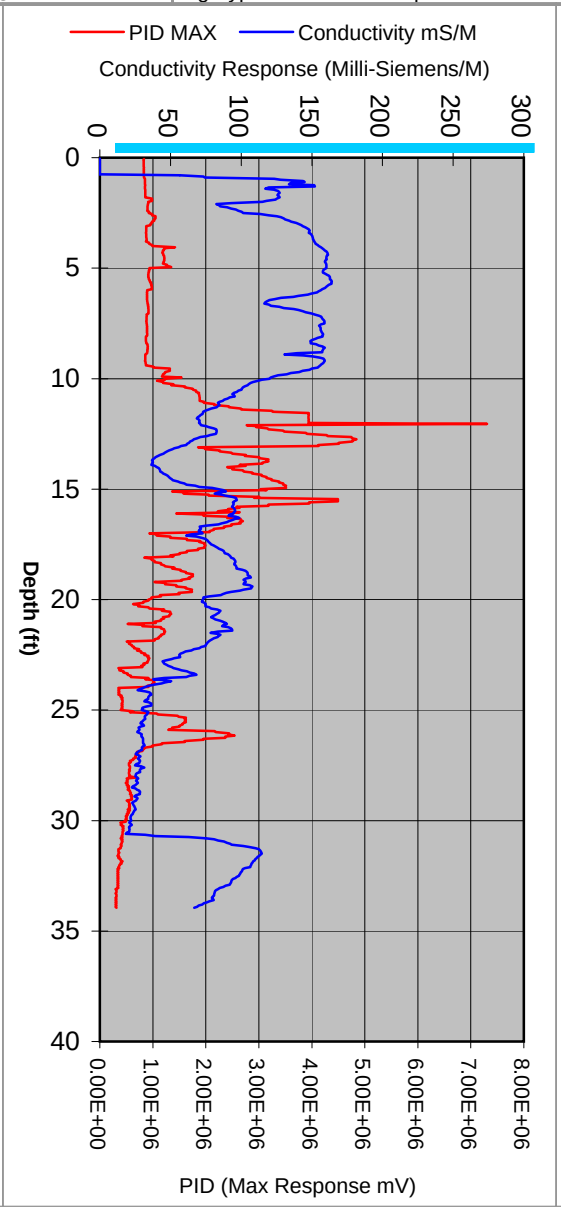
Total Depth (ft): 33.95

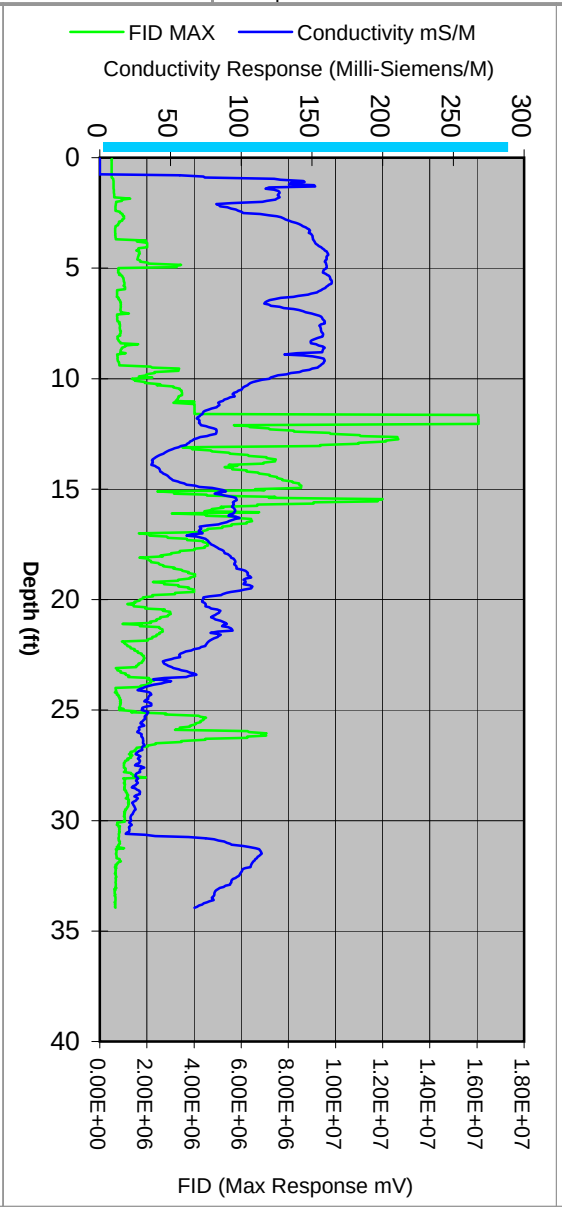
Notes: Broke through concrete with starbit approx 2'-3' bgs. Probe temp dropped to approx 75 - 80 degrees at 5' bgs. Thermocouple may have backed off from set point behind heater.

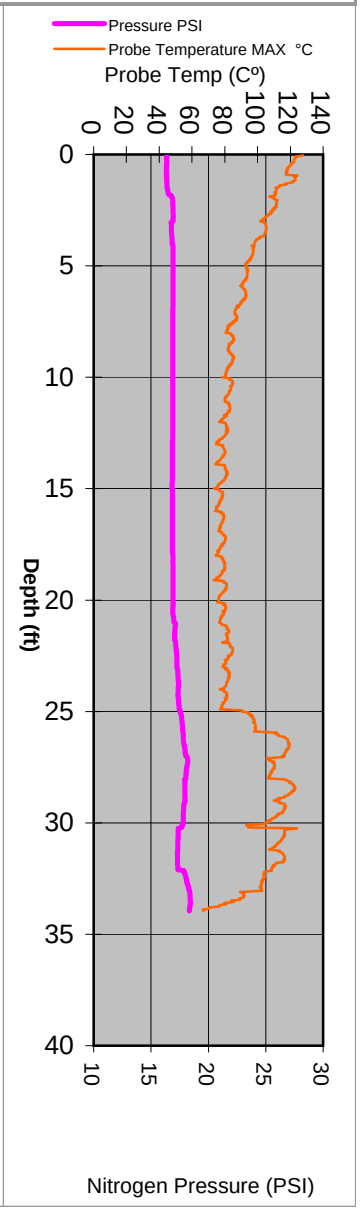
GW Depth (ft): Depth of GW Provided by Client

Job Information		MIP Sampling Information			
Client Company:	LFR	Trunkline Length:	150	Start Boring Time:	Mon Jan 05 2009 09:23
Project Name:	Service West	Probe Type:	6510	End Boring Time:	Mon Jan 05 2009 10:03
Site Address:	9201 San Leandro St - Oakland, CA	Rig Type:	Geoprobe 6600	MIP Specialist:	Jeff Paul









5292 Pacheco Boulevard
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P:(925) 521-1490
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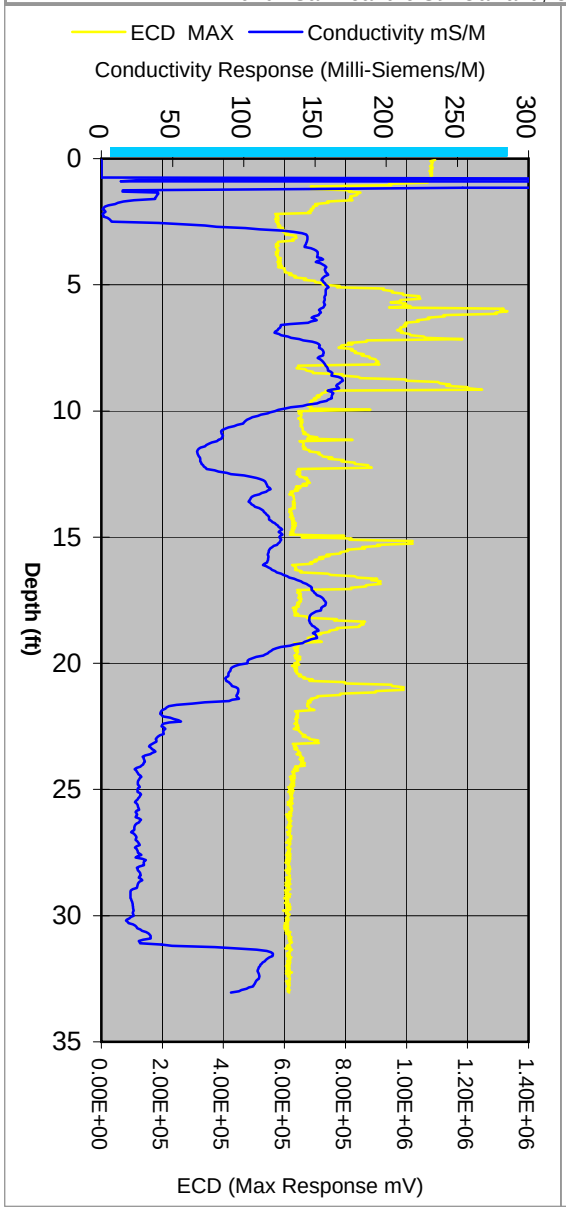
Boring Name: MIP-4

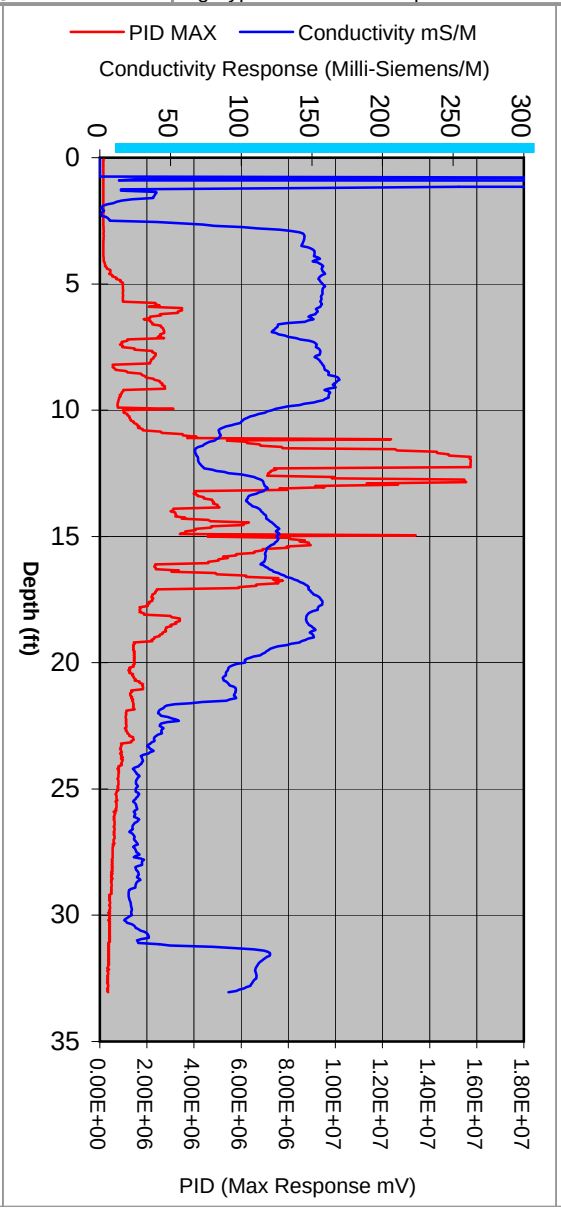
Total Depth (ft): 33.05

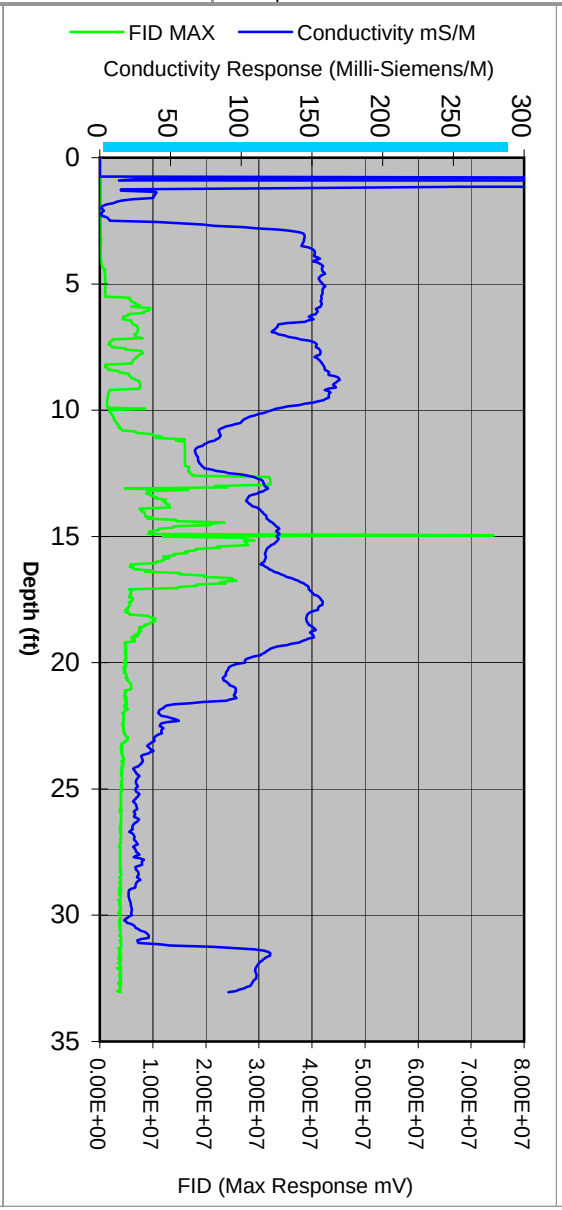
Notes: Broke through concrete with starbit approx 2'-3' bgs. Higher ECD baseline due to switching systems.

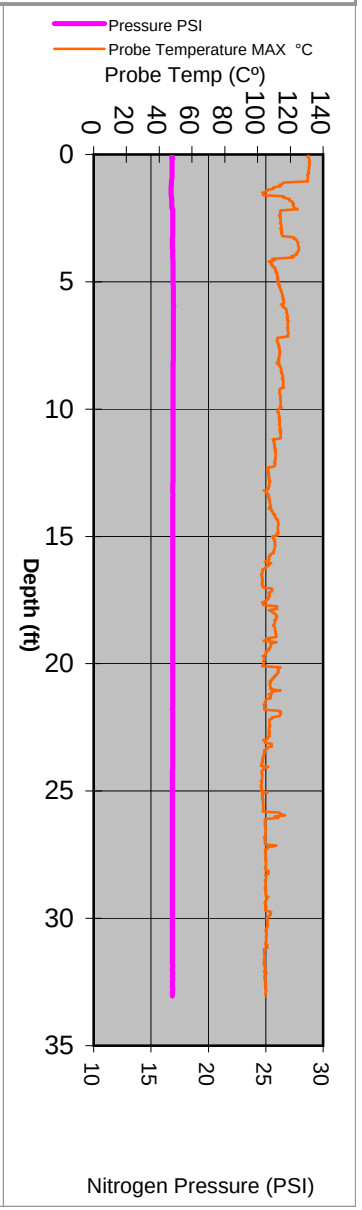
GW Depth (ft): Depth of GW Provided by Client

Job Information		MIP Sampling Information			
Client Company:	LFR	Trunkline Length:	150	Start Boring Time:	Mon Jan 05 2009 11:51
Project Name:	Service West	Probe Type:	6510	End Boring Time:	Mon Jan 05 2009 12:26
Site Address:	9201 San Leandro St - Oakland, CA	Rig Type:	Geoprobe 6600	MIP Specialist:	Jeff Paul









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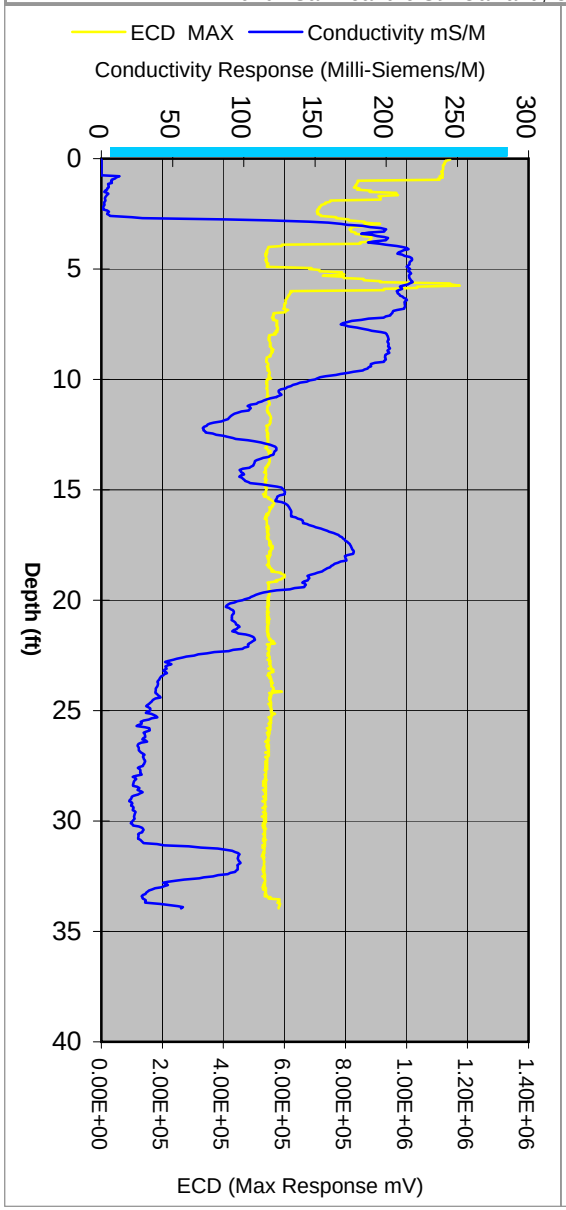
Boring Name: MIP-5

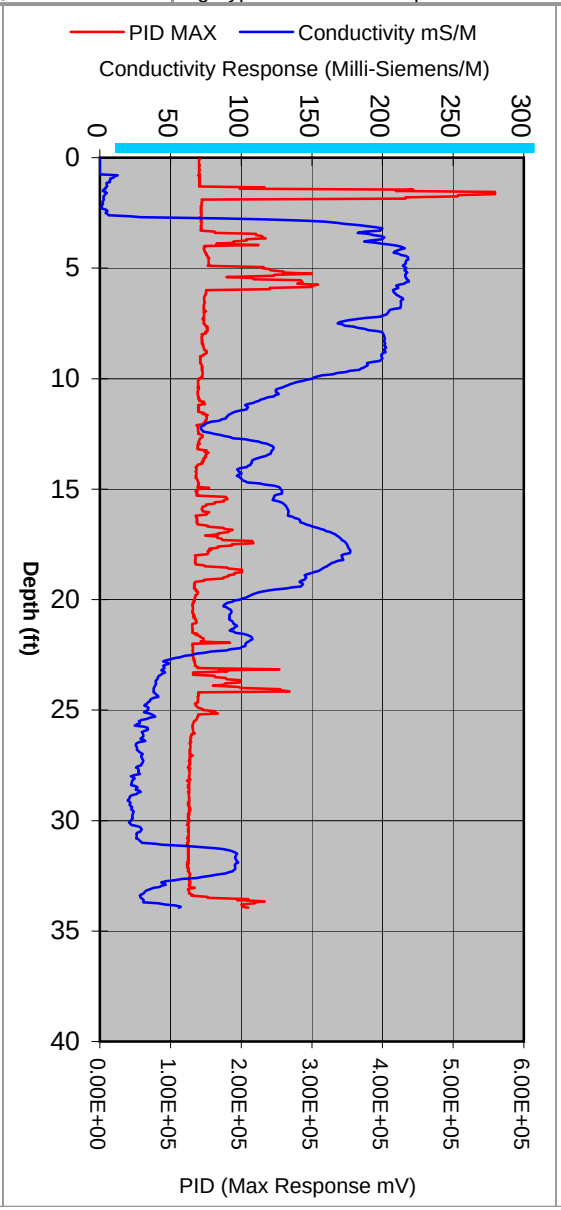
Total Depth (ft): 33.95

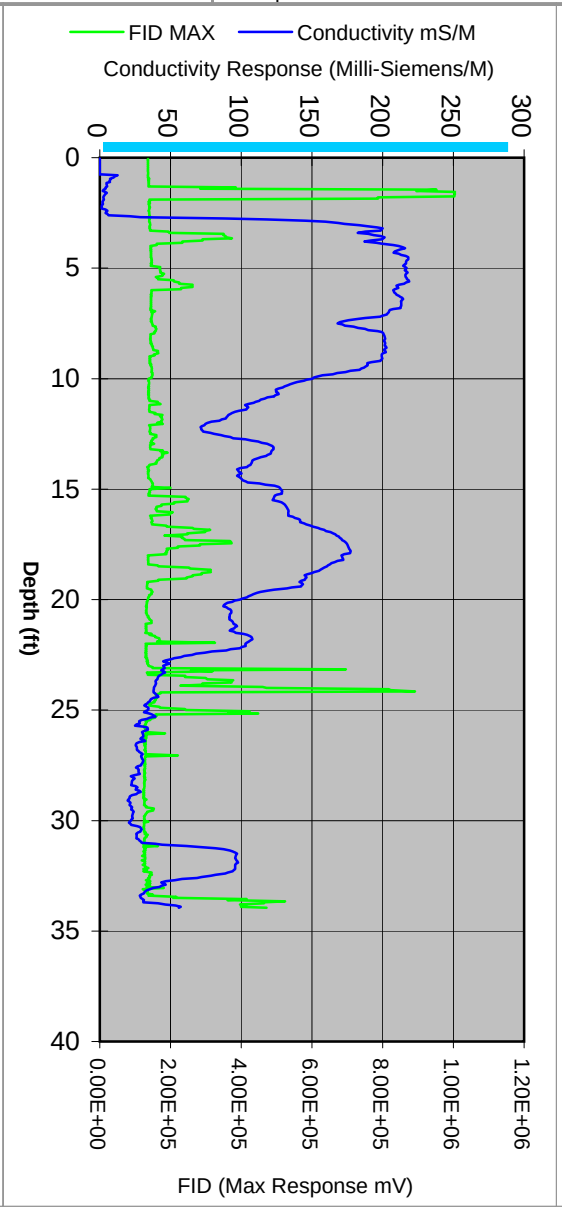
Notes: Broke through concrete with starbit approx 2'-3' bgs.

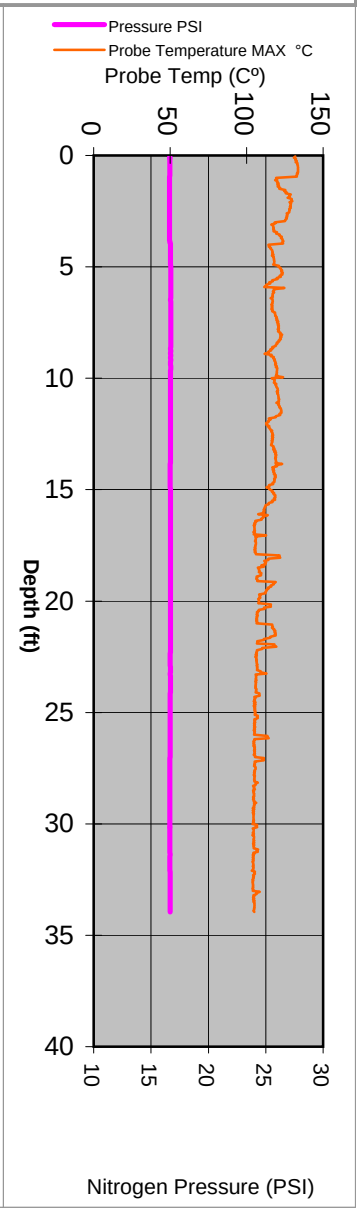
GW Depth (ft): Depth of GW Provided by Client

Job Information		MIP Sampling Information			
Client Company:	LFR	Trunkline Length:	150	Start Boring Time:	Mon Jan 05 2009 15:21
Project Name:	Service West	Probe Type:	6510	End Boring Time:	Mon Jan 05 2009 16:03
Site Address:	9201 San Leandro St - Oakland, CA	Rig Type:	Geoprobe 6600	MIP Specialist:	Jeff Paul









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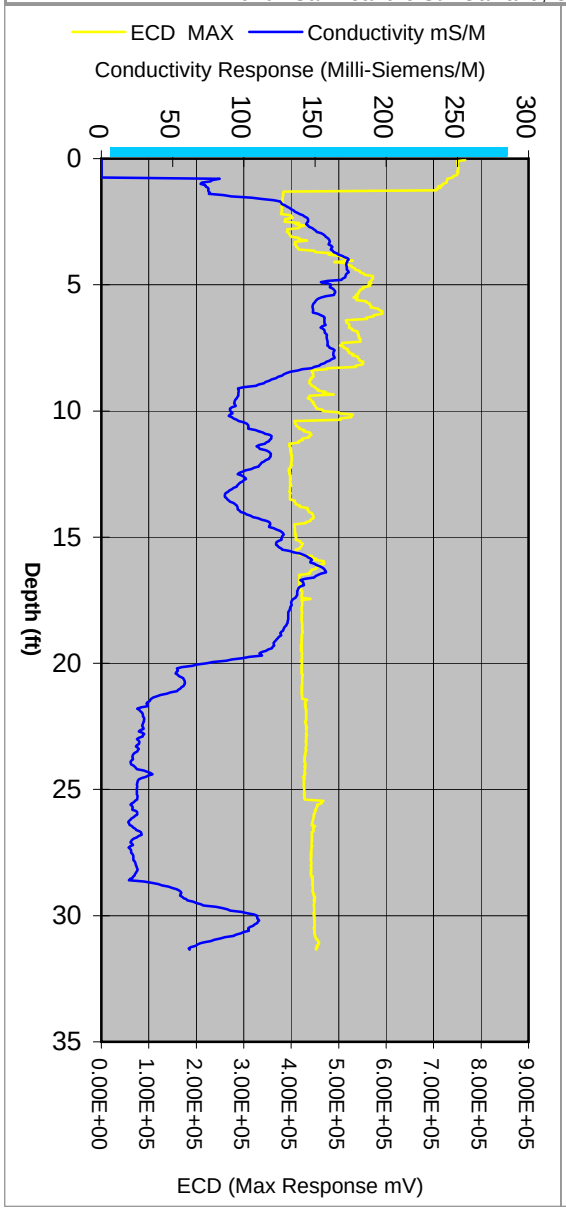
Boring Name: MIP-6

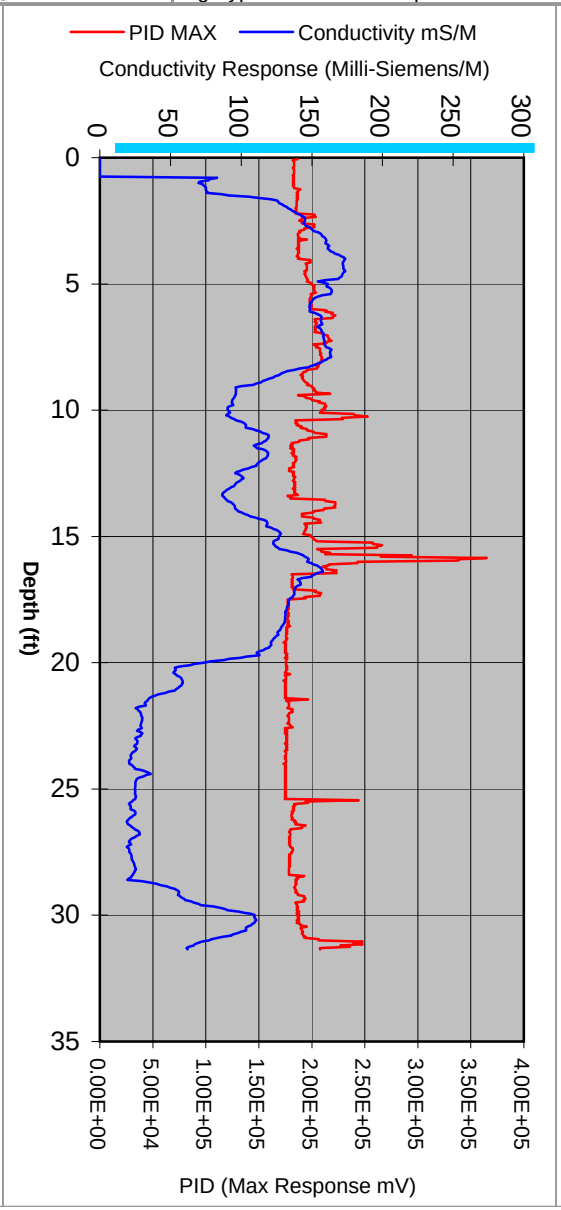
Total Depth (ft): 31.35

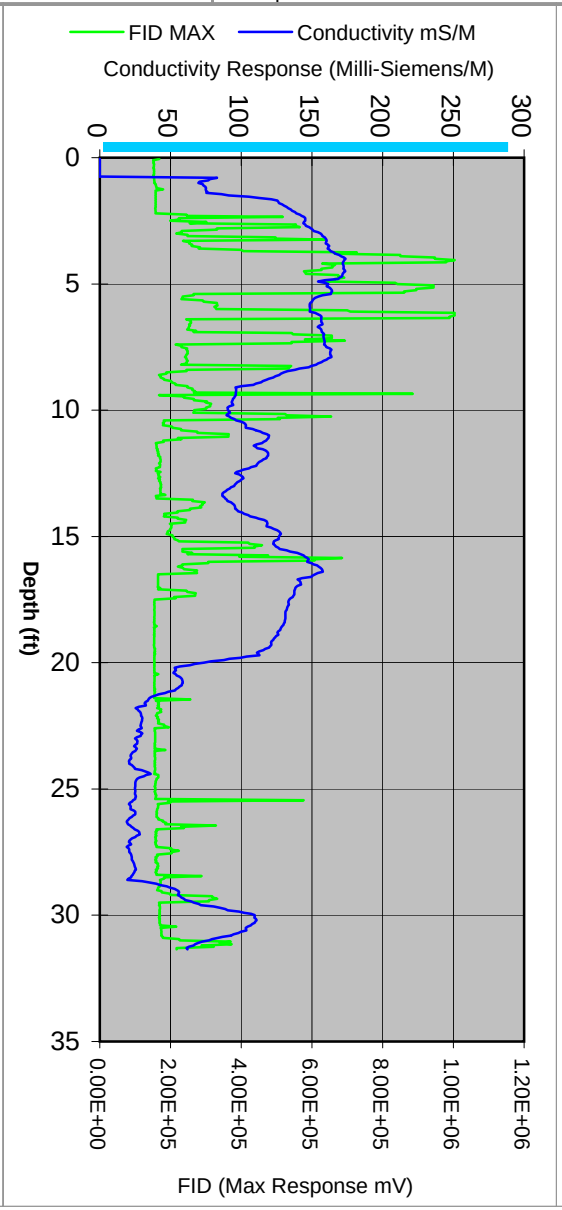
Notes: Broke through asphalt with starbit approx 2' bgs.

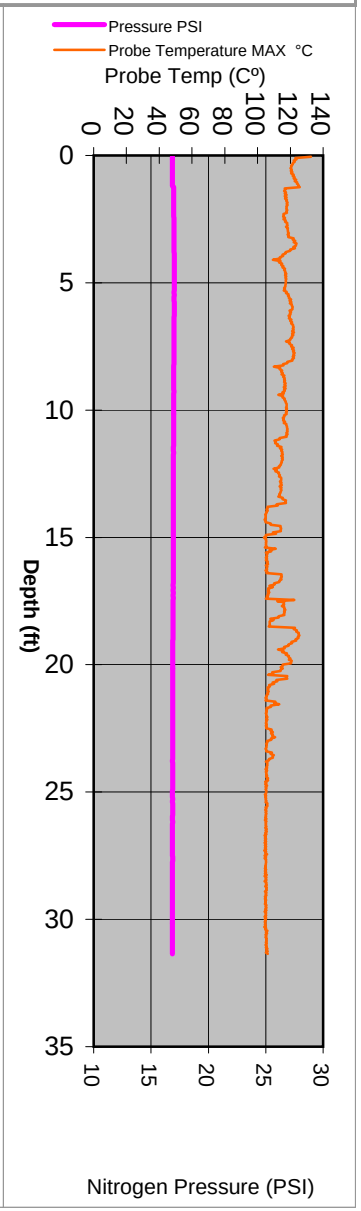
GW Depth (ft): Depth of GW Provided by Client

Job Information		MIP Sampling Information			
Client Company:	LFR	Trunkline Length:	150	Start Boring Time:	Tue Jan 06 2009 09:07
Project Name:	Service West	Probe Type:	6510	End Boring Time:	Tue Jan 06 2009 09:42
Site Address:	9201 San Leandro St - Oakland, CA	Rig Type:	Geoprobe 6600	MIP Specialist:	Jeff Paul









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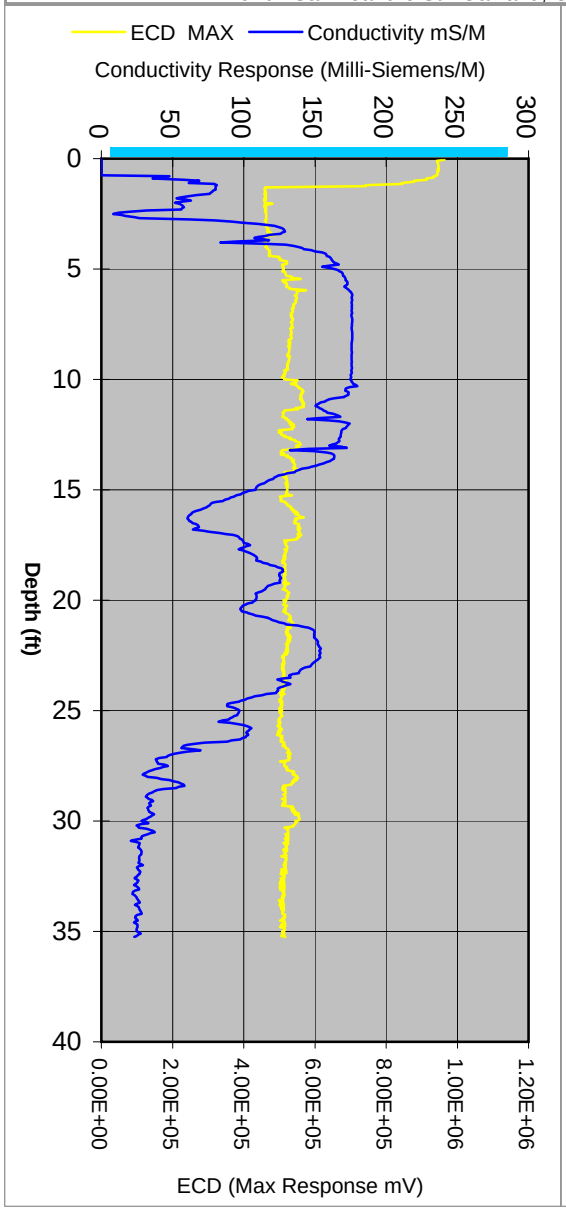
Boring Name: MIP-2

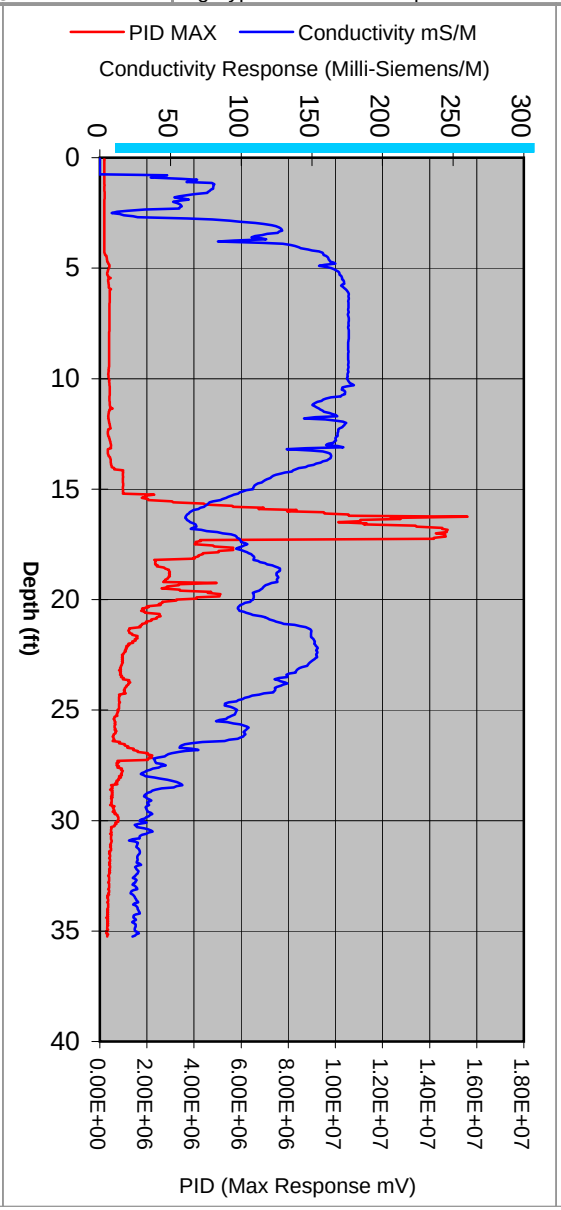
Total Depth (ft): 35.25

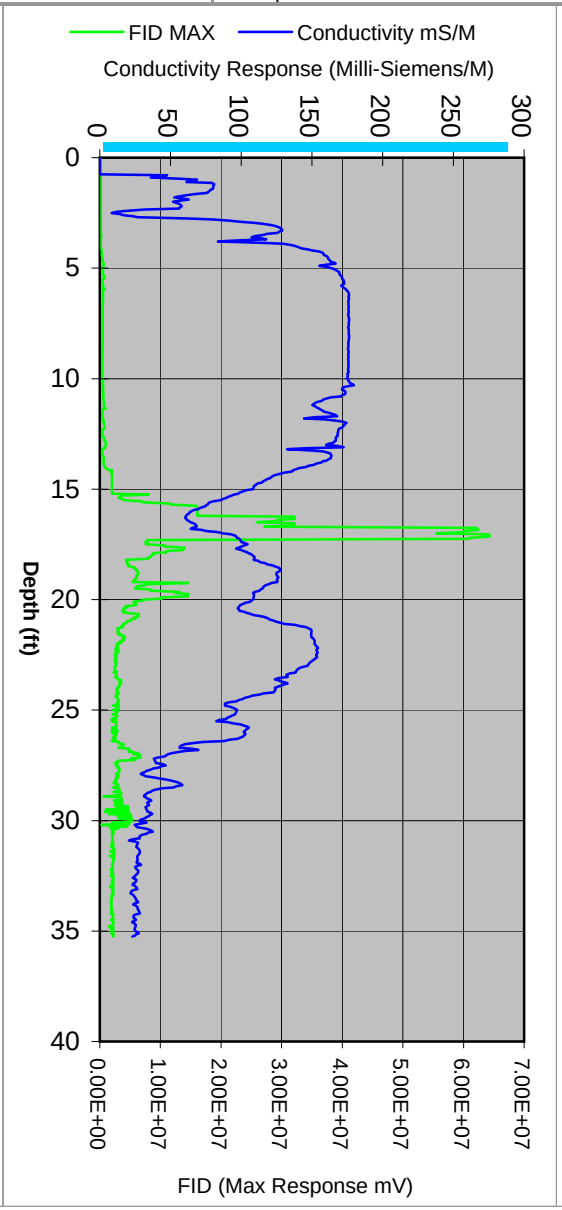
Notes: Broke through concrete with starbit approx 2' bgs.

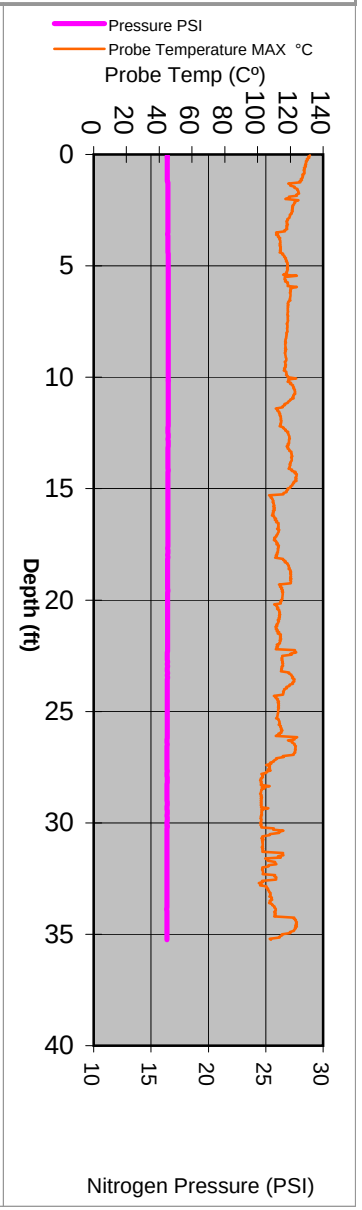
GW Depth (ft): Depth of GW Provided by Client

Job Information		MIP Sampling Information			
Client Company:	LFR	Trunkline Length:	150	Start Boring Time:	Tue Jan 06 2009 10:37
Project Name:	Service West	Probe Type:	6510	End Boring Time:	Tue Jan 06 2009 11:20
Site Address:	9201 San Leandro St - Oakland, CA	Rig Type:	Geoprobe 6600	MIP Specialist:	Jeff Paul









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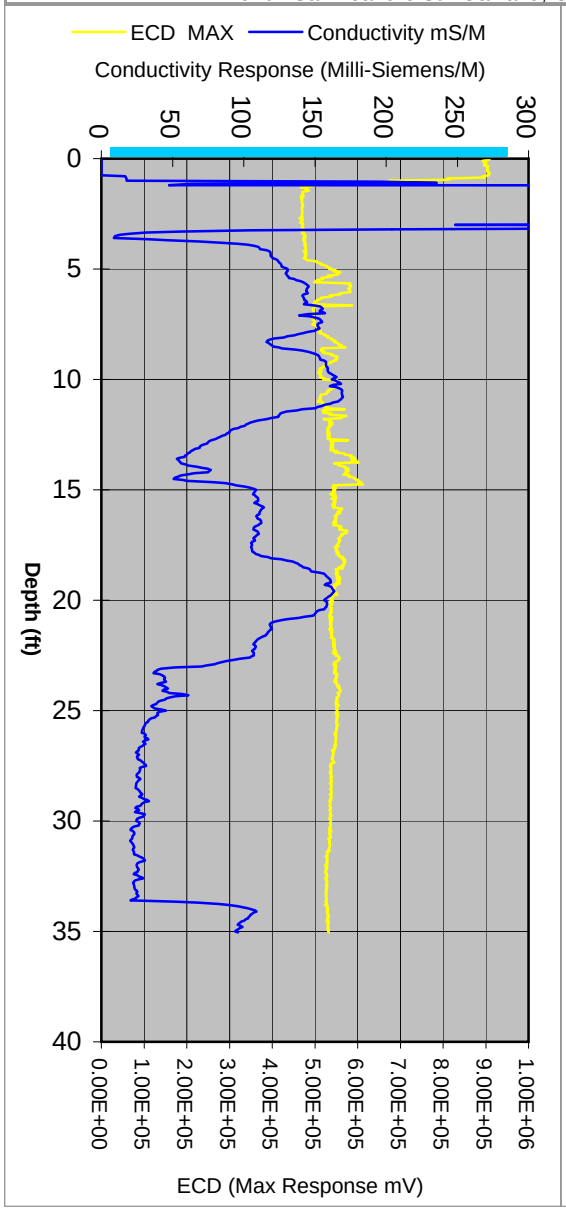
Boring Name: MIP-1

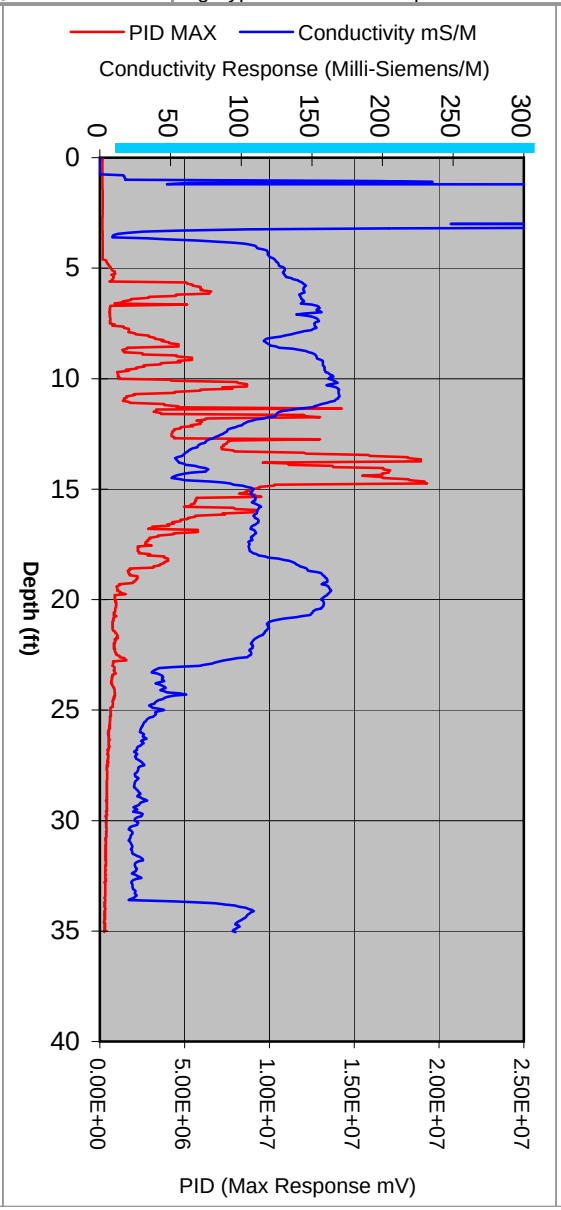
Total Depth (ft): 35.05

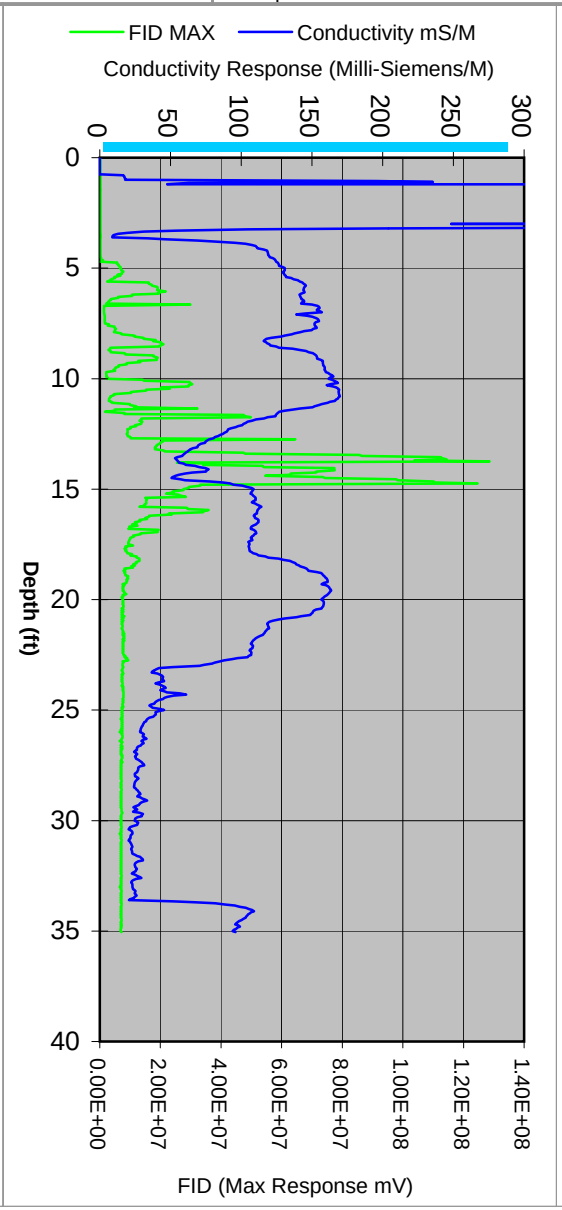
Notes: Broke through concrete with starbit approx 2' bgs. EC fault 1' to 3' bgs.

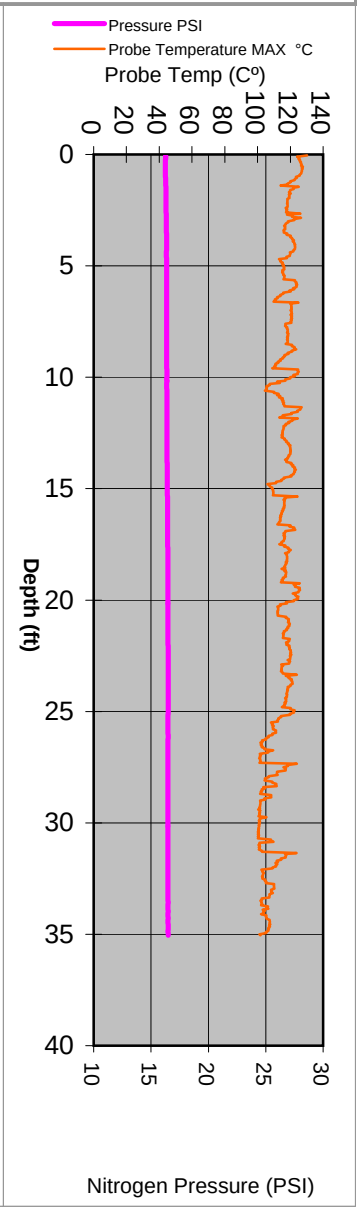
GW Depth (ft): Depth of GW Provided by Client

Job Information		MIP Sampling Information			
Client Company:	LFR	Trunkline Length:	150	Start Boring Time:	Tue Jan 06 2009 14:00
Project Name:	Service West	Probe Type:	6510	End Boring Time:	Tue Jan 06 2009 14:58
Site Address:	9201 San Leandro St - Oakland, CA	Rig Type:	Geoprobe 6600	MIP Specialist:	Jeff Paul

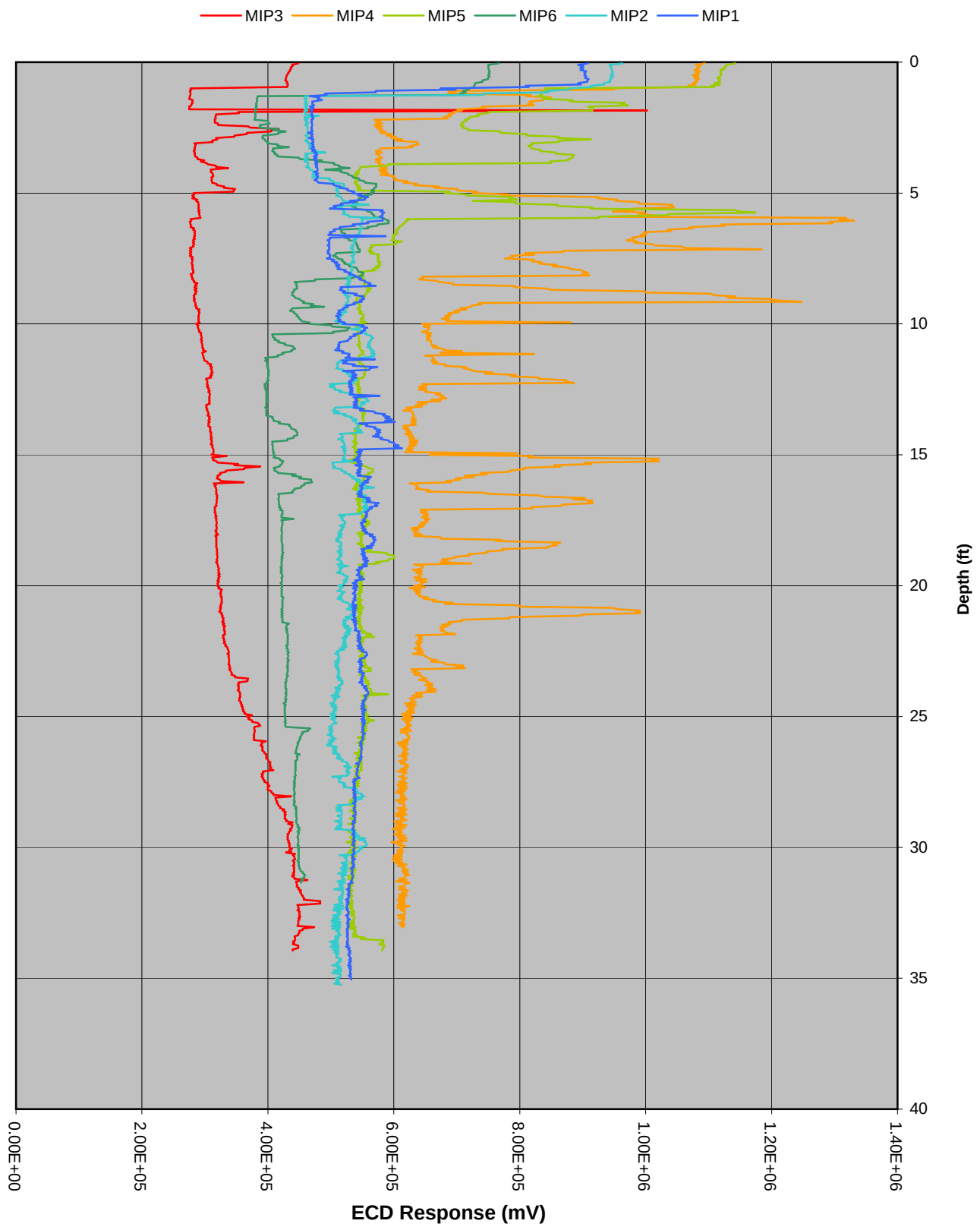




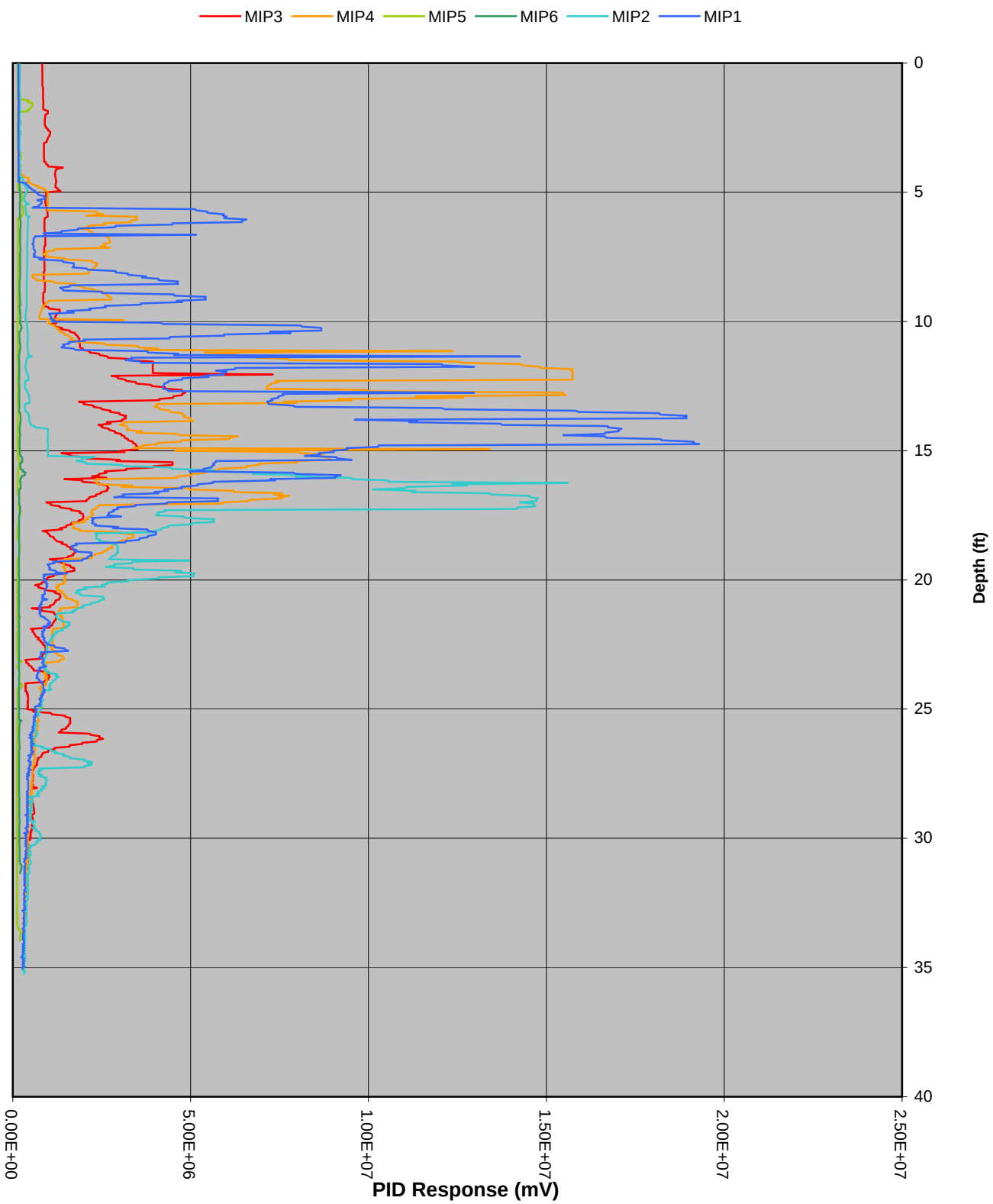




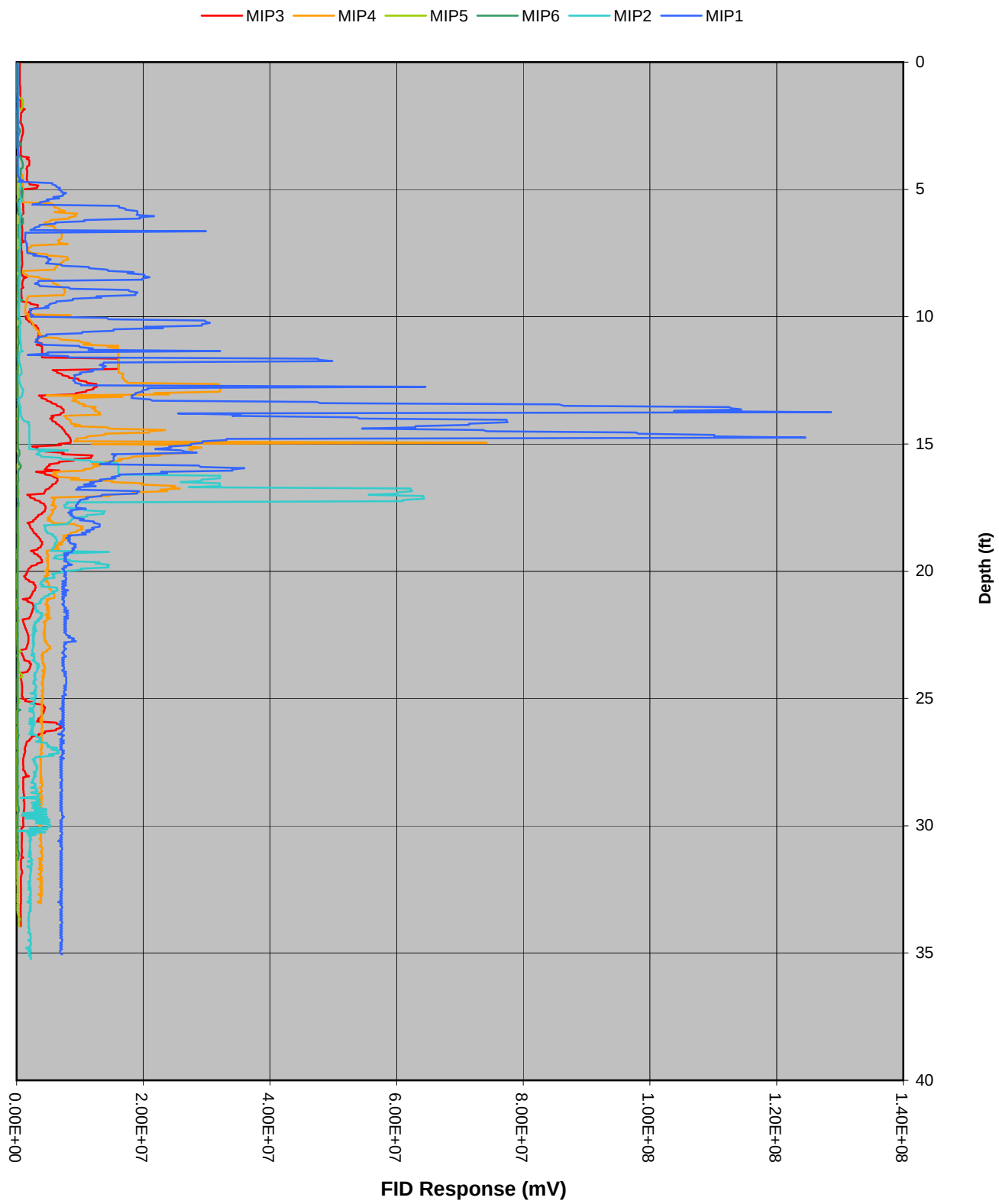
ECD Consolidation



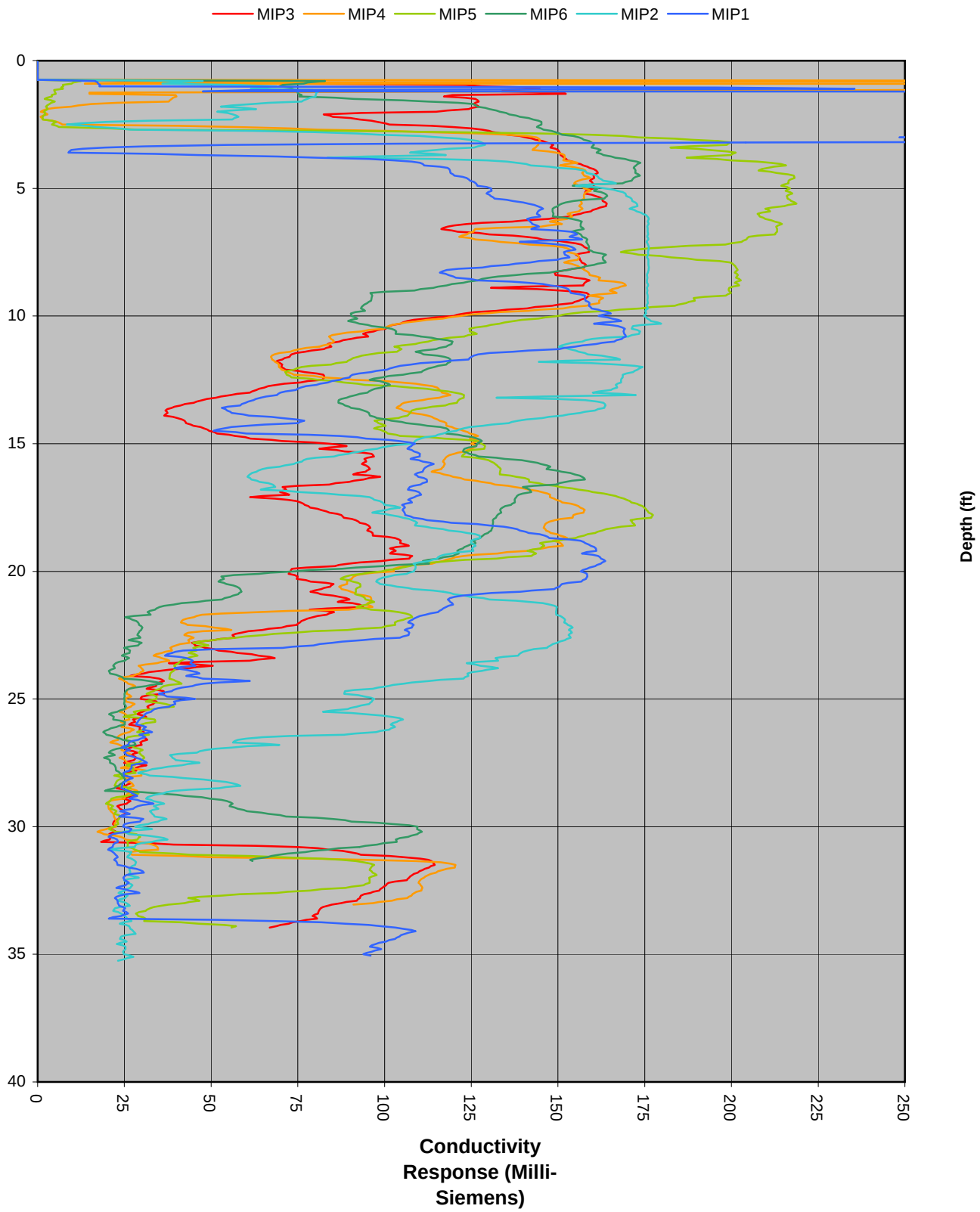
PID Consolidation



FID Consolidation



Conductivity Consolidation



PROJECT NAME ServiceWest/Areas4&5, Inv&PilotTest
CLIENT Service West, Inc

WELL NUMBER AS-1D

PROJECT LOCATION 9201 San Leandro St.
DRILLING CONTRACTOR Gregg Drilling & Testing
PROJECT NUMBER 001-09679-01
DRILLING METHOD Direct Push continuous core, then 8" auger.
LOCATION
STAMP (IF APPLICABLE) AND/OR NOTES
OVA EQUIPMENT Photoionization Detector
GROUND ELEVATION 19.68 ft **HOLE DIAMETER** 8 Inches
TOP OF CASING ELEVATION 19.31 ft **HOLE DEPTH** 34.0 ft
▽ **FIRST ENCOUNTERED WATER** 25.0 ft / Elev -5.3 ft
▼ **STABILIZED WATER** 25.0 ft / Elev -5.3 ft
LOGGED BY Robert E. Moniz **DATE** 1/8/09

DEPTH (feet)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	DEPTHS	LITHOLOGIC DESCRIPTION	ELEVATIONS	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
				0.3	Concrete	19.4			
		SW			SAND (SW); Black (Gley 1 2.5/N); Moist; Fine-Grained; Loose; Petroleum Odor		6.2		
				2.0		17.7			
		CL		2.5	GRAVELLY SANDY CLAY (CL); Very Dark Greenish Gray (Gley 1 3/5G); Damp; Soft	17.2			
					CLAY (CL); Black (Gley 1 2.5/N); Moist; Hard; High Plastic		2.9	8-inch-dia. borehole	
5		CL					42.1		5
							184		
				8.0		11.7		Grout	
					Color Change to Very Dark Gray (10YR 3/1)		484		
10		CL					1165		10
				11.5		8.2			
				12.0	No Recovery	7.7	991	2-inch-dia. Sch. 40 PVC blank casing	
		CL		12.5	CLAY(CL); Very Dark Gray (10YR 3/1); Moist; Firm/Hard	7.2			
		CL			CLAY(CL); Dark Greenish Gray (Gley 1 4/10Y); Moist; Firm/Hard		1242		
				14.0		5.7			
15		CL		15.0	CLAY w/ some Gravels (CL); Dark Greenish Gray (Gley 1 4/5GY); Moist; Firm/Hard	4.7			15
		CL			CLAY(CL); Dark Greenish Gray (Gley 1 4/10Y); Moist; Firm/Hard		807		
							400		
				17.0		2.7			
		CL			CLAY(CL); Dark Greenish Gray (Gley 1 4/10Y); Moist; Firm/Hard; with black streaks		20		
20									20

(Continued Next Page)

LFR

BORING+WELL 2006 001-09679-01.GPJ LFR SEPT 2006.GDT 5/15/09

PROJECT NAME ServiceWest/Areas4&5, Inv&PilotTest

CLIENT Service West, Inc

WELL NUMBER AS-1D

DEPTH (feet)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	DEPTHS	LITHOLOGIC DESCRIPTION	ELEVATIONS	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
		CL			CLAY(CL); Dark Greenish Gray (Gley 1 4/10Y); Moist; Firm/Hard; with black streaks *(continued)*		211		
				21.5		-1.8			
		CL			CLAY w/ Sand (CL); Gray (5Y 6/1); Damp; Firm/Hard; possible Calcium Carbonate ($CaCO_3$)		8	8-inch-dia. borehole	
				23.0		-3.3			
		CL			CLAY (CL); Dark Grayish Brown (2.5Y 4/2); Moist				
				24.0		-4.3			
25		GP		25.3	GRAVEL (GP)	-5.6	5	Grout	25
		SW			GRAVELLY SAND (SW): Olive Brown (2.5Y 4/3); Wet; Firm/Crumbles				
				28.0		-8.3	3		
					Loose GRAVELLY SAND (SW)			Bentonite Seal	
30		SW						Sand Pack (2/12)	30
								2-inch-dia. perforated PVC screen	
				33.0		-13.3		Fitted End Cap	
					Bottom of boring at approximately 34 feet				

BORING+WELL 2006 001-09679-01.GPJ LFR SEPT 2006.GDT 5/15/09

LFR

PROJECT NAME ServiceWest/Areas4&5, Inv&PilotTest
CLIENT Service West, Inc

WELL NUMBER ASMW-2D

PROJECT LOCATION 9201 San Leandro St.
PROJECT NUMBER 001-09679-01
LOCATION
OVA EQUIPMENT Photoionization Detector
GROUND ELEVATION 19.77 ft **HOLE DIAMETER** 8 Inches
TOP OF CASING ELEVATION 19.52 ft **HOLE DEPTH** 35.0 ft
FIRST ENCOUNTERED WATER 26.0 ft / Elev -6.2 ft
STABILIZED WATER 26.0 ft / Elev -6.2 ft
LOGGED BY Robert E. Moniz **DATE** 1/9/09

DRILLING CONTRACTOR Gregg Drilling & Testing
DRILLING METHOD Direct Push continuous core, then 8" auger.
STAMP (IF APPLICABLE) AND/OR NOTES

DEPTH (feet)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	DEPTHS	LITHOLOGIC DESCRIPTION	ELEVATIONS	PID (ppm)
				0.5	Concrete	19.3	
					No Recovery		
				2.0		17.8	
		CL		3.0	CLAY w/ Sand & Silt (CL); Black (Gley 1 2.5/N); Dry; Soft	16.8	4.1
		CL		4.0	CLAY w/ Pebbles & Sand (CL); Strong Brown (7.5YR 4/6); Wet; Soft;Very Oxidized; with Black Streaks	15.8	
5					CLAY (CL); Black (7.5YR 2.5/1); Damp; Firm/Hard; Trace fine gravel		0.1
		CL					68
				9.0		10.8	
10					CLAY (CL); Very Dark Grayish Brown (10YR 3/2); Moist; Hard; Medium Plasticity		
		CL					631
				12.0		7.8	
				13.0	No Recovery	6.8	
					CLAY (CL); Dark Greenish Gray (Gley 1 4/10Y); Moist; Hard; with streaks of orange/brown		
15		CL					382
				16.0		3.8	
					No Recovery		
20				20.0		-0.2	

WELL DIAGRAM: 8-inch-dia. borehole; Grout; 2-inch-dia. Sch. 40 PVC blank casing

DEPTH (feet): 5, 10, 15, 20

(Continued Next Page)

LFR

BORING+WELL 2006 001-09679-01.GPJ LFR SEPT 2006.GDT 5/15/09

PROJECT NAME ServiceWest/Areas4&5, Inv&PilotTest

CLIENT Service West, Inc

WELL NUMBER ASMW-2D

DEPTH (feet)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	DEPTHS	LITHOLOGIC DESCRIPTION	ELEVATIONS	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
				21.5	No Recovery / Slough	-1.7		8-inch-dia. borehole	
		CL		24.0	CLAY (CL); Light Olive Brown (2.5Y 5/3); Damp; Hard; with black streaks	-4.2	21	Bentonite Seal Sand Pack (2/12)	
25				26.0	No Recovery / Slough	-6.2		2-inch-dia. perforated PVC screen	25
		GC		28.0	GRAVELY SAND w/ Clay (GC); Wet; Firm-Crumbles; 1" clay cap at 26 feet; ~3" clay layers at approximately 26.75 and 27.5 feet; Loose @ 26.75 feet then more coarse below	-8.2			
30				33.0	No Recovery	-13.2	2		30
35		CL		35.0	Sampled Off Auger: CLAY (CL); Grayish Brown (2.5Y 5/2); Moist; Firm; Medium Plasticity	-15.2		6 Inch Silt Trap at Base	35
					Bottom of boring at approximately 35 feet				

LFR

PROJECT NAME ServiceWest/Areas4&5, Inv&PilotTest
CLIENT Service West, Inc

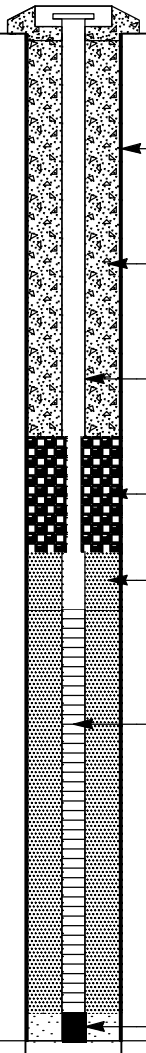
WELL NUMBER MW-6

PROJECT LOCATION 9201 San Leandro St.
PROJECT NUMBER 001-09679-01
LOCATION
OVA EQUIPMENT Photoionization Detector
GROUND ELEVATION 19.85 ft **HOLE DIAMETER** 8 Inches
TOP OF CASING ELEVATION 19.46 ft **HOLE DEPTH** 17.5 ft
▽ **FIRST ENCOUNTERED WATER** 14.0 ft / Elev 5.9 ft
STABILIZED WATER ---
LOGGED BY Robert E. Moniz **DATE** 1/12/09

DRILLING CONTRACTOR Gregg Drilling & Testing
DRILLING METHOD Direct Push continuous core, then 8" auger.
STAMP (IF APPLICABLE) AND/OR NOTES

DEPTH (feet)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	DEPTHS	LITHOLOGIC DESCRIPTION	ELEVATIONS	PID (ppm)
				0.5	Concrete	19.4	
		CL			CLAY w/ Silt (CL); Dusky Red (2.5YR 3/2); Moist; Soft; with ~1" hard shiny black layer; ~1" white / tan sand @ 2 feet; ~3" Gravely Sand w/ Clay, Very Dark Greenish Gray (Gley 1 3/1 10Y)		0.6
				2.5		17.4	0.0
5				5.5	No Recovery	14.4	81
		CL		7.5	CLAY w/ Fine Gravel (CL); Black (Gley 1 2.5/N); Firm	12.4	53
10		CL		11.0	CLAY (CL); Dark Gray (5Y 4/1), more yellow/green than above; Moist; Hard	8.9	1480
		CL		13.0	CLAY (CL); Brown (7.5YR 4/2); Moist; Stiff; with thin black streaks	6.9	
		CL		14.0▽	SILTY CLAY (CL); Dark Greenish Gray (Gley 1 4/1 5GY); Moist; Stiff	5.9	1200
15		CL		14.5	SILTY CLAY (CL); Greenish Black (Gley 1 4/1 10Y); Wet; Firm/Soft	5.4	1331
		CL			SILTY CLAY (CL); Dark Greenish Gray (Gley 1 4/1 5GY); Moist; Stiff		1296
				17.0		2.9	
					Bottom of boring at approximately 17 feet		

WELL DIAGRAM



DEPTH (feet)

BORING+WELL 2006 001-09679-01.GPJ LFR SEPT 2006.GDT 5/15/09

LFR

PROJECT NAME ServiceWest/Areas4&5, Inv&PilotTest
CLIENT Service West, Inc

WELL NUMBER MW-7

PROJECT LOCATION 9201 San Leandro St.
PROJECT NUMBER 001-09679-01
LOCATION
OVA EQUIPMENT Photoionization Detector
GROUND ELEVATION 19.84 ft **HOLE DIAMETER** 8 Inches
TOP OF CASING ELEVATION 19.44 ft **HOLE DEPTH** 28.0 ft
FIRST ENCOUNTERED WATER 26.0 ft / Elev -6.2 ft
STABILIZED WATER 26.0 ft / Elev -6.2 ft
LOGGED BY Robert E. Moniz **DATE** 1/8/09

DRILLING CONTRACTOR Gregg Drilling & Testing
DRILLING METHOD Direct Push continuous core, then 8" auger.
STAMP (IF APPLICABLE) AND/OR NOTES

DEPTH (feet)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	DEPTHS	LITHOLOGIC DESCRIPTION	ELEVATIONS	PID (ppm)
					No Recovery		
				3.0		16.8	
		GM		3.5	SILTY GRAVEL w/ Clay (GM); Strong Brown (7.5YR 4/6); Dry; Loose; Gravels are angular pebbles of Calcium Carbonate ($CaCO_3$)	16.3	0.0
		CL		4.0	CLAY (CL); Black (7.5YR 2.5/1); Damp; Hard	15.8	
5				5.0	No Recovery / Slough	14.8	
		CL			CLAY (CL); Very Dark Gray (10YR 3/1); Damp; Hard		0.0
				8.0		11.8	
				8.5	No Recovery	11.3	
		CL			CLAY (CL); Very Dark Gray (10YR 3/1); Damp; Hard		0.0
10				10.0		9.8	
		CL		10.5	GRAVELY CLAY (CL); Gray (5Y 6/1); Dry; Stiff; with $CaCO_3$	9.3	
		CL			CLAY (CL); Very Dark Gray (10YR 3/1); Damp; Hard		0.0
				12.0		7.8	
				12.5	No Recovery	7.3	
15							0.0
		CL			CLAY (CL); Dark Grayish Brown (10YR 4/2); Moist; Stiff; with small thin black streaks		0.0
20							

WELL DIAGRAM

8-inch-dia. borehole
Grout
2-inch-dia. Sch. 40 PVC blank casing
Bentonite Seal
Sand Pack (2/12)

(Continued Next Page)

LFR

BORING+WELL 2006 001-09679-01.GPJ LFR SEPT 2006.GDT 5/15/09

PROJECT NAME ServiceWest/Areas4&5, Inv&PilotTest

CLIENT Service West, Inc

WELL NUMBER MW-7

DEPTH (feet)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	DEPTHS	LITHOLOGIC DESCRIPTION	ELEVATIONS	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
		CL		21.5	CLAY (CL); Dark Grayish Brown (10YR 4/2); Moist; Stiff; with small thin black streaks *(continued)*	-1.7		8-inch-dia. borehole	
		CL		24.0	GRAVELY CLAY (CL); Gray (5Y 6/1); Damp; Hard; Gravels are pebbles of Calcium Carbonate ($CaCO_3$)	-4.2	0.0		
25		CL		26.0 ▼	CLAY (CL); Dark Grayish Brown (10YR 4/2); Moist; Stiff; with small thin black streaks	-6.2		2-inch-dia. perforated PVC screen	25
		GC		28.0	GRAVELY SAND w/ Clay (GC); Dark Brown (7.5YR 3/3); Wet; Dense; Course Gravels; Fine to Coarse sands	-8.2		Fitted End Cap	
					Bottom of boring at approximately 28 feet				

LFR

APPENDIX D

Alameda County Public Works Agency – Water Resources Well Permit

Alameda County Public Works Agency - Water Resources Well Permit

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

Application Approved on: 12/30/2008 By vickyh1

Permit Numbers: W2008-0974 to W2008-0975
Permits Valid from 01/12/2009 to 01/16/2009

Application Id: 1230671904453
City of Project Site: Oakland
Site Location: 9201 San Leandro St.
Oakland, CA

REQUEST START - INSPECTION DATE OF JANUARY 5, 2009
Project Start Date: 01/13/2009
Completion Date: 01/15/2009
Requested Inspection: 01/13/2009
Scheduled Inspection: 01/05/2009 at 2:00 PM (Contact your inspector, Vicky Hamlin at (510) 670-5443, to confirm.)
Extension Start Date: 01/12/2009
Extension End Date: 01/16/2009
Extension Count: 2
Extended By: vickyh1

Applicant: LFR Inc. - Ron Goloubow
1900 Powell St. #1200, Emeryville, CA 94608
Phone: 510-652-4500
Property Owner: Service West
9201 San Leandro St., Oakland, CA 94603
Phone: 510-714-4841
Client: ** same as Property Owner **
Contact: Rob Moniz
Phone: 510-409-3831
Cell: 510-409-3831

Total Due: $460.00
Receipt Number: WR2008-0468 **Total Amount Paid:** $460.00
Payer Name : Kari L. Silverman Paid By: VISA **PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 6 Boreholes
Driller: Vironex - Lic #: 705927 - Method: DP **Work Total: $230.00**

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2008-0974	12/30/2008	04/13/2009	6	2.00 in.	30.00 ft

Specific Work Permit Conditions

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

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

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

4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours

prior to drilling.

5. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

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

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

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

Remediation Well Construction-Injection - 9 Wells
Driller: Gregg Drilling - Lic #: 485165 - Method: hstem **Work Total: $230.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2008-0975	12/30/2008	04/13/2009	AS-1D	8.00 in.	2.00 in.	20.00 ft	30.00 ft
W2008-0975	12/30/2008	04/13/2009	AS-1S	8.00 in.	2.00 in.	12.00 ft	20.00 ft
W2008-0975	12/30/2008	04/13/2009	ASMW-2D	8.00 in.	2.00 in.	20.00 ft	30.00 ft
W2008-0975	12/30/2008	04/13/2009	ASMW-2S	8.00 in.	2.00 in.	12.00 ft	20.00 ft
W2008-0975	12/30/2008	04/13/2009	MW-6	8.00 in.	2.00 in.	12.00 ft	20.00 ft
W2008-0975	12/30/2008	04/13/2009	MW-7	8.00 in.	2.00 in.	12.00 ft	20.00 ft
W2008-0975	12/30/2008	04/13/2009	SVE-1MW-7	8.00 in.	2.00 in.	3.00 ft	8.00 ft
W2008-0975	12/30/2008	04/13/2009	SVEMW-2	8.00 in.	2.00 in.	3.00 ft	8.00 ft
W2008-0975	12/30/2008	04/13/2009	SVEMW-3	8.00 in.	2.00 in.	3.00 ft	8.00 ft

Specific Work Permit Conditions

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

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters

generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Minimum seal depth (Neat Cement Seal) is 2 feet below ground surface (BGS).

6. Minimum surface seal thickness is two inches of cement grout placed by tremie

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

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

APPENDIX E

Tables Presenting Data Collected During the Pilot Test

Table A1
Recorded Values for SVE Step Test
9201 San Leandro Street, Oakland, California

Time	SVE Step Test								Remarks
	SVE-1						SVMW-2	SVMW-3	
Measurement	Applied Vacuum	Average Flow	Flow	Inf. PID	Eff. PID	Temp.[1]	Vacuum	Vacuum	
Units	Inches Hg	CFM (gauge)		ppm	ppm	O Far.	inches of H20	inches of H20	* = Reading mistakenly collected after first carbon vessel.
9:20	2 1/2	6.9	6.95	26.4*	0.0 [2]	56	0	0	[1] = Thermometer is situated in direct sunlight.
9:35			6.85	6.8*	0.0 [2]	58	0	0	[2] = Reading taken from exit point with dilution air.
9:50			6.95	62.6*	0.0 [2]	62	0	Needle moved	
10:10	4	7.4	7.45	106.7	0.0 [2]	66	0	0	
10:23			7.4	132.4	33 [3]	68	0.015	-- [4]	[3] = Tedlar bag for sample collection is contaminated with organics.
10:41			7.35	129.4	0	68	--	--	[4] = Slight vacuum, dissipated quickly.
10:54			7.35	67.7	25.3	70	0	0.0005	
11:04	5	8.2	7.65	168.2	34.1	74	0	0	
11:38			8.3	127.4	24.2	76	Neg.	Neg.	Neg. = Needle jumped towards positive pressure when valve was opened.
11:49			8.55	64.6	31.8	78	>0	Neg.	
11:52	6	9.5	9.95	70.2	37.2	78	0.005	Neg.	
12:19			9.65	51.8	50+	82	>0	0.01	
12:35			9.1	49.5	15.4	82	0.01	-0.01	
12:50			9.1	42.2	16.3	83	0.01	>0	

Notes:

-- = reading not collected

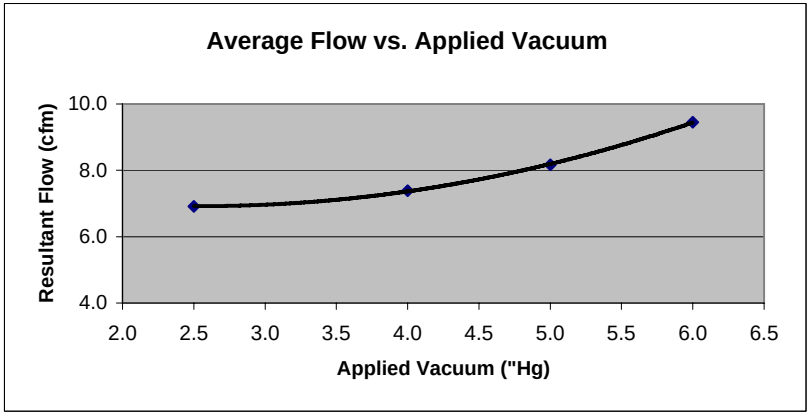


Table A2
Depth to Water and Dissolved Oxygen Readings
9201 San Leandro Street, Oakland, California

Time	DTW and DO Readings								Remarks
	ASMW-2S		ASMW-2D		MW-3	MW-6	AS-1S	AS-1D	
Measurement	DTW	DO	DTW	DO	DTW	DTW	DTW	DTW	
Units	feet	mg/l	feet	mg/l	feet	feet	feet	feet	
8:30	9.54	--	9.67	--	9.58	9.59	9.49	9.48	Baseline
9:15	--	0.28	--	0.33	--	9.59	--	--	Baseline
9:25	9.54	0.22	9.67	0.35	9.58	9.59	9.49	9.48	SVE on. Vacuum of 2" Hg.
9:50	9.54	0.20	9.67	0.29	9.58	9.59	9.49	9.48	
10:15	9.54	0.15	9.67	0.23	9.58	9.59	9.49	9.48	Vacuum increased to 4" Hg.
10:35	9.54	0.13	9.67	0.19	9.58	9.59	9.49	9.46	
10:55	9.54	0.13	9.67	0.14	9.58	9.59	9.49	9.47	
11:10	9.53	0.11	9.66	0.15	9.57	9.59	9.48	9.46	Vacuum increased to 5" Hg.
11:30	9.53	0.10	9.65	0.19	9.56	9.59	9.47	9.45	
11:59	9.51	0.08	9.64	0.15	9.55	9.58	9.46	9.45	Vacuum increased to 6" Hg.
12:26	9.50	0.08	9.64	0.12	9.54	9.58	9.44	9.45	
12:46	9.50	0.06	9.63	0.13	9.53	9.57	9.44	9.42	
13:47	9.49	0.05	9.62	0.11	9.52	9.56	Sparging through AS-1S during this time period	9.40	13:40 Sparging through AS-1S begins.
14:00	9.46	0.06	9.61	0.10	9.47	9.54		9.40	
14:13	9.18	0.06	9.48	0.14	9.08	9.51		9.28	
14:35	9.19	0.17	9.48	0.15	9.20	9.42		9.26	
	9.18	0.61	9.47	0.11	9.17	9.41		9.25	
15:28	9.47	0.95	9.56	0.09	9.43	9.51	11.20	Sparging through AS-1D during this time period	15:20 Sparging through AS-1D begins.
15:40	9.14	0.82	9.42	0.11	8.82	9.42	5.5 [2]		
	7.8 [1]	0.97	8.70	0.10	6.88	--	Capped		
16:15	7.5	1.12	7.82	0.10	5.70	8.87	Capped		
16:35	8.05	1.70	9.14	0.10	5.70	9.05	Capped		

Notes:

[1] = water audibly bubbling in ASMW-2S
[2] = water bubbling near top of casing. Well capped.
-- = reading not collected

Table A3
Vapor Monitoring During Air Sparging Tests
9201 San Leandro Street, Oakland, California

Time	Vapor Monitoring While Sparging AS-1S											Remarks
	Sparging Well AS-1S			SVMW-2	SVMW-3	ASMW-2D	ASMW-2S	AS-1D	MW-3	MW-6	SVE-1	
Measurement	Press.	Flow	% He	VOCs/He	VOCs/He	VOCs/He	VOCs/He	VOCs/He	VOCs/He	VOCs/He	VOCs/He	
Units	psi	scfm	%	ppm/ % or ppm	ppm/ % or ppm	ppm/ % or ppm	ppm/ % or ppm	ppm/ % or ppm	ppm/ % or ppm	ppm/ % or ppm	ppm/ % or ppm	
13:30	0	0	0	12.9 /--	8.3/ --	1.1/ --	13.4/ --	0.0/ --	0.0/ --	0.0/ --	0.0/ --	Baseline
13:40	3	4	0	71.4/ --	245/ --	0.0/	12.0/	0.0/ --	0.0/ --	10.0/	48.0/	14:05 Increased flow to 8cfm.
14:10	~7	~8	0	125/ --	231/ --	4.7/	11.3/	0.0/	195/	8.3/	52.3/	
14:30	~7	~18	0	126/ --	242/ ''	1.4/	29.8/	8.1/	120/	6.7/	49.5/	
14:43			~2%	-- / --	-- /200	--/0	/400	/775	/2.7%	/250	-- / --	14:38 Begin He addition @ approx. 20%
14:58	~7	~44 [1]	~10%	125/9,975	243/0	35/75	344/7.6%	129/1,700	216/2.0%	11/25	168/9,000	

	Vapor Monitoring While Sparging AS-1D											
	Sparging Well AS-1D			SVMW-2	SVMW-3	ASMW-2D	ASMW-2S	AS-1S	MW-3	MW-6	SVE-1	15:20 Begin sparging AS-1D
15:28	~9	~5	0	-- / --	-- / --	-- / --	-- / --	-- / --	-- / --	-- / --	-- / --	PID failed
15:35	10	15 [1]	17.0%	-- /1.2%	-- /125	-- /25	-- /6.3	-- /18%	-- /6.1%	-- /125	-- /9.0%	
16:15	10	120 [1]	17.7%	-- /5.8%	-- /275	-- /0	-- /13.1	Capped	-- /6.2%	-- /1,200	-- /3.9%	Relief valve fully closed - max flow
												16:38 Finished sampling - pilot test completed - AS and SVE off

[1] = Flow readings unreliable when helium is blended into air stream.
-- = reading not collected
~ = approximately

Table A4
Record of Laboratory Vapor Samples
9201 San Leandro Street, Oakland, California

Sample ID	Sample Location	Begin Sample Time	Beginning Vacuum	Ending Vacuum	End Sample Time
SVE-1-8:05	SVE-1	8:05	30	5	8:30
SVE-1-9:15	SVE-1	9:15	26	2	9:37
SVMW-2	SVMW-2	9:48	30	12	10:03
SVE-1-11:25	SVE-1	11:25	30	8	11:37
SVE-1-12:40	SVE-1	12:40	30	10	12:58
SVE-1-16:30	SVE-1	16:30	29	9	16:38