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May 10, 2010

**SOURCE ZONE DELINEATION REPORT &  
AIR SPARGING PILOT TEST WORKPLAN**

245 8<sup>th</sup> Street  
Oakland, California

AEI Project No. 281405  
ACEH RO #0000202

Prepared For

Vic's Automotive  
245 8<sup>th</sup> Street  
Oakland, California 94607

Prepared By

**AEI Consultants**  
2500 Camino Diablo, Suite 200  
Walnut Creek, CA 94597  
(925) 944-2899

**AEI**

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## 1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report on behalf of Mr. Vic Lum for the property located at 245 8<sup>th</sup> Street in the City of Oakland, Alameda County, California (Figure 1). AEI has been retained by Mr. Lum to provide environmental engineering and consulting services relating to the release of gasoline fuel hydrocarbons from the former underground storage tank (UST) and fuel dispensing system on the subject property. The ongoing investigation and mitigation of the release is being performed under the direction of Alameda County Environmental Health (ACEH) local oversight program. On December 2, 2009, AEI and Mr. Lum met with ACEH staff to discuss the high vacuum dual phase extraction (HVDPE) remediation system status, results of the first rebound evaluation, and recommendations regarding future activities for the site. On February 9, 2009, AEI submitted a workplan to delineate the source zone and complete a performance evaluation and optimization of the HVDPE system. The workplan included a recommendation for an in situ air sparging pilot test contingent upon the results of the source zone investigation. On February 22, 2010, ACEH approved the advancement of four (4) soil borings in the source zone and requested more details regarding the monitoring of soil gas for potential vapor migration during the air sparging pilot test.

This report summarizes the field activities and results of the source zone investigation as well as the second rebound evaluation and optimization of the HVDPE system performance. This investigation was designed to define the vertical extent of adsorbed hydrocarbon contamination in the source zone prior to implementing an air sparging pilot test in conjunction with HVDPE. As requested by ACEH, the discussion of the monitoring and sampling parameters used to assess potential vapor migration during the air sparging pilot has been revised and expanded. Please refer to Section 6.6.

AEI completed the following scope of work:

- Advanced four (4) continuously cored soil borings (SB-16 through SB-19) to approximately 28-feet below ground surface (bgs) using direct push technology. In addition, collected one (1) discrete groundwater grab sample (SB-18W) from approximately 28 to 30-feet bgs to define the vertical extent of the dissolved hydrocarbon plume.
- Restarted the HVDPE system on April 20, 2010 and collected influent vapor samples for rebound evaluation and system optimization. The system was shutdown since December 23, 2009 due to declining influent concentrations and asymptotic hydrocarbon recovery.
- Evaluated the field and analytical results in conjunction with the existing site characterization data and conceptual site model, prepared data summary tables and figures, and drafted recommendations for an air sparging pilot test.
- Provided more details regarding the monitoring and sampling parameters used to assess potential vapor migration during the air sparging pilot test.

## 2.0 SITE DESCRIPTION AND HISTORY

The subject property (hereafter referred to as the “site” or “property”) is located in a mixed commercial and residential area of Oakland. The site is a lot on the south corner of Alice Street and 8<sup>th</sup> Street, and is currently developed with a gasoline service station and automotive repair facility (Figure 2). The property covers approximately 9,375 square feet and is improved with an approximately 1,200 square foot building located centrally on the property with two bays used for automotive repair, two restrooms, and a cashier’s office. The current UST hold and the dispenser island are located to the north of the building, along 8<sup>th</sup> Street. The former UST hold was located to the south of the building, along Alice Street. The remainder of the property is paved with asphalt and used for parking and staging vehicles for repairs.

- Between June of 1993 and August of 1994, AEI removed seven (7) underground storage tanks (USTs) from the property. The tanks consisted of four (4) 1,000-gallon gasoline tanks located in the sidewalk along Alice Street, two (2) 6,000-gallon gasoline tanks and one (1) 250-gallon waste oil tank. Impacted soil was removed from beneath the former tank area. Groundwater was encountered beneath the former 6,000-gallon tanks. Light non-aqueous phase liquid (LNAPL) was observed on the water table beneath the southern tank. The excavated soil was transported to an appropriate disposal facility and the excavation was backfilled with clean fill material. A new tank system was installed just west of the dispenser island.
- In July of 1995, two (2) groundwater monitoring wells (MW-1 and MW-2) were installed onsite. Total petroleum hydrocarbons as gasoline (TPH-g) and benzene were detected in MW-2 at concentrations up to 210,000 µg/L and 720 µg/L, respectively during the first two monitoring episodes. Light non-aqueous phase liquid (LNAPL) or free phase gasoline was discovered in MW-1. The apparent LNAPL thickness in MW-1 ranged from 1.20 to 4.39 feet between December 1995 and March 1996.
- In August of 1996, AEI advanced three (3) soil borings (i.e., SB-1 through SB-3) onsite. TPH-g and benzene were detected in the groundwater samples from these borings at concentrations ranging from 120,000 to 140,000 µg/L, and from 12,000 to 19,000 µg/L, respectively. Methyl tertiary-butyl ether (MTBE) was also detected in all three samples at concentrations up to 27,000 µg/L. Although free phase product was not observed in the field, qualitative laboratory observations indicated an immiscible sheen was present in the samples.
- Manual bailing and pumping of LNAPL from MW-1 occurred intermittently from 1997 to 1998.
- In May of 2001, two (2) additional groundwater monitoring wells (MW-3 and MW-4) were installed onsite. In June of 2001, a free product recovery system was installed in MW-1. The free product recovery system removed several hundred gallons of LNAPL between 2001 and 2003.

- In April of 2003, AEI advanced twelve (12) additional soil borings (SB-4 to SB-15) onsite and offsite for the collection of soil, shallow groundwater, and soil vapor samples to further characterize the magnitude and lateral extent of the release.
- In January of 2005, AEI installed six (6) additional monitoring/extraction wells (MW-5, MW-6 and MW-7 were installed onsite and wells MW-10 to MW-12 were installed offsite at the 708 Alice Street property). Wells MW-8 and MW-9 were proposed for installation in the parking lane along 7<sup>th</sup> and Alice Streets; however, due to difficult insurance wording requirements imposed by the City of Oakland, these wells were not installed until March of 2008.
- From July 11 to July 27, 2005, a 16-day HVDPE pilot test was performed on wells MW-1, MW-2, MW-5, MW-6, and MW-7. Combined vapor influent flow rates ranged from approximately 170 to 190 standard cubic feet per minute (scfm) under a sustained vacuum of 16 to 17 inches of mercury (in-Hg). The average water flow rate was approximately 4.1 gallons per minute (gpm). A total of 80,740 gallons of groundwater was recovered, treated, and discharged to the sanitary sewer under a short-term, limited volume groundwater discharge permit from the East Bay Municipal Utilities District (EBMUD). Significant drawdown and pressure (i.e., vacuum) response was observed in the vadose and saturated zone monitoring points. Approximately 5 pounds per day (lbs/day) of dissolved phase and 697 lbs/day of vapor phase hydrocarbons were recovered during the test. A total of 10,719 pounds or 1,716 gallons of gasoline was removed during this test. Based on the encouraging results of this pilot test, AEI recommended interim corrective action using HVDPE for 12 to 18 months using fixed equipment. Please refer to AEI's "HVDPE Event Report", dated December 14, 2005, for more information.
- In March of 2006, the ACEH concurred with the implementation of HVDPE using fixed equipment and requested a system design, operations and maintenance, and monitoring plan. In this letter, the ACEH also requested soil vapor sampling to evaluate the potential for vapor intrusion due to the elevated concentrations of fuel hydrocarbons detected in the soil and groundwater onsite and offsite.
- In May of 2006, a HVDPE system design, operations and maintenance, and monitoring plan and a separate soil gas investigation work plan were submitted to ACEH for review and comment. Please refer to AEI's "High Vacuum Dual Phase Extraction System Design, Operations, and Maintenance Plan," dated May 24, 2006 and "Soil Gas Investigation Work Plan", dated May 12, 2006, for more information.
- In November of 2006, trenching and installation of the conveyance piping for HVDPE system was conducted. The system completion and delivery was scheduled for 1<sup>st</sup> Quarter 2007; however, the system was delivered in April 2007. The remaining infrastructure, such as the rotary phase converter, equipment, fence, and wellhead connections were installed in May of 2007 and the system was started up on June 26, 2007. The HVDPE system layout is shown on Figure 3.

- On June 11, 2007, two (2) 55-gallon drums, or approximately 100 gallons of water containing about 50% LNAPL, was removed from MW-1 and MW-6 by operating the HVDPE system in product skimming mode.
- In November of 2007, additional HVDPE conveyance piping was installed above grade behind the onsite building to the rear of the property and the system was expanded to include monitoring/extraction wells MW-10, MW-11, and MW-12.
- In March of 2008, wells (MW-8, MW-9 and MW-13) were installed. Elevated concentrations of TPH-g, BTEX, and MTBE were detected in samples collected from MW-9. Low to non-detectable concentrations of TPH-g, BTEX, and MTBE were detected in MW-8 and MW-13. Elevated concentrations of MTBE were detected in MW-13.
- Between August 21 and 22, 2008, soil gas probes GP-3 and GP-4 were decommissioned by physical removal and three (3) horizontal HVDPE conveyance piping laterals were installed to MW-10, 11, and 12 so that these wells could continue to be used for dual phase extraction while the 708 Alice Street property was being developed.
- In July of 2009, monitoring wells (MW-14, MW-15, and MW-16) were installed. MW-14 was installed in the parking lane along Alice Street approximately 80 feet southwest of MW-8. MW-15 and MW-16 were installed in the parking lane on the southwest side of 7<sup>th</sup> Street approximately 60 feet apart. The monitoring wells were developed by surging and over-pumping on August 3, 2009. Elevated concentrations of TPH-g and BTEX were detected in samples collected from MW-14. MTBE was not detected in MW-14 at or above the laboratory reporting limit of 1.0 µg/L. Lower concentrations of TPH-g, BTEX, and MTBE were detected in MW-15 and MW-16. Refer to AEI's "Monitoring Well Installation & Quarterly Site Monitoring Report (Third Quarter, 2009)", dated October 13, 2009, for more detailed information. The monitoring well locations are shown on Figure 2.
- On December 2, 2009, the property owner and AEI held a meeting with the ACEH to discuss the HVDPE remediation system status, results of the first rebound evaluation, and recommendations regarding future activities for the site.

### 3.0 GEOLOGY AND HYDROGEOLOGY

The elevation of the site is approximately 27 to 29 feet above mean sea level (amsl). The site is flat; however, the topography of the area slopes gently to the southwest. The site is located between Lake Merritt and the Oakland Inner Harbor channel, approximately one-half mile from each. The near surface sediments are mapped as Holocene and Pleistocene Merritt Sand (Qms), which are further described as "fine-grained, well-sorted, well-drained, Aeolian sand deposits" (Helley and Graymer, 1997 and Graymer, 2000). Depth to the Franciscan Formation basement underlying the unconsolidated deposits is approximately 400 feet (Norfleet Consultants, 1998).

Based on the logs of soil borings advanced on and offsite, the native soils generally consist of fine to medium grained sands with silt and clay present to at least 28 feet bgs, the deepest explored at the site. Typically, silty and clayey fine grained sand have been encountered to depths of 15 to 18 feet bgs. This is underlain by poorly graded, clean to slightly clayey and silty fine to medium sand. Both sand bodies represent a single hydro-geologic system. Sediments have been relatively uniform throughout the investigation area.

Groundwater depths have typically ranged from 13 to 17 feet bgs, corresponding to elevation of approximately 10 to 14 feet above mean sea level (msl). Annual groundwater levels fluctuate by approximately 3 to 4 feet. Groundwater has consistently flowed to the south, southeast, or southwest with a hydraulic gradient of approximately 0.010 ft/ft. Recent water levels have been affected by the groundwater extraction activities.

## **4.0 SOURCE ZONE DELINEATION ACTIVITIES**

### **4.1 Permits & Utility Clearances**

After the workplan was approved by ACEH, a temporary soil boring permit (Permit #W2010-0123) was obtained from the Alameda County Public Works Agency (ACPWA). Three (3) days prior to drilling, the work area was clearly identified with white marking paint and Underground Service Alert North (USAN) was notified. A private utility locator was not hired, but each boring was hand-cleared to at least 5-feet bgs. A grout inspection was scheduled with an ACPWA inspector as required. A copy of the drilling permit is included in Appendix A.

### **4.2 Health & Safety Meeting**

Prior to drilling, a site safety meeting was held at a designated command post near the working area to review the Health and Safety Plan (HASP). Working hazards and emergency procedures were discussed at this meeting, including an explanation of the hazards of the known or suspected chemicals of interest as well as the location and route to the nearest hospital. All site personnel wore modified Level D personal protection equipment. A work area or “exclusion zone” was established with orange cones and/or barricades and warning tape to delineate the zone where hard hats and steel-toed shoes were required and where unauthorized personnel were not allowed. A site safety plan conforming to Part 1910.120 (i) (2) of 29 CFR was available onsite at all times during the project.

### **4.3 Temporary Soil Boring Installation**

On March 17, 2010, AEI advanced four (4) continuously cored soil borings (SB-16 to SB-19) to approximately 28-feet bgs using direct push technology. All drilling work was performed by PeneCore Drilling, a California licensed drilling contractor (C-57 #906899) working under the direction of AEI professional staff. The soil boring locations are shown on Figure 2.



#### **4.4 Soil Sampling, Description, & Analyses**

A dual-tube soil sampling system was used to collect continuous soil cores samples. The dual-tube sampling system uses two probe rods, an outer drive casing and smaller inner rod string equipped with the sampling device. The dual-tube sampling system creates a cased borehole and reduces the potential for cross contamination between sampling intervals. The sampler was lined with a plastic sample liner and driven in 4-foot pushes until reaching a target depth of approximately 28-feet bgs. After each push, the sampler was retrieved, core barrel disassembled, and sample liner transferred to an AEI geologist. Soil core samples were characterized according to the Unified Soil Classification System (USCS) using the “visual-manual procedure” (ASTM D2488) by noting color, moisture content, texture, and grain-size and distribution. A description of product smearing and depths due to water table fluctuation was also documented and photographed. In addition, a discrete groundwater grab sample was collected from SB-18 at 28 to 30-feet bgs by inserting a temporary PVC casing inside the outer drive casing and slowly retracting the outer casing until groundwater flowed into the boring.

Soil samples collected for laboratory analyses were sealed with Teflon® tape and plastic end caps, labeled with unique identifiers, and entered onto the chain of custody record. The samples were placed in a pre-chilled cooler on wet ice pending transportation to the laboratory. A sub-sample of each sample collected for analytical testing was placed into durable, 0.5-liter zipper locking bag. After waiting at least 30 minutes, the sub-samples was screened for the presence of organic vapors with a photo-ionization detector. The soil and groundwater samples were transported under proper chain of custody protocol and within hold time to McCampbell Analytical, Inc. of Pittsburg, California (DHS Certification #1644) for analyses. Selected soil samples were analyzed for TPH-g by EPA Method 8015C and BTEX and MTBE by EPA Method 8021B. In addition, in order to evaluate the effects of weathering and biodegradation on the gasoline-range hydrocarbons, a few soil samples were also analyzed for TPH-d and TPH-mo by EPA Method 8015C. A copy of the soil analytical report with chain of custody and quality assurance / quality control (QA/QC) documentation is included in Appendix C.

#### **4.5 Boring Destruction**

The temporary soil borings were backfilled with cement grout using the tremi-pipe method. The grout was mixed at a ratio of one (1) 94-pound bag of Type II - IV Portland cement to 5 gallons of water. The grout was tremied into the open borehole under the direction of an ACPWA inspector.

#### **4.6 Equipment Decontamination, Waste Storage, & Disposal**

In order to minimize the potential for cross-contamination, the inner and outer probe rods, dual-tube sampler, and other direct push tooling was scrubbed and cleaned with an Alconox® or equivalent detergent and rinsed with clean water between borings. Soil cuttings, rinsate, and other investigation-derived wastes (IDWs) were temporarily stored in 55-gallon drums. The drums were sealed and labeled pending the results of the analyses and arrangements for off-site disposal. The IDWs were manifested and transported to an appropriate waste disposal or recycling facility in accordance with applicable local, state, and federal hazardous waste regulations.

## 4.7 Soil Analytical Results

The soil analytical results for the source zone delineation are summarized below:

- Overall, the highest concentrations of TPH-g, BTEX, and MTBE were detected in soil samples collected from SB-16, SB-17, and SB-19 at 20-feet bgs.
- The highest concentrations of TPH-g and benzene were detected in SB-19 at 20-feet bgs at concentrations of 7,500 mg/kg and 100 mg/kg, respectively.
- The second highest concentrations of TPH-g and benzene were detected in SB-17 at 20-feet bgs at concentrations of 4,300 mg/kg and 87 mg/kg, respectively.
- The third highest concentration of TPH-g was detected in SB-16 at 20-feet bgs at concentrations of 2,100 mg/kg; however, benzene was not detected at or above 1.0 mg/kg.
- The fourth highest concentration of TPH-g was detected in SB-17 at 19-feet bgs at concentrations of 1,900 mg/kg; however, benzene was not detected at or above 1.0 mg/kg.
- TPH-g, BTEX, and MTBE were not detected at or above the standard laboratory reporting limits in any of the soil samples collected from 15-feet bgs.
- TPH-g, BTEX, and MTBE were not detected at or above the standard laboratory reporting limits in any of the soil samples collected from 23 and 25-feet bgs, except for relatively low concentrations detected in the samples collected from SB-18.
- In addition, relatively low concentrations of TPH-g and benzene were detected in the groundwater grab sample SB-18W at concentrations of 230 µg/L and 3.2 µg/L, respectively. MTBE was not detected at or above 5.0 µg/L. Based on this information, the vertical extent of the dissolved fuel hydrocarbon plume has been adequately defined.

The soil analytical data is summarized in Table 7 and on Figure 5. The laboratory analytical report with chain of custody documentation and quality assurance/quality control documentation is included in Appendix C.

## 5.0 HVDPE SYSTEM EVALUATION & OPTIMIZATION

The evaluation and optimization of the HVDPE system performance has been ongoing since the system was started-up in June of 2007. System optimization has been achieved by manipulating (turning on or off) extraction wells to increase hydrocarbon recovery. The extraction well and total system off-gas has been monitored on nearly a monthly basis, except for times when the system was shutdown for maintenance, none-routine repairs, or rebound evaluation. The concentrations of hydrocarbons in the combined off-gas and total system flow rates have been used to estimate the mass removal rate and total mass removed from the subsurface. As the concentrations of

hydrocarbons decreased at the extraction wells, the conveyance piping and wellheads were inspected for vacuum leaks, then turned off and allowed to rebound. The hydrocarbon mass removal rates have ranged from as high as 368 pound per day (lbs/day) during the first month of operation to as low as 2 lbs/day prior to shutting down the system in May of 2009 due to declining hydrocarbon removal.

### **5.1 First Rebound Evaluation**

In August of 2009, the HVDPE system was restarted after being shutdown for approximately three (3) months. The concentrations of hydrocarbons in the extraction wells and total system off-gas were monitored on a weekly basis for the next four (4) weeks. Mass removal rates started at 24 lbs/day and increased to 50 lbs/day after the first week. Mass removal rates increased to 67 lbs/day after the second week and 106 lbs/day after the third week. By the fourth week the mass removal rate decreased to 54 lbs/day. System operation continued through late-December with monthly mass removal rates in excess of 50 lbs/day. Over this period of time approximately 5,264 pounds or 877 gallons of volatile hydrocarbons was removed from the subsurface. The total mass of hydrocarbons removed from the subsurface as of December 16, 2009 was approximately 31,890 pounds or 5,315 gallons.

### **5.2 Second Rebound Evaluation**

On April 20, 2009, the HVDPE system was restarted after being shutdown for 118 days or approximately four (4) months. The concentrations of hydrocarbons in the extraction wells and total system off-gas were monitored on a weekly basis for the next two (2) weeks. Mass removal rates started at 9 lbs/day and decreased to 3 lbs/day after the first week. The extraction wells with the lowest hydrocarbon recovery (MW-1S, MW-11S, and MW-12S) were turned off and the mass removal rates increased to 12 lbs/day. After optimization and the second week of operation, mass removal rates increased only a little bit to 13 lbs/day. Over this period of time approximately 147 pounds or 25 gallons of volatile hydrocarbons was removed from the subsurface. As of May 5, 2010, the total mass of volatile hydrocarbons removed from the subsurface was approximately 32,073 pounds or 5,346 gallons. Based on the existing hydrocarbon removal data, a declining curve analysis was completed to determine the maximum potential removal if system were to continue to operate without optimization. Based on this evaluation, the maximum potential removal would plateau at approximately 33,000 pounds or 5,500 gallons. The hydrocarbon mass removal rates and cumulative mass removed is shown on Figure 8. The mass removal declining curve analysis is shown on Figure 9.

### **5.3 Recommendations for System Optimization**

The concentrations of hydrocarbons in the extraction wells and total system off-gas will be monitored on a weekly basis and the system will be optimized for two (2) more weeks. If the mass removal rates are low (e.g., less than 10 lbs/day) or reach an asymptote, the system will be shutdown and/or operated intermittently. Intermittent operation will maximize hydrocarbon removal while minimizing O&M costs. If hydrocarbon mass removal rates are significant (e.g., greater than 10 lbs/day), the system will be operated continuously. In addition, an air sparging

pilot test will be conducted during the second quarter 2009 to evaluate the effectiveness of this technology in conjunction with HVDPE.

## **6.0 AIR SPARGING PILOT TEST**

Air sparging is recommended because site conditions are favorable, a significant source of adsorbed hydrocarbon contamination was detected below the water table, and the mass removal from the HVDPE system has declined considerably while the cost per pound or gallon of hydrocarbon removed has increased significantly. In addition, down-gradient migration of a significant dissolved hydrocarbon plume is likely a direct result of this submerged hydrocarbon mass observed below the source area. The air sparging pilot testing activities will take about 2 to 3 days to complete; however, the test may be extended for up to one (1) week if the initial results are encouraging. The air sparging pilot test will be conducted according to the recommendations, methods, and procedures outlined in Chapter 5 of the “Air Sparging Design Paradigm” (Leeson, et al. 2002).

### **6.1 Sparge Well Installation**

The air sparge well spacing will be approximately 15 to 20-feet. The proposed well spacing is based on a combination of AEI’s experience at other sites with relatively homogenous sandy aquifers and the “Standard Design Approach” discussed in the “Air Sparging Design Paradigm” (Leeson, et al. 2002). The sparge points will be placed approximately 8-feet below the deepest soil contamination with the screened section starting at approximately 28-feet bgs. The total sparge well depth will be approximately 30-feet bgs. A CME-75 or equivalent rotary auger drilling rig running 8-inch nominal diameter hollow stem augers will be used to drill the sparge wells. The wells will be built with 2-inch diameter flush-threaded polyvinyl chloride (PVC) well casing and stainless steel sparge points. The sparge points will be constructed out of 2-foot long sections of 0.010 slotted stainless steel well screen with a flush threaded top connection and welded bottom plate. The annular space will be filled with #2/16 or appropriately-sized Monterey Sand to approximately 1-foot above the top of the well screen. At least 2-feet of hydrated bentonite chips will be installed above the filter pack. The remainder of the borehole will be sealed to approximately 0.5-feet bgs with Type II through IV Portland cement grout. The tops of the well casings will be secured with expanding well plugs and the wellheads will be completed flush to grade with 12-inch diameter traffic-rated well boxes. The proposed air sparge well locations are shown on Figure 6 and the construction detail is shown on Figure 7.

### **6.2 Equipment & Materials**

The following equipment and materials will be used for the pilot test:

- Hard-wired power source or diesel generator.
- Air supply compressor capable of at least 20 cubic feet per minute (cfm) per well at 10 to 15 pound per squarer inches (psi) above the calculated hydrostatic pressure.

- Air distribution manifold, vent valve, and total flow meter.
- Air injection (sparge) wells equipped with pressure gauges, flow control valves, and well flow meters.
- Soil gas probes (GP-1 and GP-2), dual-phase extraction wells (MW-1, 2, 6, and 7), and monitoring wells (MW-5 and MW-8).
- Diaphragm pressure / vacuum pump (1 cfm), variable speed peristaltic pump, and RKI Eagle total volatile hydrocarbon (TVH), methane, oxygen, and carbon dioxide detector.
- Air-water separator trap, vinyl tubing, peristaltic pump tubing, nylon connectors, and 1-liter tedlar bags.
- Photo-ionization detector (PID) to check for potential vapor migration near building foundations, backfilled areas, utility lines, and other subsurface confined spaces.
- Barometer for evaluating the significance of barometric fluctuations on vadose zone pressure measurements (especially important if a weather system moves through the area).

### **6.3 Baseline Data Collection**

Baseline sampling will be used to determine the initial saturated zone and vadose zone conditions prior to the air sparging pilot test. Baseline data collection for the saturated zone will correspond with the second quarter 2010 groundwater monitoring event.

Baseline sampling will include the collection of the following data:

- Groundwater elevations in nearby monitoring wells such as MW-3, 4, 5, and 8.
- Concentrations of TPH-g and BTEX and dissolved oxygen in the groundwater using a flow-through cell prior to restarting the HVDPE system.
- Concentrations of TVH, oxygen, carbon dioxide, TPH-g, and BTEX in the off-gas upon restarting the HVDPE system and one (1) month later or until hydrocarbon removal stabilizes, declines, and/or reaches an asymptote.
- Concentrations of TVH, oxygen, and carbon dioxide in the soil gas and soil gas pressure measured at GP-1 and GP-2 at 5 and 10-foot bgs just before starting the pilot test.

### **6.4 Injection Pressure / Flow Rate Test**

Prior to the pilot test, the air sparging system operating pressures will be estimated and used to size the equipment. The minimum injection pressure will be the sum of hydrostatic pressure and the air

entry pressures of the sand-pack and the formation. The fracture pressure of the formation will be the weight of the soil column plus the weight of water above the sparge point. The maximum injection pressure will be 75% of the fracture pressure to prevent pneumatic fracturing of the formation. Each sparge well will be tested individually. A vent valve will be used to initiate flow and maintain the desired system operating pressure and flow rate. The initial breakthrough pressure will be recorded and the flow rate and pressure will be record every 5 to 10 minutes until the pressure and flow stabilize. The injection pressure / flow rate test will take approximately 2 to 4 hours per sparge well to complete.

## **6.5 Soil Gas & Off-Gas Sampling**

Soil gas sampling used to monitor for potential vapor migration is discussed in Section 6.6. Off-gas sampling will be used to estimate volatilization rates from the saturated zone as the primary measure of air sparging performance. Off-gas samples will be collected from MW-1, 2, 6, and 7 for field screening and laboratory analyses 30 to 60 minutes after initiating air injection and following stabilization of the air injection pressure and flow rate near the end of the test. Off-gas samples will be collected into 1-liter tedlar bags using the diaphragm pressure / vacuum pump and air-water separator trap. The samples will be screened for TVH, oxygen, and carbon dioxide using the RKI Eagle multi-gas detector and submitted for laboratory analyses. The samples will be labeled with unique identifiers, entered onto the chain of custody record, and stored in a cardboard box out of direct sunlight pending transportation to the lab. The samples will be transported under proper chain of custody protocol and within hold time to McCampbell Analytical, Inc. of Pittsburg, California (DHS Certification #1644) for analyses. The samples will be analyzed for THP-g by EPA Method 8015C and BTEX by EPA Method 8021B. If possible, in situ airflow rates will be quantified by connecting a 1-liter tedlar to the deeper soil gas probes and timing how long it takes to fill the bag to capacity.

## **6.6 Monitoring & Controls for Vapor Migration**

While measurable LNAPL and a significant mass of volatile hydrocarbons (more than 30,000 pounds or 5,000 gallons) have been removed from the target treatment zone, an appreciable mass of volatile hydrocarbon still remains in the source zone. Because sparging air below this hydrocarbon source presents a potential risk for vapor intrusion into nearby occupied buildings, several monitoring procedures and engineering controls will be employed to monitor and control adverse vapor migration. Monitoring vapor concentrations in the vapor probes (GP-1 and GP-2) will provide early warning of potential vapor migration.

### **6.6.1 Monitoring & Sampling Parameters**

Soil gas pressure and concentrations of TVH, methane, oxygen, and carbon dioxide will be measured at regular intervals in the vadose zone. Soil gas samples will be collected from GP-1 and GP-2 at 5 and 10-foot bgs for field screening every 15 minutes for the first hour and every 30 minutes thereafter until the end of the test. The soil gas samples will be collected into 1-liter tedlar bags using a peristaltic pump and immediately screened using the RKI Eagle multi-gas detector. While positive soil gas pressure alone is not necessarily an indicator of potential vapor migration, if

elevated TVH is measured in conjunction with positive soil gas pressure, the air sparging system flow rates will be lowered or the system will be shutdown entirely.

Typical monitoring scenarios and standard response actions are summarized below:

- If positive pressure and elevated TVH is detected at 10-foot bgs, but not at 5-foot bgs, the sparge air flow rate, soil gas pressure, and vapor concentrations will be monitored closely.
- If positive pressure is detected at 5 and 10-foot bgs and elevated TVH is detected at 10-foot bgs, but not at 5-foot bgs, the sparge air flow rate will be lowered for a period of time (2 to 4 hours), or until the concentration of TVH at 10-foot bgs is stable or decreasing, and the soil gas pressure and vapor concentrations will be monitored closely.
- If positive pressure and elevated TVH is detected at both 5 and 10-foot bgs, the air sparging system will be shutdown immediately and the soil gas pressure and TVH will be monitored closely until the HVDPE system reduces vapor concentrations to baseline levels.

### **6.6.2 Engineering Controls**

The primary engineering control will be continuous operation of the HVDPE system during the air sparging pilot test. The HVDPE system will be operated for several days to several weeks to establish a vapor capture zone prior to the sparge test. The following onsite dual phase extraction wells will be operated during the test: MW-1, MW-2, MW-6, and MW-7. Based on soil gas pressure monitoring during the 2005 HVDPE pilot test and operation of the HVDPE system, the vacuum radius of influence (ROI<sub>v</sub>) is at least 15-feet. The ROI<sub>v</sub> is defined as a soil gas pressure of at least -0.1 inches of water. The drop tube will be positioned at air-water interface (bioslurping mode) to keep drawdown to a minimum and focus vacuum energy at the capillary fringe and vadose zone.

The second engineering control will be to keep sparge air flow rates at a fraction (e.g., one-quarter to one-half) of dual phase extraction well flow rates. Using control valves installed at the wellheads, the sparge air flow rates will be lowered to reduce pressure in the vadose zone and the potential for adverse vapor migration. During the first couple days of the test, when the highest emission rates are expected to occur, only one air sparge well will be operated at time. The sparge air will be introduced at a very low flow rate (approximately 1 to 2 cfm per well) as compared to the HVDPE system flow rate (15 to 20 cfm per well). As vapor emissions from the saturated zone decrease, the sparge air flow rate will be cautiously increased in sequential steps to approximately 5, 10, 15, and finally 20 cfm.

The third engineering control will be equipping the air sparging system with a programmable timer allowing for pulse mode operation. Instead of running the sparge wells continuously, the wells can be operated anywhere from few minutes to a few hours. Pulsing with sufficient downtime between cycles can reduce the mass flux of contaminants into the vadose zone while allowing time for biodegradation and vapor recovery.

The final engineering control will be the installation of a pressure switch at the outlet of the liquid ring pump and/or stack of the catalytic oxidizer. This switch will be interlocked with the air sparge compressor controller. If the pressure falls to near zero gauge pressure, indicating low to no flow from the HVDPE system, the air sparging system will automatically shutdown.

## **7.0 SCHEDULE & REPORTING**

Upon approval of this workplan, field work will be scheduled and a drilling permit application will be submitted to the ACPWA. Installation of the air sparge wells is planned for up to two (2) days of fieldwork. The sparge wells will be developed within one (1) week of installation by surging and over-pumping with a submersible pump. Depending on equipment availability, the pilot test will be conducted within 30 days of installing the air sparge wells. AEI will prepare and issue a final report within sixty 60 days of completing the air sparging pilot test and receiving all laboratory analytical reports. The report will include tables, figures of drilling and sampling locations, borings logs, and copies of all laboratory analytical reports. A written discussion of the field activities and evaluation of the results will be presented. The project will be overseen and the reports signed by an AEI California registered professional geologist or professional civil engineer.

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## 9.0 CLOSING STATEMENT & SIGNATURES

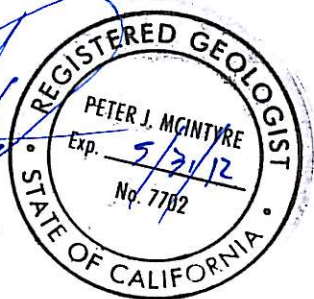
AEI has prepared this workplan on behalf of Mr. Victor Lum for the property located at 245 8<sup>th</sup> Street in the City of Oakland, Alameda County, California (Figure 1). The number and location of samples have been chosen to provide requested information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations will be based on the analyses, observations, and the governing regulations. Conclusions beyond those stated in the final report should not be inferred from this document. These services will be performed in accordance with generally accepted practices in the environmental engineering and geology fields that exist at the time and location of the work.


We look forward to your remarks regarding this workplan. Should you have any questions or comments, or need any additional information, please contact either of the undersigned at (925) 746-6000.

Sincerely,  
**AEI Consultants**

  
Richard Bradford  
Project Engineer

  
Peter McIntyre, PG  
Senior Project Manager



  
Adrian Angel, GIT  
Project Geologist

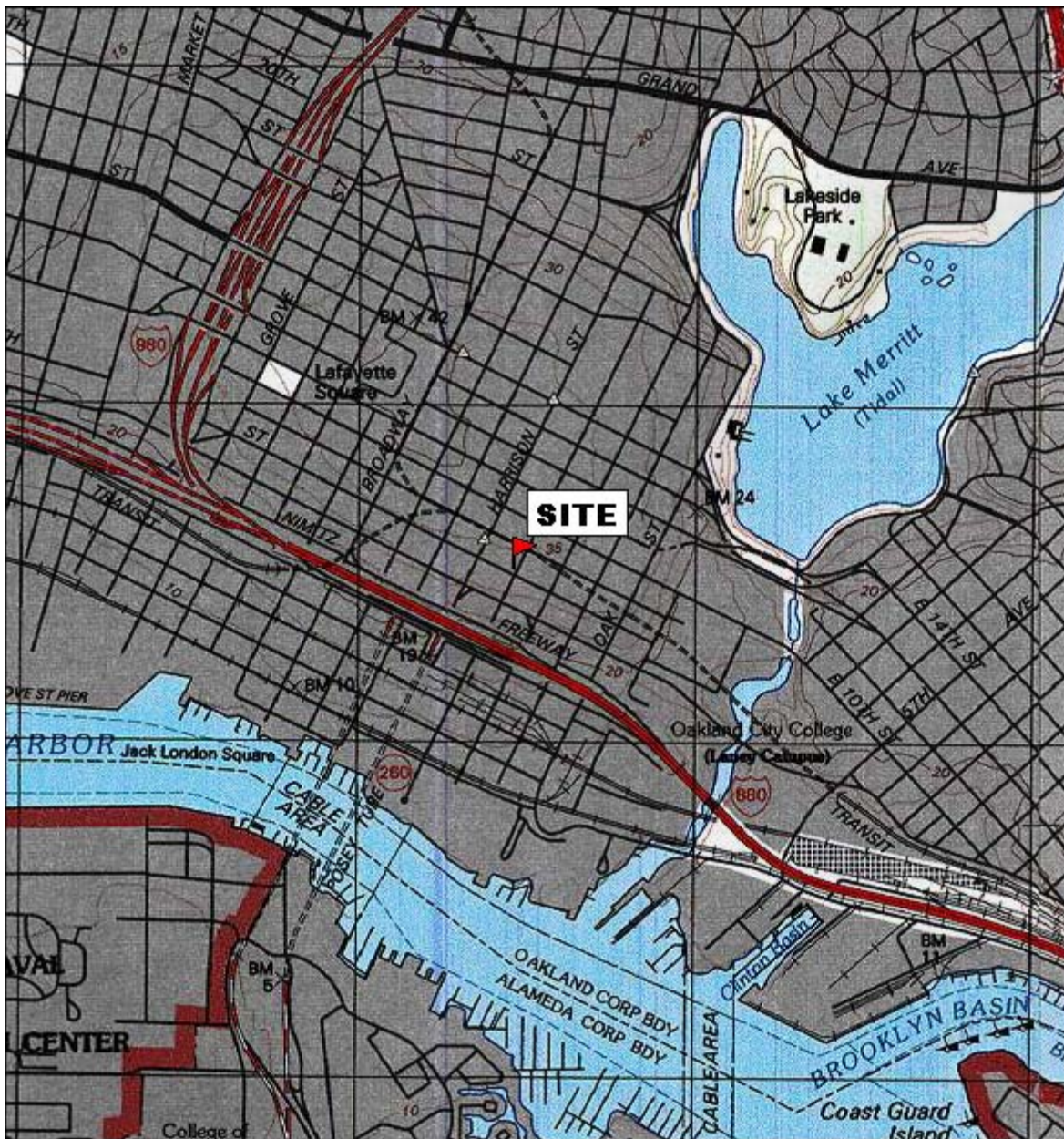
### Distribution:

Mr. Victor Lum (1 copy)  
Vic's Automotive  
245 8<sup>th</sup> Street  
Oakland, California 94607

Mr. Jerry Wickham (electronic-ftp)  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

GeoTracker (electronic)

## **FIGURES**



TN  $\star$  MN  
15 1/4°



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2500 CAMINO DIABLO BLVD, SUITE 200, WALNUT CREEK, CA







### SITE LOCATION MAP

245 8<sup>th</sup> STREET  
OAKLAND, CALIFORNIA

FIGURE 1  
PROJECT No. 116907



**LEGEND**

-  MONITORING WELL
-  SOIL BORING (1996)
-  SOIL BORING (2002 / 2003)
-  SOIL GAS PROBE
-  ABANDONED SOIL GAS PROBE
-  SOIL BORING (2010)

DRAFTED BY RJB 10-01-07  
 REVISED BY RJB 05-10-10

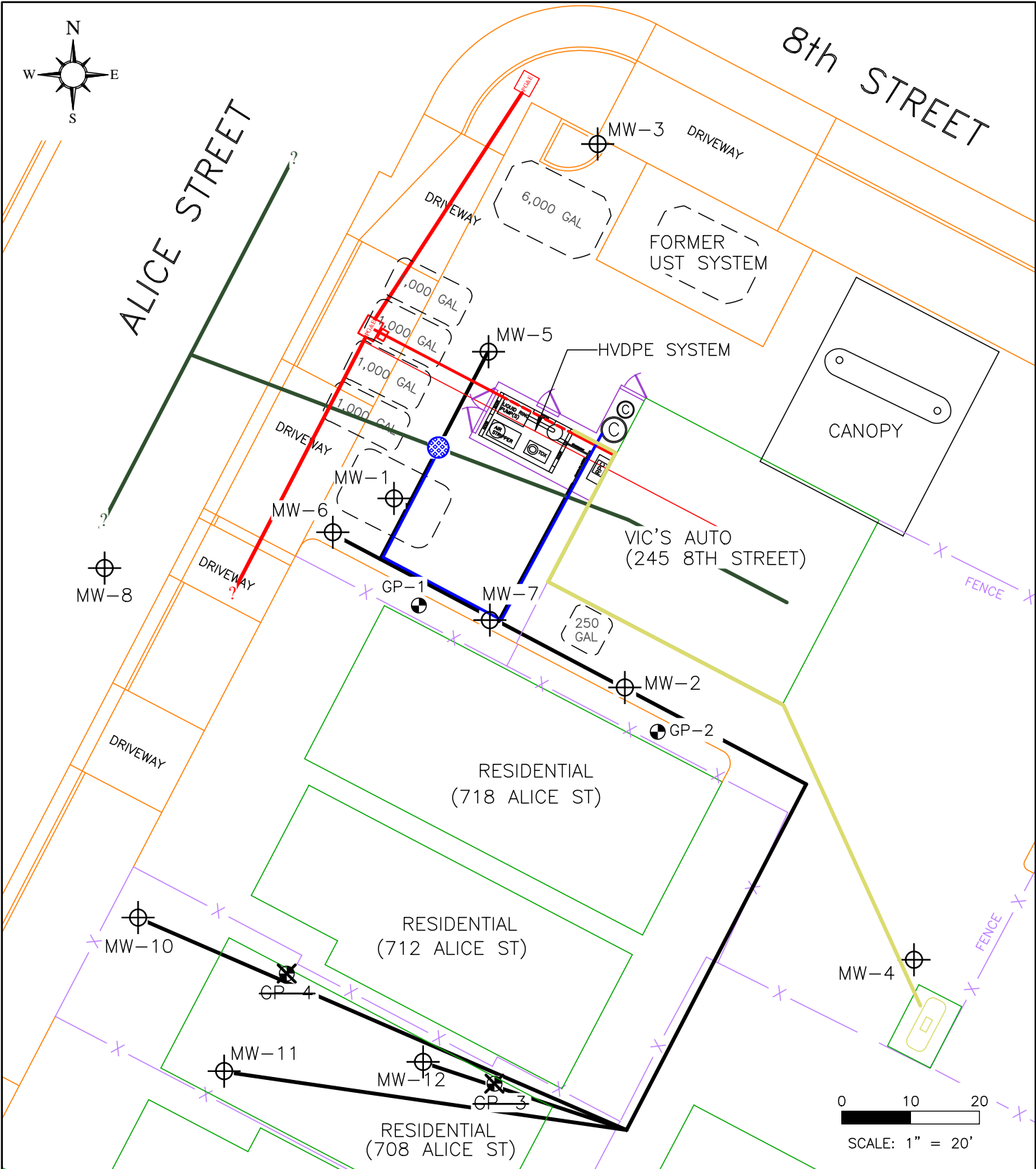
  
 FORMER UST  
 LOCATION

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 2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**SITE PLAN**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 2**  
 PROJECT NO. 116907



**LEGEND**

- ⊕ MONITORING WELL
- ⊗ SOIL GAS PROBE
- ⊗ ABANDONED SOIL GAS PROBE
- ⊕ OAKLAND MONITORING STRUCTURE
- HVDPE PIPING (~18 - 24" BGS)
- WATER DISCHARGE (~24" BGS)
- SANITARY SEWER (~36 - 48" BGS)
- ELECTRICAL (~24" BGS)
- PROPANE LINE (~18 - 24" BGS)

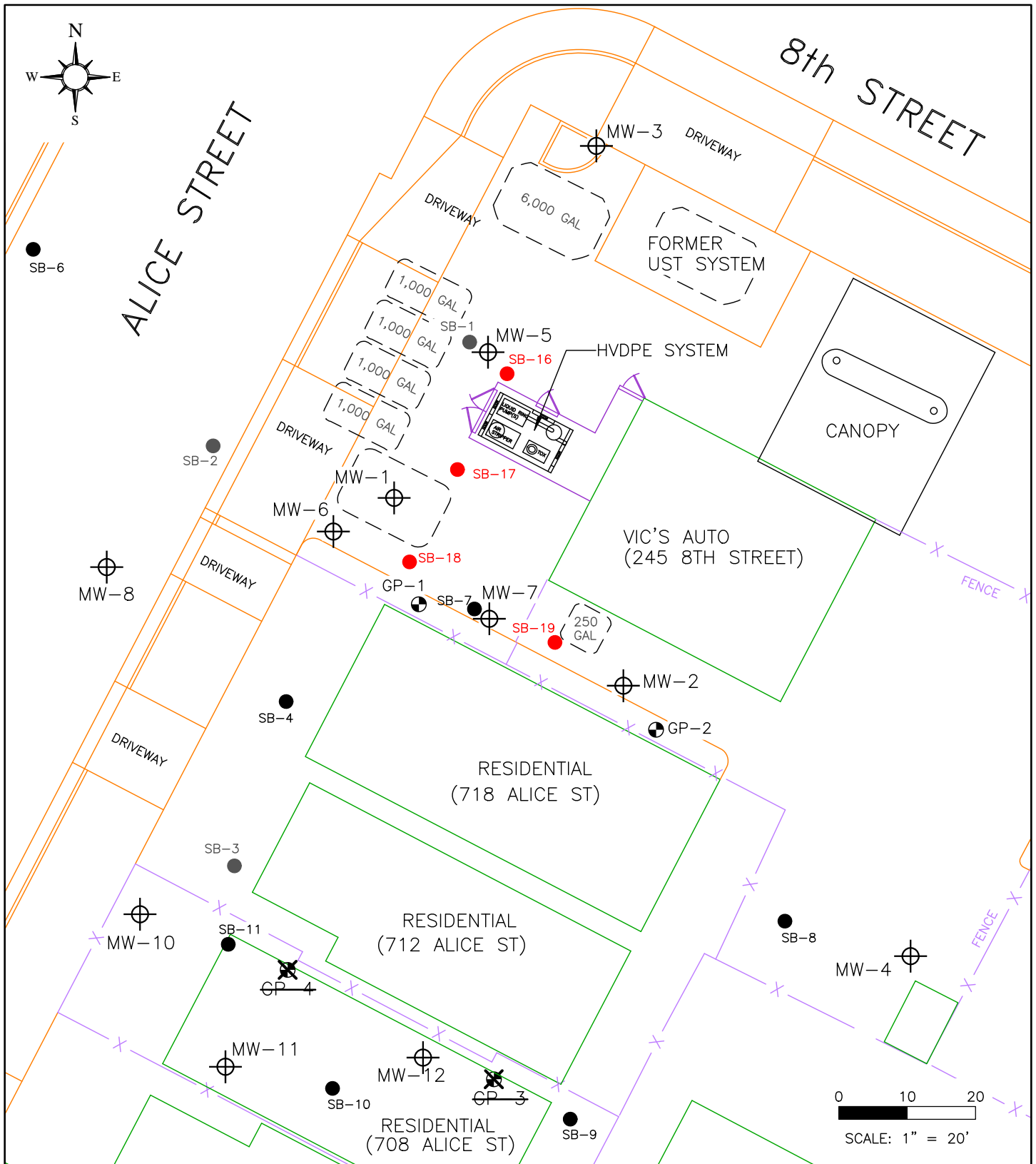
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**HVDPE SYSTEM LAYOUT PLAN**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 3**  
 PROJECT NO. 116907



**LEGEND**

- ⊕ MONITORING WELL
- SOIL BORING (1996)
- SOIL BORING (2002 / 2003)
- ⊕ SOIL GAS PROBE
- ⊗ ABANDONED SOIL GAS PROBE
- SOIL BORING (2010)

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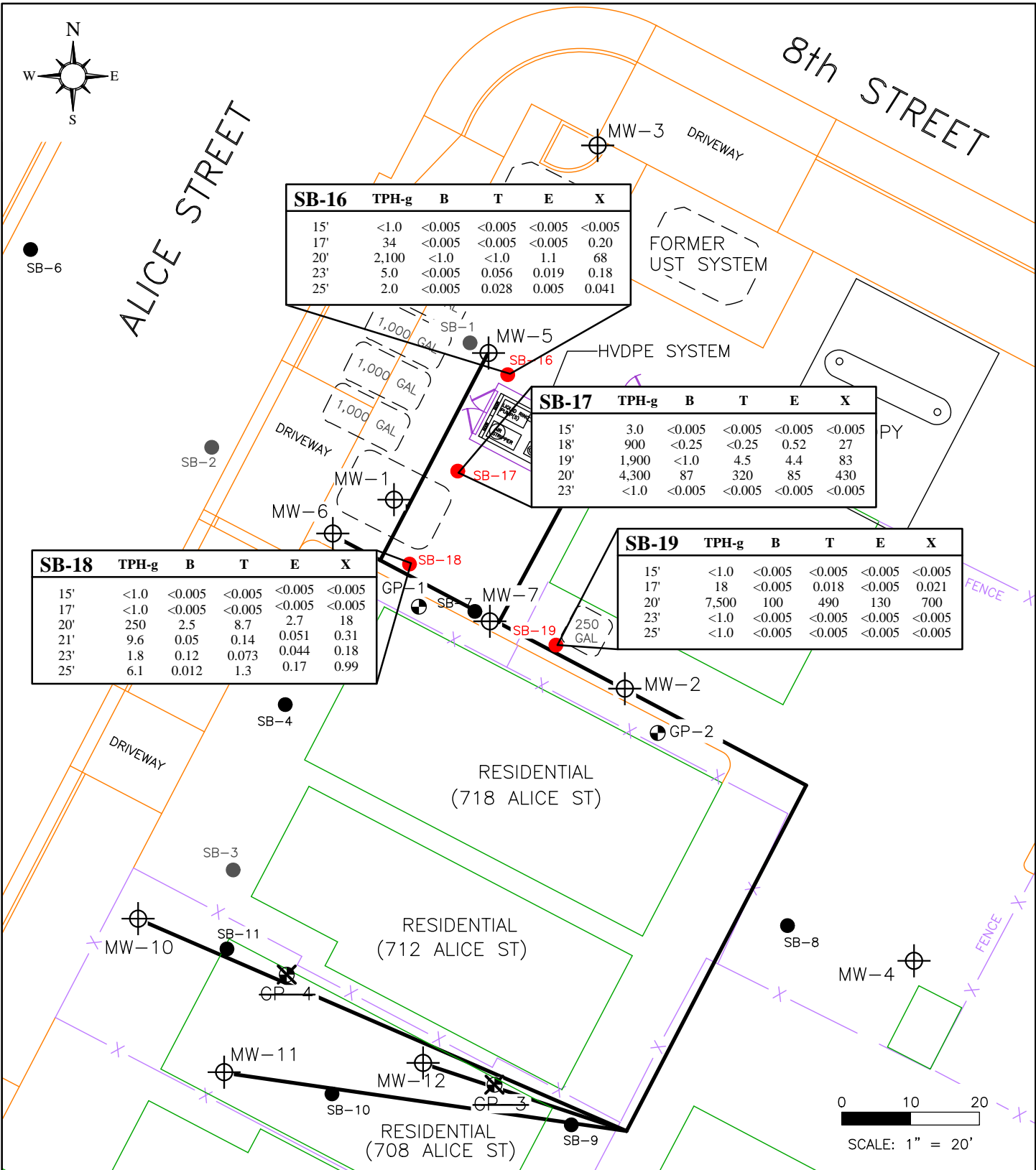
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**SOURCE ZONE  
 BORING LOCATIONS**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 4**  
 PROJECT NO. 116907



**LEGEND**

- ⊕ MONITORING WELL
- SOIL BORING (1996)
- SOIL BORING (2002 / 2003)
- ⊕ SOIL GAS PROBE
- ⊗ ABANDONED SOIL GAS PROBE
- SOIL BORING (2010)

— HVDPE PIPING (~18 - 24" BGS)

TPH-g = TOTAL PETROLEUM HYDROCARBON AS GAS  
 B = BENZENE  
 T = TOLUENE  
 E = ETHYLBENZENE  
 X = TOTAL XYLENES

All soil analytical data is milligrams per kilogram (mg/kg)  
 Refer to Table 7 for more detailed information

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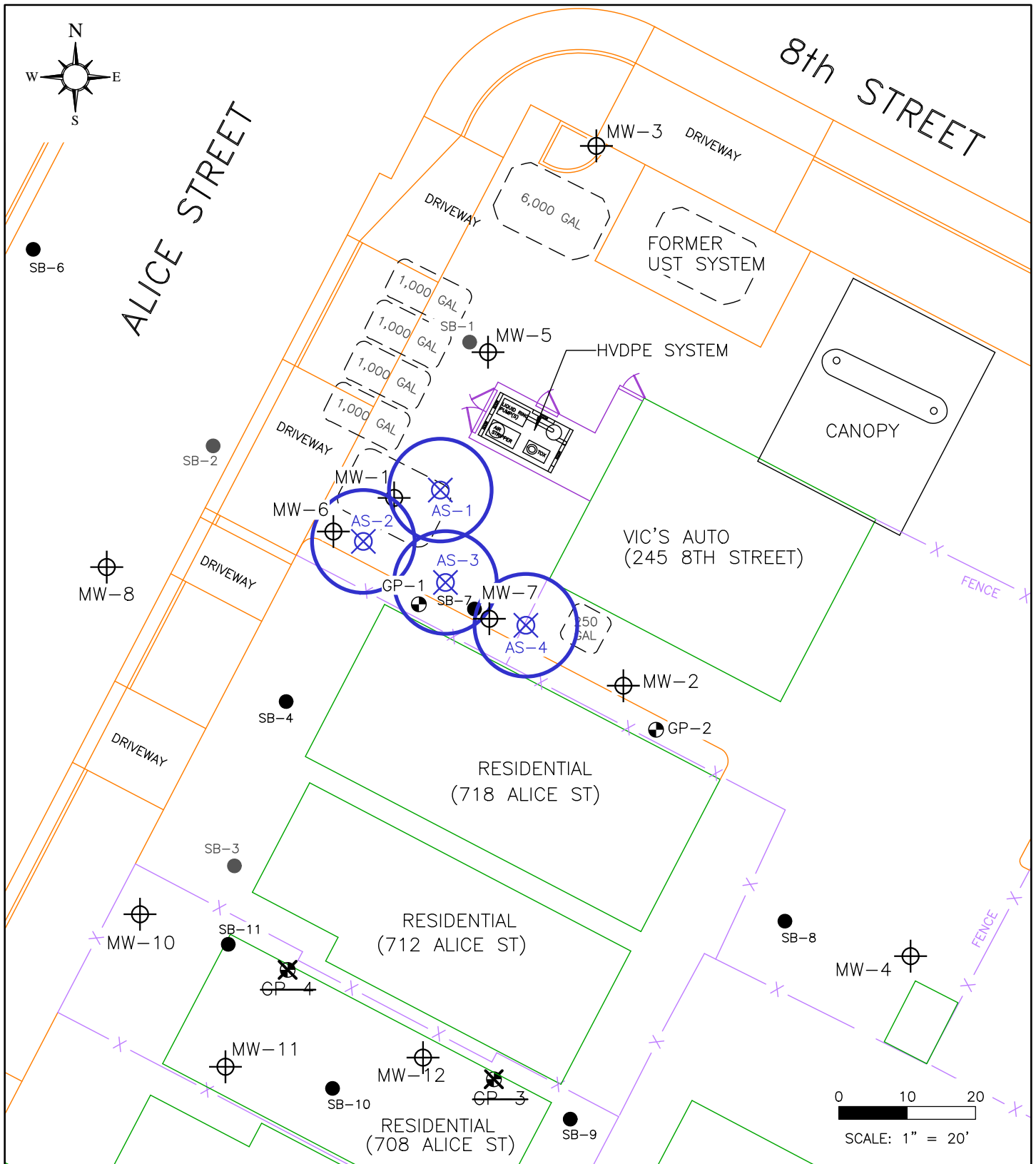
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**SOIL ANALYTICAL DATA**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 5**  
 PROJECT NO. 116907





**LEGEND**

- ⊕ MONITORING WELL
- SOIL BORING (1996)
- SOIL BORING (2002 / 2003)
- ⊕ SOIL GAS PROBE
- ⊗ ABANDONED SOIL GAS PROBE
- ⊗ PROPOSED AIR SPARGE WELL

⊗ AIR SPARGE WELL  
SPACING ~ 15 FEET  
WITH OVERLAP

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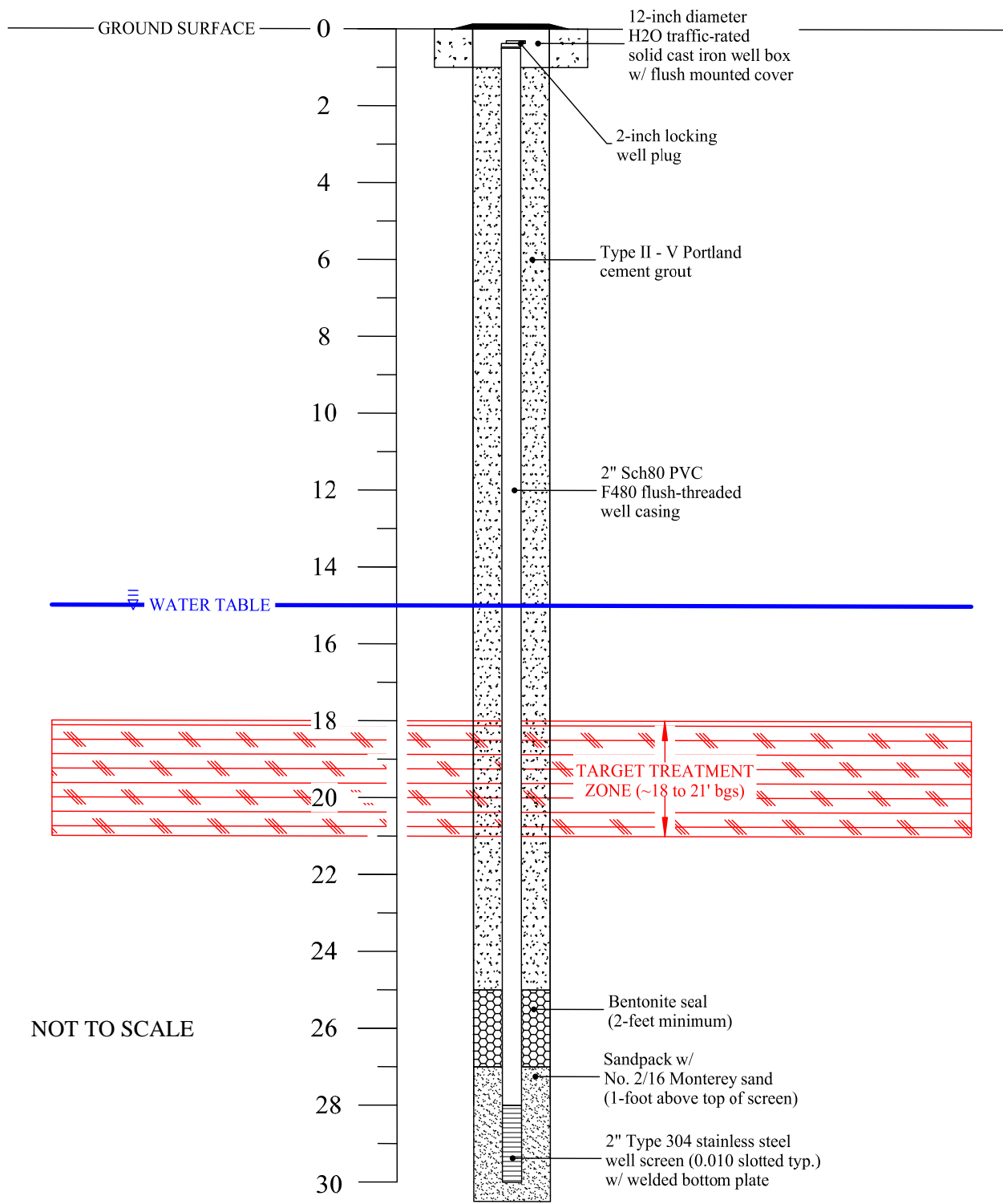
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2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**PROPOSED AIR SPARGE  
WELL LOCATIONS**

245 8TH STREET  
OAKLAND, CALIFORNIA




**FIGURE 6**  
PROJECT NO. 116907



NOT TO SCALE

**LEGEND**

DRAFTED BY RJB 05-01-10  
 REVISED BY RJB 05-10-10

-  PORTLAND CEMENT
-  BENTONITE PELLETS
-  MOTEREY SAND

**AEI CONSULTANTS**

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

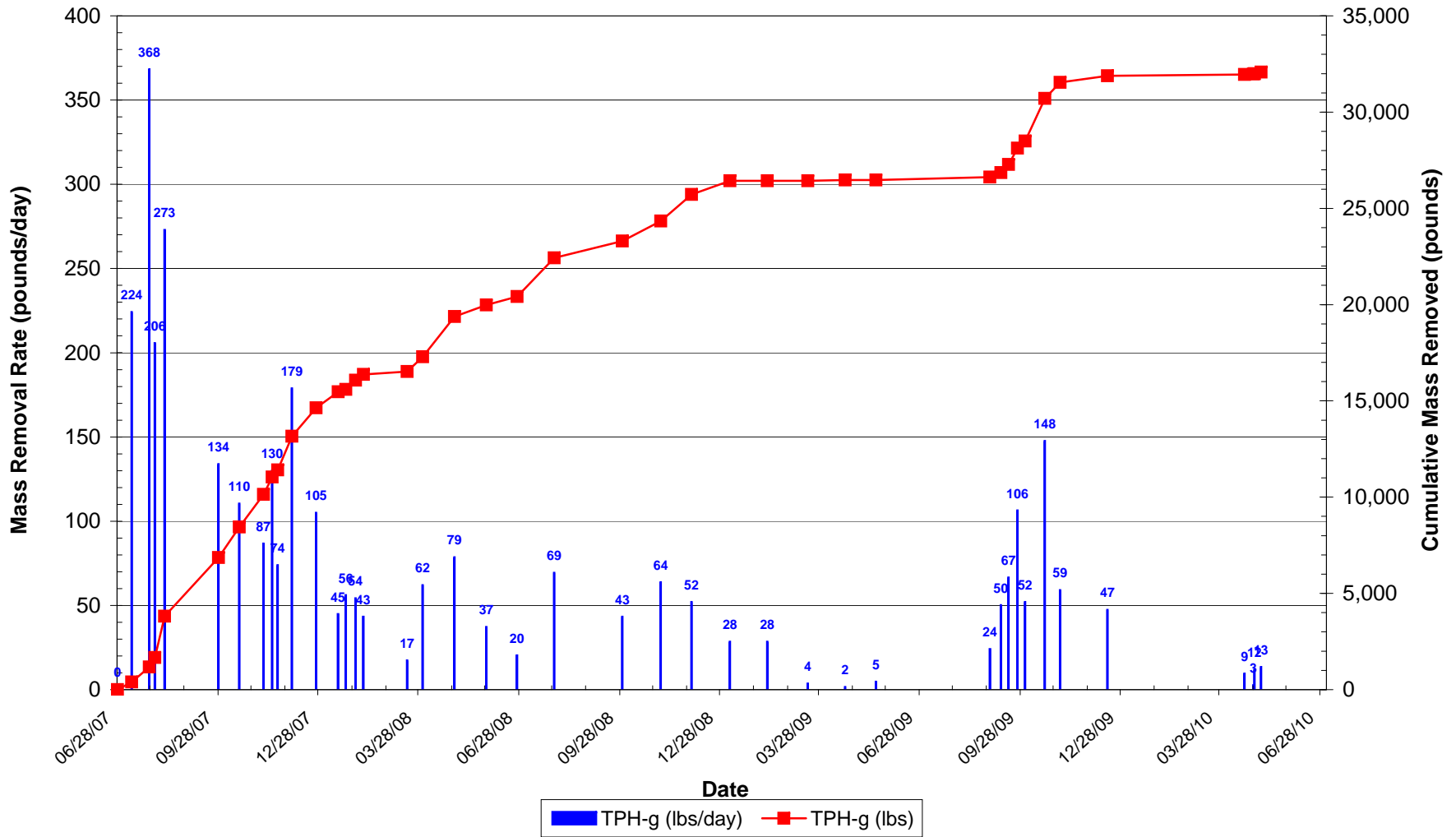
**AIR SPARGE WELL  
 CONSTRUCTION DETAIL**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 7**  
 PROJECT NO. 116907

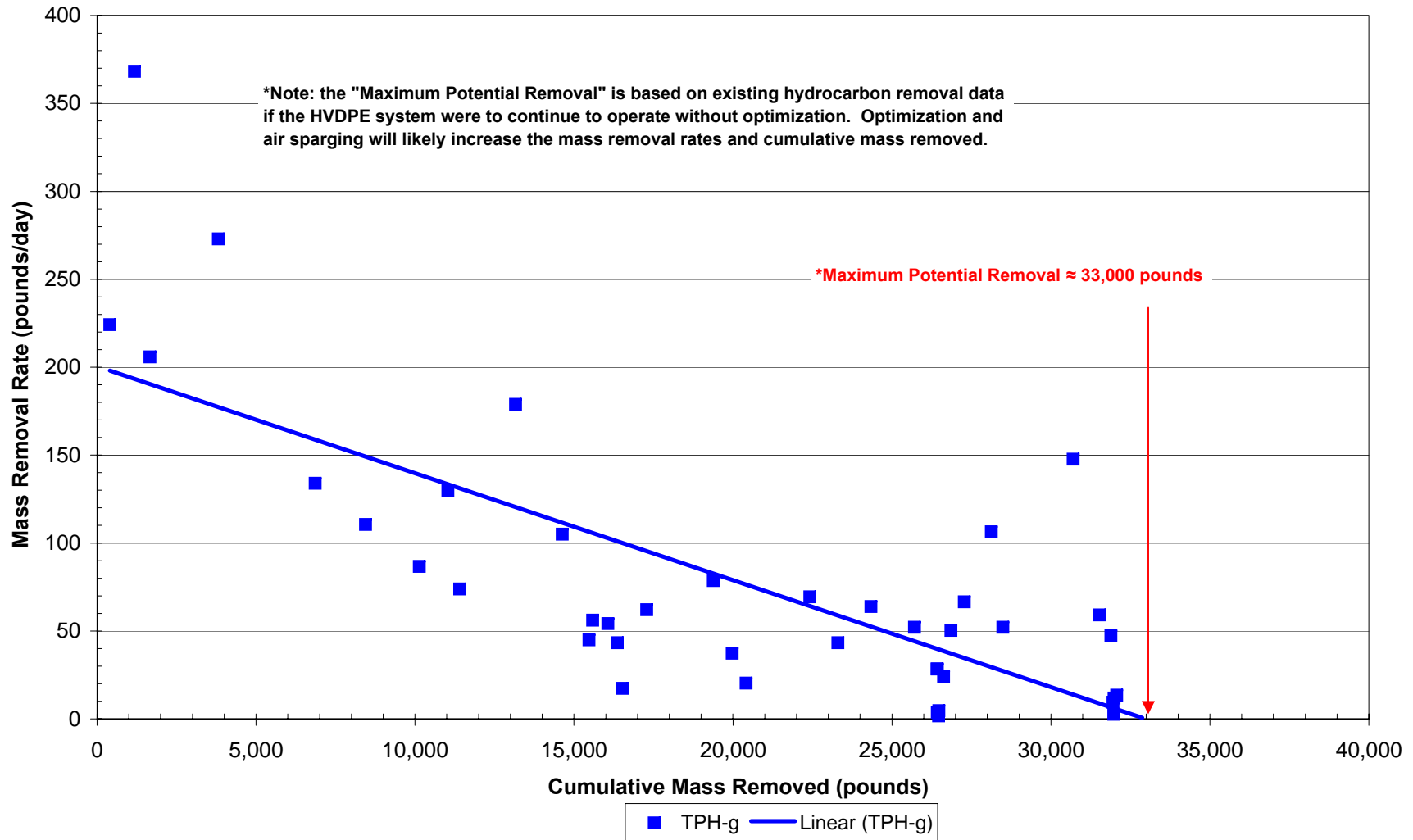
**FIGURE 8: HYDROCARBON MASS REMOVAL RATES OVER TIME**

Vic's Auto, 245 8th Street, Oakland, California



# FIGURE 9: HYDROCARBON MASS REMOVAL DECLINING CURVE ANALYSIS

Vic's Auto, 245 8th Street, Oakland, California



## **TABLES**

**TABLE 1: WELL CONSTRUCTION DETAILS (PROPOSED AIR SPARGE WELLS IN BLUE)**

Vic's Auto, 245 8th Street, Oakland, California

Well ID	Installation Date	Nominal Diameter (inch)	Total Depth (ft bgs)	Screen Interval (ft bgs)	Sand Pack Interval (ft bgs)	Sand Pack Size	Screen Slot Size (inch)	Bentonite Seal Interval (ft bgs)	Cement Grout Interval (feet bgs)	Casing Material	Design / Use
MW-1*	07/14/95	4	28	8 - 28	6 - 28	#3	0.010	5 - 6	0.5 - 5	SCH40 PVC	Monitoring / DPE Well
MW-2*	07/14/95	2	28	8 - 28	6 - 28	#3	0.010	5 - 6	0.5 - 5	SCH40 PVC	Monitoring / DPE Well
MW-3	05/25/01	2	25	10 - 25	8 - 25	#3	0.010	7 - 8	0.5 - 7	SCH40 PVC	Monitoring Well
MW-4	05/25/01	2	25	10 - 25	8 - 25	#3	0.010	7 - 8	0.5 - 7	SCH40 PVC	Monitoring Well
MW-5*	01/11/05	4	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring / DPE Well
MW-6*	01/19/05	4	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring / DPE Well
MW-7*	01/11/05	4	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring / DPE Well
MW-8	03/18/08	4	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring Well
MW-9	03/18/08	2	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring Well
MW-10*	01/20/05	4	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring / DPE Well
MW-11*	01/20/05	4	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring / DPE Well
MW-12*	01/20/05	4	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring / DPE Well
MW-13	03/18/08	2	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring Well
MW-14	07/28/09	2	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring Well
MW-15	07/28/09	2	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring Well
MW-16	07/28/09	2	22	12 - 22	11 - 22	#2/12	0.010	10 - 11	0.5 - 10	SCH40 PVC	Monitoring Well
GP-1	07/13/06	0.25	10	5 & 10	-	#60 - 100	-	-	n/a	Kynar Tubing	Soil Gas Probe
GP-2	07/13/06	0.25	10	5 & 10	-	#60 - 100	-	-	n/a	Kynar Tubing	Soil Gas Probe
GP-3 <sup>+</sup>	07/13/06	0.25	10	5 & 10	-	#60 - 100	-	-	n/a	Kynar Tubing	Soil Gas Probe
GP-4 <sup>+</sup>	07/13/06	0.25	10	5 & 10	-	#60 - 100	-	-	n/a	Kynar Tubing	Soil Gas Probe
AS-1	tbd	1	30	28 - 30	27 - 30	#2/16	0.010	26 - 27	0.5 - 26	SCH80 PVC	Air Sparge Well
AS-2	tbd	2	30	28 - 30	27 - 30	#2/16	0.010	26 - 27	0.5 - 26	SCH80 PVC	Air Sparge Well
AS-3	tbd	2	30	28 - 30	27 - 30	#2/16	0.010	26 - 27	0.5 - 26	SCH80 PVC	Air Sparge Well
AS-5	tbd	2	30	28 - 30	27 - 30	#2/16	0.010	26 - 27	0.5 - 26	SCH80 PVC	Air Sparge Well
AS-5	tbd	2	30	28 - 30	27 - 30	#2/16	0.010	26 - 27	0.5 - 26	SCH80 PVC	Air Sparge Well

**NOTES:**

MW = monitoring well

GP = soil gas probe

AS = air sparge well

ft bgs = feet below ground surface

\* Monitoring wells MW-1, 2, 5, 6, 7, 10, 11, and 12 are also being used for dual phase extraction (DPE).

+ In August 2008, soil gas probes GP-1 and GP-2 were decommissioned.

**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-1</b> (8-28)	06/29/01	27.73	16.52	11.21	14.89	1.63
	10/10/01	27.73	15.45	12.28	15.37	0.08
	01/09/02	27.73	12.61	15.12	-	<0.01
	04/24/02	27.73	13.35	14.38	-	<0.01
	07/24/02	27.73	14.19	13.54	-	<0.01
	11/05/02	27.73	14.85	12.88	-	<0.01
	02/04/03	27.73	14.91	12.82	-	<0.01
	05/02/03	27.73	14.43	13.30	-	0.08
	08/04/03	27.73	15.24	12.49	15.01	0.23
	11/03/03	27.73	16.94	10.79	15.67	1.27
	02/09/04	27.73	14.61	13.12	14.43	0.18
	05/10/04	27.73	Obstructed	-	-	-
	08/09/04	27.73	15.24	12.49	15.03	0.21
	11/09/04	27.73	15.95	11.78	15.71	0.24
	02/03/05	32.55	13.75	18.80	13.58	0.17
	05/09/05	32.55	13.93	18.62	13.81	0.12
	08/05/05	32.55	15.40	17.15	15.39	0.01
	11/09/05	32.55	15.76	16.79	15.75	0.01
	02/09/06	32.55	13.52	19.03	13.50	0.02
	05/04/06	32.55	12.47	20.08	12.46	0.01
	08/04/06	32.55	15.11	17.44	15.09	0.02
	11/08/06	32.55	16.03	16.52	16.02	0.01
	02/08/07	32.55	16.51	16.04	16.48	0.03
	05/29/07	32.55	15.56	16.99	15.51	0.05
	09/05/07	32.55	16.33	16.22	-	Sheen
	12/12/07	32.55	17.62	14.93	-	Sheen
	02/13/08	32.55	15.94	16.61	-	Sheen
	05/15/08	32.55	16.64	15.91	-	-
	08/05/08	32.55	16.99	15.56	-	-
	11/07/08	32.55	17.40	15.15	-	-
	02/05/09	32.55	16.89	15.66	-	-
	05/05/09	32.55	15.69	16.86	-	-
08/21/09	32.55	17.09	15.46	-	-	
11/23/09	32.55	16.92	15.63	-	-	
<b>02/26/10</b>	<b>32.55</b>	<b>14.77</b>	<b>17.78</b>	<b>17.78</b>	<b>-</b>	<b>-</b>

**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-2</b> (8-28)	06/29/01	28.16	16.14	12.02	-	-
	10/10/01	28.16	16.43	11.73	-	-
	01/09/02	28.16	13.50	14.66	-	-
	04/24/02	28.16	14.40	13.76	-	-
	07/24/02	28.16	14.91	13.25	-	-
	11/05/02	28.16	16.96	11.20	-	-
	02/04/03	28.16	15.42	12.74	-	-
	05/02/03	28.16	15.24	12.92	-	-
	08/04/03	28.16	15.98	12.18	-	-
	11/03/03	28.16	16.60	11.56	-	Sheen
	02/09/04	28.16	15.22	12.94	-	Sheen
	05/10/04	28.16	15.34	12.82	-	Sheen
	08/09/04	28.16	15.92	12.24	-	Sheen
	11/09/04	28.16	16.51	11.65	-	Sheen
	02/03/05	33.24	14.44	18.80	-	Sheen
	05/09/05	33.24	14.67	18.57	-	Sheen
	08/05/05	33.24	16.27	16.97	-	Sheen
	11/09/05	33.24	16.53	16.71	-	Sheen
	02/09/06	33.24	14.36	18.88	-	Sheen
	05/04/06	33.24	13.46	19.78	-	Sheen
	08/04/06	33.24	15.95	17.29	-	Sheen
	11/08/06	33.24	16.86	16.38	-	Sheen
	02/08/07	33.24	17.13	16.11	-	Sheen
	05/29/07	33.24	16.51	16.73	-	Sheen
	09/05/07	33.24	17.48	15.76	-	-
	12/12/07	33.24	18.72	14.52	-	-
	02/13/08	33.24	16.91	16.33	-	-
	05/15/08	33.24	17.67	15.57	-	-
	08/05/08	33.24	17.94	15.30	-	-
	11/07/08	33.24	18.79	14.45	-	-
02/05/09	33.24	17.98	15.26	-	-	
05/05/09	33.24	17.52	15.72	-	-	
08/21/09	33.24	18.02	15.22	-	-	
11/23/09	33.24	17.94	15.30	-	-	
<b>02/26/10</b>	<b>33.24</b>	<b>15.79</b>	<b>17.45</b>	-	-	



**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-3</b> (10-25)	06/29/01	29.21	16.60	12.61	-	-
	10/10/01	29.21	16.92	12.29	-	-
	01/09/02	29.21	14.20	15.01	-	-
	04/24/02	29.21	15.07	14.14	-	-
	07/24/02	29.21	16.40	12.81	-	-
	11/05/02	29.21	16.47	12.74	-	-
	02/04/03	29.21	16.92	12.29	-	-
	05/02/03	29.21	15.45	13.76	-	-
	08/04/03	29.21	16.46	12.75	-	-
	11/03/03	29.21	17.15	12.06	-	-
	02/09/04	29.21	15.78	13.43	-	-
	05/10/04	29.21	15.77	13.44	-	-
	08/09/04	29.21	16.45	12.76	-	-
	11/09/04	29.21	17.26	11.95	-	-
	02/03/05	34.25	15.92	18.33	-	-
	05/09/05	34.25	15.03	19.22	-	-
	08/05/05	34.25	16.59	17.66	-	-
	11/09/05	34.25	16.82	17.43	-	-
	02/09/06	34.25	14.65	19.60	-	-
	05/04/06	34.25	13.61	20.64	-	-
	08/04/06	34.25	16.28	17.97	-	-
	11/08/06	34.25	17.28	16.97	-	-
	02/08/07	34.25	17.68	16.57	-	-
	05/29/07	34.25	17.37	16.88	-	-
	09/05/07	34.25	18.53	15.72	-	-
	12/12/07	34.25	19.61	14.64	-	-
	02/13/08	34.25	18.12	16.13	-	-
	05/15/08	34.25	18.64	15.61	-	-
	08/05/08	34.25	18.88	15.37	-	-
	11/07/08	34.25	19.60	14.65	-	-
02/05/09	34.25	19.02	15.23	-	-	
05/05/09	34.25	17.78	16.47	-	-	
08/21/09	34.25	19.24	15.01	-	-	
11/23/09	34.25	19.04	15.21	-	-	
<b>02/26/10</b>	<b>34.25</b>	<b>16.96</b>	<b>17.29</b>	-	-	

**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-4</b> (10-25)	06/29/01	29.38	17.71	11.67	-	-
	10/10/01	29.38	18.00	11.38	-	-
	01/09/02	29.38	15.02	14.36	-	-
	04/24/02	29.38	15.74	13.64	-	-
	07/24/02	29.38	16.69	12.69	-	-
	11/05/02	29.38	17.64	11.74	-	-
	02/04/03	29.38	16.02	13.36	-	-
	05/02/03	29.38	16.72	12.66	-	-
	08/04/03	29.38	17.51	11.87	-	-
	11/03/03	29.38	18.09	11.29	-	-
	02/09/04	29.38	16.67	12.71	-	-
	05/10/04	29.38	16.89	12.49	-	-
	08/09/04	29.38	17.44	11.94	-	-
	11/09/04	29.38	17.89	11.49	-	-
	02/03/05	34.42	14.98	19.44	-	-
	05/09/05	34.42	16.20	18.22	-	-
	08/05/05	34.42	17.73	16.69	-	-
	11/09/05	34.42	17.91	16.51	-	-
	02/09/06	34.42	15.62	18.80	-	-
	05/04/06	34.42	15.12	19.30	-	-
	08/04/06	34.42	17.39	17.03	-	-
	11/08/06	34.42	18.30	16.12	-	-
	02/08/07	34.42	18.57	15.85	-	-
	05/29/07	34.42	18.29	16.13	-	-
	09/05/07	34.42	19.27	15.15	-	-
	12/12/07	34.42	20.44	13.98	-	-
	02/13/08	34.42	18.52	15.90	-	-
	05/15/08	34.42	19.42	15.00	-	-
	08/05/08	34.42	19.67	14.75	-	-
	11/07/08	34.42	20.42	14.00	-	-
02/05/09	34.42	19.72	14.70	-	-	
05/05/09	34.42	18.51	15.91	-	-	
08/21/09	34.42	19.70	14.72	-	-	
11/23/09	34.42	19.79	14.63	-	-	
<b>02/26/10</b>	<b>34.42</b>	<b>17.52</b>	<b>16.90</b>	-	-	

**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-5</b> (12-22)	02/03/05	33.33	14.23	19.10	-	-
	05/09/05	33.33	14.33	19.00	-	-
	08/05/05	33.33	15.89	17.44	-	-
	11/09/05	33.33	16.18	17.15	-	-
	02/09/06	33.33	14.02	19.31	-	-
	05/04/06	33.33	12.97	20.36	-	-
	08/04/06	33.33	15.63	17.70	-	-
	11/08/06	33.33	16.55	16.78	-	-
	02/08/07	33.33	16.12	17.21	-	-
	05/29/07	33.33	15.87	17.46	-	-
	09/05/07	33.33	16.95	16.38	-	-
	12/12/07	33.33	18.13	15.20	-	-
	02/13/08	33.33	16.58	16.75	-	-
	05/15/08	33.33	17.08	16.25	-	-
	08/05/08	33.33	17.42	15.91	-	-
	11/07/08	33.33	17.99	15.34	-	-
	02/05/09	33.33	17.42	15.91	-	-
	05/05/09	33.33	16.20	17.13	-	-
	08/21/09	33.33	17.66	15.67	-	-
	11/23/09	33.33	17.39	15.94	-	-
<b>02/26/10</b>	<b>33.33</b>	<b>15.41</b>	<b>17.92</b>	-	-	
<b>MW-6</b> (12-22)	02/03/05	32.82	13.99	18.83	-	Sheen
	05/09/05	32.82	13.61	19.21	-	Sheen
	08/05/05	32.82	15.50	17.32	15.13	0.37
	11/09/05	32.82	15.87	16.95	15.50	0.37
	02/09/06	32.82	13.93	18.89	13.22	0.71
	05/04/06	32.82	12.88	19.94	12.13	0.75
	08/04/06	32.82	15.22	17.60	14.81	0.41
	11/08/06	32.82	16.16	16.66	15.78	0.38
	02/08/07	32.82	15.48	17.34	15.14	0.34
	05/29/07	32.82	15.35	17.47	15.04	0.31
	09/05/07	32.82	15.55	17.27	-	-
	12/12/07	32.82	17.22	15.60	-	Sheen
	02/13/08	32.82	15.54	17.28	-	Sheen
	05/15/08	32.82	16.25	16.57	-	-
	08/05/08	32.82	16.48	16.34	-	-
	11/07/08	32.82	17.33	15.49	-	-
	02/05/09	32.82	16.53	16.29	-	-
	05/05/09	32.82	15.46	17.36	-	-
	08/21/09	32.82	16.70	16.12	-	-
	11/23/09	32.82	16.53	16.29	-	-
<b>02/26/10</b>	<b>32.82</b>	<b>14.37</b>	<b>18.45</b>	-	-	

**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-7</b> (12-22)	02/03/05	33.07	14.17	18.90	-	Sheen
	05/09/05	33.07	14.47	18.60	14.44	0.03
	08/05/05	33.07	16.07	17.00	16.02	0.05
	11/09/05	33.07	16.47	16.60	16.35	0.12
	02/09/06	33.07	14.18	18.89	14.11	0.07
	05/04/06	33.07	13.12	19.95	13.11	0.01
	08/04/06	33.07	15.74	17.33	-	Sheen
	11/08/06	33.07	16.59	16.48	-	Sheen
	02/08/07	33.07	16.23	16.84	-	Sheen
	05/29/07	33.07	16.13	16.94	-	Sheen
	09/05/07	33.07	16.40	16.67	-	Sheen
	12/12/07	33.07	18.02	15.05	-	Sheen
	02/13/08	33.07	16.27	16.80	-	Sheen
	05/15/08	33.07	17.01	16.06	-	-
	08/05/08	33.07	17.23	15.84	-	-
	11/07/08	33.07	18.18	14.89	-	-
	02/05/09	33.07	17.26	15.81	-	-
	05/05/09	33.07	16.13	16.94	-	-
	08/21/09	33.07	17.39	15.68	-	-
	11/23/09	33.07	17.33	15.74	-	-
	<b>02/26/10</b>	<b>33.07</b>	<b>15.15</b>	<b>17.92</b>	-	-
<b>MW-8</b> (12-22)	05/15/08	31.73	16.47	15.26	-	-
	08/05/08	31.73	16.88	14.85	-	-
	11/07/08	31.73	17.28	14.45	-	-
	02/05/09	31.73	16.78	14.95	-	-
	05/05/09	31.73	16.05	15.68	-	-
	08/21/09	31.73	17.05	14.68	-	-
	11/23/09	31.73	16.72	15.01	-	-
		<b>02/26/10</b>	<b>31.73</b>	<b>14.59</b>	<b>17.14</b>	-
<b>MW-9</b> (12-22)	05/15/08	29.02	15.16	13.86	-	-
	08/05/08	29.02	15.38	13.64	-	-
	11/07/08	29.02	15.84	13.18	-	-
	02/05/09	29.02	15.38	13.64	-	-
	05/05/09	29.02	14.38	14.64	-	-
	08/21/09	29.02	15.41	13.61	-	-
	11/23/09	29.02	15.36	13.66	-	-
		<b>02/26/10</b>	<b>29.02</b>	<b>13.51</b>	<b>15.51</b>	-

**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-10</b> (12-22)	02/03/05	31.17	12.65	18.52	-	-
	05/09/05	31.17	13.09	18.08	-	-
	08/05/05	31.17	14.68	16.49	-	-
	11/09/05	31.17	14.94	16.23	-	-
	02/09/06	31.17	12.82	18.35	-	-
	05/04/06	31.17	12.11	19.06	-	-
	08/04/06	31.17	14.38	16.79	-	-
	11/08/06	31.17	15.32	15.85	-	-
	02/08/07	31.17	15.59	15.58	-	-
	05/29/07	31.17	15.27	15.90	-	-
	09/05/07	31.17	16.25	14.92	-	-
	12/12/07	31.17	17.75	13.42	-	Sheen
	02/13/08	31.17	15.59	15.58	-	-
	05/15/08	31.17	16.40	14.77	-	-
	08/05/08	31.17	16.67	14.50	-	-
	11/07/08	31.17	nm	-	-	-
	02/05/09	31.17	nm	-	-	-
	05/05/09	31.17	nm	-	-	-
	08/21/09	31.17	nm	-	-	-
	11/23/09	31.17	nm	-	-	-
<b>02/26/10</b>	<b>31.17</b>	<b>nm</b>	-	-	-	
<b>MW-11</b> (12-22)	02/03/05	31.78	13.39	18.39	-	Sheen
	05/09/05	31.78	13.89	17.89	-	Sheen
	08/05/05	31.78	15.47	16.31	-	Sheen
	11/09/05	31.78	15.73	16.05	-	Sheen
	02/09/06	31.78	13.53	18.25	-	Sheen
	05/04/06	31.78	12.73	19.05	-	Sheen
	08/04/06	31.78	15.17	16.61	-	Sheen
	11/08/06	31.78	16.15	15.63	-	-
	02/08/07	31.78	16.36	15.42	-	Sheen
	05/29/07	31.78	16.06	15.72	-	Sheen
	09/05/07	31.78	17.03	14.75	-	Sheen
	12/12/07	31.78	18.68	13.10	-	-
	02/13/08	31.78	16.28	15.50	-	-
	05/15/08	31.78	17.12	14.66	-	-
	08/05/08	31.78	17.33	14.45	-	-
	11/07/08	31.78	nm	-	-	-
	02/05/09	31.78	nm	-	-	-
	05/05/09	31.78	nm	-	-	-
	08/21/09	31.78	nm	-	-	-
	11/23/09	31.78	nm	-	-	-
<b>02/26/10</b>	<b>31.78</b>	<b>nm</b>	-	-	-	

**TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MW-12 (12-22)	02/03/05	32.05	13.70	18.35	-	Sheen
	05/09/05	32.05	14.17	17.88	-	Sheen
	08/05/05	32.05	15.69	16.36	-	Sheen
	11/09/05	32.05	15.93	16.12	-	Sheen
	02/09/06	32.05	13.78	18.27	-	Sheen
	05/04/06	32.05	12.98	19.07	-	Sheen
	08/04/06	32.05	15.39	16.66	-	Sheen
	11/08/06	32.05	16.29	15.76	-	-
	02/08/07	32.05	16.54	15.51	-	-
	05/29/07	32.05	16.27	15.78	-	-
	09/05/07	32.05	17.24	14.81	-	-
	12/12/07	32.05	18.65	13.40	-	-
	02/14/08	32.05	16.50	15.55	-	-
	05/15/08	32.05	17.34	14.71	-	-
	08/05/08	32.05	17.61	14.41	-	-
	11/07/08	32.05	nm	-	-	-
	02/05/09	32.05	nm	-	-	-
	05/05/09	32.05	nm	-	-	-
	08/21/09	32.05	nm	-	-	-
	11/23/09	32.05	nm	-	-	-
<b>02/26/10</b>	<b>32.05</b>	<b>nm</b>	-	-	-	
MW-13 (12-22)	05/15/08	28.84	14.87	13.97	-	-
	08/05/08	28.84	15.10	13.74	-	-
	11/07/08	28.84	15.61	13.23	-	-
	02/05/09	28.84	15.09	13.75	-	-
	05/05/09	28.84	14.09	14.75	-	-
	08/21/09	28.84	15.11	13.73	-	-
	11/23/09	28.84	15.11	13.73	-	-
	<b>02/26/10</b>	<b>28.84</b>	<b>13.32</b>	<b>15.52</b>	-	-
MW-14 (12-22)	08/21/09	29.53	15.66	13.87	-	-
	11/23/09	29.53	15.53	14.00	-	-
	<b>02/26/10</b>	<b>29.53</b>	<b>13.65</b>	<b>15.88</b>	-	-
MW-15 (12-22)	08/21/09	29.22	16.03	13.19	-	-
	11/23/09	29.22	15.95	13.27	-	-
	<b>02/26/10</b>	<b>29.22</b>	<b>14.30</b>	<b>14.92</b>	-	-
MW-16 (12-22)	08/21/09	28.87	15.61	13.26	-	-
	11/23/09	28.87	15.61	13.26	-	-
	<b>02/26/10</b>	<b>28.87</b>	<b>13.81</b>	<b>15.06</b>	-	-

## TABLE 2: GROUNDWATER ELEVATION DATA SUMMARY

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Well <sup>1,2,5</sup> Elevation (ft amsl)	Depth to <sup>3</sup> Water (ft)	Groundwater <sup>4</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
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### NOTES:

- not applicable

ft = feet

ft amsl = feet above mean sea level

nm = not measured

LNAPL = light non-aqueous phase liquid

1) Monitoring well top of casing (TOC) elevations were resurveyed by Morrow Surveying on January 10, 2006 and February 7, 2006

2) Groudwater elevations for the February 3, 2005 and subsequent monitoring episodes use the new well survey data

3) Depth water is measured from the top of the well casing

4) When LNAPL is present at >0.10 ft, the groundwater elevations are assumed to be affected by the LNAPL

5) Monitoring well top of casing (TOC) elevations for MW-8, 9, 13, 14, 15 & 16 were surveyed by Morrow Surveying on September 30, 2009

**TABLE 3: GROUNDWATER FLOW SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Episode #	Date	Average Groundwater Elevation <sup>1</sup> (feet amsl)	Change from Previous Episode (feet)	Flow direction (gradient)
1	06/29/01	12.10	-	SSE (0.0074)
2	10/10/01	11.80	-0.30	SSE (0.0071)
3	01/09/02	14.68	2.88	SE (0.0054)
4	04/24/02	13.85	-0.83	SSW (0.005)
5	07/24/02	12.92	-0.93	NE (0.021)
6	11/05/02	11.89	-1.02	SW (0.019)
7	02/04/03	12.80	0.90	NNW (0.01)
8	05/02/03	13.11	0.32	SSE (0.01)
9	08/04/03	12.27	-0.85	SSE(0.007)
10	11/03/03	11.64	-0.63	SSE (0.006)
11	02/09/04	13.03	1.39	SSE (0.006)
12	05/10/04	12.92	-0.11	SSE (0.008)
13	08/09/04	12.31	-0.60	SSE (0.006)
14	11/09/04	11.70	-0.62	SSE (0.004)
15	02/03/05	18.75	-	W (0.007)
16	05/09/05	18.53	-0.22	S (0.010)
17	08/05/05	16.94	-1.59	S (0.010)
18	11/09/05	16.65	-0.28	S (0.010)
19	02/09/06	18.83	2.17	SSW (0.010)
20	05/04/06	19.72	0.90	SSW (0.012)
21	08/04/06	17.24	-2.48	SSW (0.010)
22	11/08/06	16.32	-0.93	SSW(0.0007)
23	02/08/07	16.25	-0.07	SSE (0.0009)
24	05/29/07	16.60	0.35	SSE (0.0009)
25*	09/05/07	15.77	-0.84	-
26*	12/12/07	14.38	-1.38	-
27*	02/13/08	16.24	1.86	-
28*	05/15/08	15.25	-1.00	-
29*	08/05/08	14.97	-0.27	-
30*	11/07/08	14.48	-0.49	-
31*	02/05/09	15.12	0.64	-
32*	05/05/09	16.15	1.03	-
33 <sup>+</sup>	08/21/09	14.63	-1.51	SW (0.010)
34	11/23/09	14.74	0.11	SW (0.010)
<b>35<sup>^</sup></b>	<b>02/26/10</b>	<b>16.75</b>	<b>2.01</b>	<b>SSW (0.016)</b>

**NOTES:**

- not applicable

ft amsl = feet above mean sea level

1) MW-2 to MW-4 only used for episodes 1 through 14; all wells used for episodes 15 and later

\* Flow direction not calculated due to onsite operation of dual-phase extraction remediation system

+ HVDPE System was shutdown for approximately three (3) months prior to sampling; therefore, groundwater elevation data was contoured. The groundwater elevation data and contours are shown on Figure 4.

<sup>^</sup> HVDPE System was shutdown for approximately four (4) months prior to sampling; therefore, groundwater elevation data was contoured. The groundwater elevation data and contours are shown on Figure 4.



**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)	
MW-1 (8-28)	06/29/01	1.63	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	10/10/01	0.08	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	01/09/02	<0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	04/24/02	<0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	07/24/02	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	11/05/02	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	02/04/03	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	05/02/03	0.08	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	08/04/03	0.23	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	11/03/03	1.27	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	02/09/04	0.18	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-	
	05/10/04	Obstructed	-	-	-	-	-	-	-	
	08/09/04	0.21	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/09/04	0.24	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/03/05	0.17	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/09/05	0.12	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/05/05	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/09/05	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/09/06	0.02	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/04/06	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/04/06	0.02	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/08/06	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/08/07	0.03	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/29/07	0.05	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	09/05/07	Sheen	47,000	<500	4,200	11,000	1,100	6,400	-	
	12/12/07	Sheen	80,000	<250	630	22,000	1,700	8,900	-	
	02/13/08	Sheen	22,000	<250	750	4,100	340	3,200	-	
	05/15/08	0.00	25,000	<600	580	9,200	970	4,200	-	
08/05/08	0.00	110,000	<1,000	730	22,000	1,700	8,200	-		
11/07/08	0.00	15,000	290	460	1,400	84	2,700	-		
02/05/09	0.00	42,000	<1,000	1,100	8,500	880	4,500	-		
05/05/09	0.00	44,000	<50*	1,300	6,500	1,300	6,800	-		
08/21/09	0.00	63,000	<50*	1,900	15,000	1,200	7,600	-		
11/23/09	0.00	63,000	<17*	3,300	9,800	1,500	8,200	-		
<b>02/26/10</b>	<b>0.00</b>	<b>62,000</b>	<b>&lt;25*</b>	<b>3,500</b>	<b>14,000</b>	<b>1,600</b>	<b>9,300</b>	-		

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
MW-2 (8-28)	06/29/01	0.00	69,000	4,100/4,400*	7,200	6,100	1,500	7,000	-
	10/10/01	0.00	87,000	14,000	22,000	12,000	2,700	9,100	-
	01/09/02	0.00	130,000	11,000	30,000	19,000	3,800	14,000	-
	04/24/02	Sheen	210,000	32,000	38,000	23,000	4,600	19,000	-
	07/24/02	Sheen	170,000	36,000	48,000	12,000	3,700	8,600	-
	11/05/02	Sheen	190,000	36,000	45,000	25,000	4,600	16,000	-
	02/04/03	Sheen	150,000	27,000	51,000	24,000	4,200	14,000	-
	05/02/03	Sheen	150,000	35,000	39,000	11,000	3,800	9,900	-
	08/04/03	Sheen	120,000	29,000	32,000	5,000	3,200	7,200	-
	11/03/03	Sheen	120,000	24,000	33,000	4,300	3,200	5,400	-
	02/09/04	Sheen	130,000	19,000	27,000	7,700	3,100	7,600	-
	05/10/04	Sheen	67,000	13,000	20,000	3,000	2,300	4,100	-
	08/09/04	Sheen	100,000	22,000	27,000	7,100	2,800	6,600	-
	11/09/04	Sheen	100,000	23,000	27,000	6,100	3,000	5,600	-
	02/03/05	Sheen	84,000	11,000	23,000	5,000	3,000	5,500	-
	05/09/05	Sheen	74,000	14,000	21,000	4,200	2,300	3,300	-
	07/27/05	Sheen	9,500	910	1,400	1,000	180	960	-
	08/05/05	Sheen	74,000	4,000	8,800	11,000	1,300	7,600	-
	11/09/05	Sheen	120,000	16,000	21,000	14,000	2,300	13,000	-
	02/09/06	Sheen	120,000	10,000	18,000	16,000	2,200	13,000	-
	05/04/06	Sheen	71,000	8,300	14,000	11,000	1,500	7,600	-
	08/04/06	Sheen	160,000	14,000	22,000	14,000	2,400	11,000	-
	11/08/06	Sheen	110,000	6,400	17,000	9,200	1,600	6,800	<DL
	02/08/07 <sup>1</sup>	Sheen	68,000	5,400	11,000	7,800	1,500	7,700	-
	05/29/07	Sheen	49,000	4,800	7,600	4,400	940	4,600	-
	09/05/07	Sheen	25,000	1,000	3,300	3,400	490	2,800	-
	12/12/07	0.00	5,500	870	1,100	440	28	550	-
	02/13/08	0.00	5,700	250	440	290	43	1,000	-
	05/15/08	0.00	490	68	110	11	0.90	42	-
	08/05/08	0.00	520	<25	26	57	7.6	70	-
11/07/08	0.00	680	72	110	38	3.1	75	-	
02/05/09	0.00	1,000	82	130	50	15	120	-	
05/05/09	0.00	570	8.6*	22	33	9.2	73	-	
08/21/09	0.00	660	<10	13	41	13	48	-	
11/23/09	0.00	400	23*	20	10	1.0	33	-	
<b>02/26/10</b>	<b>0.00</b>	<b>1,400</b>	<b>17*</b>	<b>56</b>	<b>83</b>	<b>18</b>	<b>230</b>	<b>-</b>	

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
MW-3 (10-25)	06/29/01	0.00	550	<5.0	<0.5	3.1	3.2	1.2	-
	10/10/01	0.00	470	<5.0	0.77	5.3	3.3	5.9	-
	01/09/02	0.00	1,000	<5.0	0.90	7.6	7.8	25	-
	04/24/02	0.00	1,500	<5.0	0.64	7.2	12	14	-
	07/24/02	0.00	1,200	<5.0	10	17.0	11	25	-
	11/05/02	0.00	1,800	<25	33	43.0	18	31	-
	02/04/03	0.00	450	<5.0	<0.5	5.0	<0.5	0.77	-
	05/02/03	0.00	340	<5.0	7.3	10.0	2.5	7.3	-
	08/04/03	0.00	170	<5.0	5.8	5.9	1.5	4.9	-
	11/03/03	0.00	54	<5.0	<0.5	<0.5	<0.5	<0.5	-
	02/09/04	0.00	190	<5.0	<0.5	3.6	<0.5	<0.5	-
	05/10/04	0.00	280	<5.0	<0.5	3.4	<0.5	<0.5	-
	08/09/04	0.00	290	<5.0	<0.5	3.8	<0.5	<0.5	-
	11/09/04	0.00	220	<5.0	<0.5	4.0	<0.5	<0.5	-
	02/03/05	0.00	160	<5.0	13	30	3	21	-
	05/09/05	0.00	200	<5.0	<0.5	3.9	<0.5	<0.5	-
	08/05/05	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	11/09/05	0.00	130	<5.0	<0.5	2.3	<0.5	<0.5	-
	02/09/06	0.00	270	<5.0	<0.5	5.6	<0.5	<0.5	-
	05/04/06	0.00	220	<5.0	<0.5	4.3	<0.5	<0.5	-
	08/04/06	0.00	93	<5.0	<0.5	1.5	<0.5	<0.5	-
	11/08/06	0.00	160	<5.0	<0.5	2.9	<0.5	<0.5	<DL
	02/08/07 <sup>1</sup>	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	05/29/07	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	09/05/07	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	12/12/07	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	02/13/08	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	05/15/08	0.00	<50	<5.0	0.99	<0.5	<0.5	0.68	-
	08/05/08	0.00	91	<5.0	2.0	8.0	1.3	8.0	-
	11/07/08	0.00	150	<5.0	0.70	6.5	1.3	26	-
02/05/09	0.00	<50	<5.0	1.7	<0.5	<0.5	<0.5	-	
05/05/09	0.00	<50	<5.0	<0.5	0.76	<0.5	<0.5	-	
08/21/09	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-	
11/23/09	0.00	<50	<5.0	0.90	<0.5	0.59	1.2	-	
<b>02/26/10</b>		-	-	-	-	-	-	-	-

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
MW-4 (10-25)	06/29/01	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	10/10/01	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	01/09/02	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	04/24/02	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	07/24/02	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	11/05/02	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	02/04/03	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	05/02/03	0.00	500	10	68	71	18	65	-
	08/04/03	0.00	270	<5.0	30	29	9.2	32	-
	11/03/03	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	02/09/04	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	05/10/04	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	08/09/04	0.00	130	<5.0	14	13	5.3	17	-
	11/09/04	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	02/03/05	0.00	370	<5.0	<0.5	4.1	<0.5	0.64	-
	05/09/05	0.00	840	<5.0	50	180	21	110	-
	07/27/05	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	08/05/05	0.00	310	<5.0	7.5	57	10	53	-
	11/09/05	0.00	290	<5.0	12	61	8.8	49	-
	02/09/06	0.00	250	<5.0	9.9	42	7.5	45	-
	05/04/06	0.00	300	<5.0	37	76	7.8	42	-
	08/04/06	0.00	270	<5.0	7.3	33	5.6	32	-
	11/08/06	0.00	1,300	<5.0	75	230	31	160	<DL
	02/08/07	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	05/29/07	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	09/05/07	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	12/12/07	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	02/13/08	0.00	75	<5.0	2.4	8.3	1.2	14	-
	05/15/08	0.00	<50	<5.0	0.65	<0.5	<0.5	0.52	-
	08/05/08	0.00	76	<5.0	1.2	8.1	1.5	9.7	-
11/07/08	0.00	100	<5.0	2.8	7.7	1.1	15	-	
02/05/09	0.00	140	<5.0	0.87	19	3.9	29	-	
05/05/09	0.00	85	<5.0	1.2	8.0	2.5	19	-	
08/21/09	0.00	390	<5.0	14	58	11	73	-	
11/23/09	0.00	<50	<5.0	2.6	<0.5	1.5	2.3	-	
02/26/10	-	-	-	-	-	-	-	-	

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
<b>MW-5</b> (12-22)	02/03/05	0.00	78,000	<1,000	7,600	13,000	2,200	9,600	-
	05/09/05	0.00	60,000	<900	6,100	9,900	1,600	6,600	-
	07/27/05	nm	120,000	1,100	10,000	19,000	2,100	13,000	-
	08/05/05	0.00	59,000	<500	4,100	10,000	1,200	6,600	-
	11/09/05	0.00	44,000	<500	3,300	7,400	1,100	4,900	-
	02/09/06	0.00	110,000	<500	10,000	22,000	2,400	13,000	-
	05/04/06	0.00	110,000	<250	11,000	22,000	2,900	15,000	-
	08/04/06	0.00	73,000	<500	4,700	8,600	1,700	7,600	-
	11/08/06	0.00	51,000	<500	3,700	7,200	1,400	6,700	<DL
	02/08/07	0.00	67,000	<800	5,100	10,000	1,800	10,000	-
	05/29/07	0.00	86,000	<1000	6,200	12,000	2,000	11,000	-
	09/05/07	0.00	36,000	<350	2,100	4,000	560	4,600	-
	12/12/07	0.00	8,200	<100	160	56	290	1,200	-
	02/13/08	0.00	4,600	<50	77	440	41	1,300	-
	05/15/08	0.00	3,000	<10	59	330	47	670	-
	08/05/08	0.00	4,500	<50	64	490	46	1,100	-
	11/07/08	0.00	5,000	<17	66	400	29	1,200	-
	02/05/09	0.00	2,800	<0.5*	49	120	22	570	-
	05/05/09	0.00	12,000	<5.0*	360	1,300	250	2,000	-
	08/21/09	0.00	11,000	<1.0*	450	610	400	2,300	-
11/23/09	0.00	1,700	<0.5*	47	100	29	240	-	
<b>02/26/10</b>	<b>0.00</b>	<b>3,100</b>	<b>&lt;1.0*</b>	<b>55</b>	<b>220</b>	<b>27</b>	<b>520</b>	<b>-</b>	

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
<b>MW-6</b> (12-22)	02/03/05	Sheen	130,000	<1,000	2,400	33,000	2,400	15,000	-
	05/09/05	Sheen	170,000	<4,000	11,000	43,000	3,100	16,000	-
	08/05/05	0.37	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/09/05	0.37	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/09/06	0.71	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/04/06	0.75	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/04/06	0.41	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/08/06	0.38	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/08/07	0.34	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/29/07	0.31	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	09/05/07	0.00	74,000	<750	870	7,000	2,400	12,000	-
	12/12/07	Sheen	12,000	<10	556	560	550	1,800	-
	02/13/08	Sheen	27,000	<250	700	4,900	620	5,300	<DL
	05/15/08	0.00	25,000	<150	410	2,500	1,000	3,700	-
	08/05/08	0.00	33,000	<350	480	5,500	1,400	6,800	-
	11/07/08 <sup>2</sup>	0.00	54,000	<5.0	610	7,000	1,700	8,900	-
	02/05/09	0.00	92,000	<50*	1,100	8,600	2,800	14,000	-
	05/05/09	0.00	58,000	<50*	560	4,300	2,400	13,000	-
	08/21/09	0.00	53,000	<5.0*	1,800	8,100	1,200	12,000	-
	11/23/09	0.00	28,000	<10*	270	710	1,200	5,500	-
<b>02/26/10</b>	<b>0.00</b>	<b>21,000</b>	<b>&lt;10*</b>	<b>84</b>	<b>&lt;5.0</b>	<b>800</b>	<b>3,900</b>	<b>-</b>	

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
MW-7 (12-22)	02/03/05	Sheen	220,000	18,000	45,000	44,000	3,500	18,000	-
	05/09/05	0.03	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/05/05	0.05	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/09/05	0.12	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/09/06	0.07	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/04/06	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/04/06	Sheen	230,000	19,000	37,000	37,000	3,100	14,000	-
	11/08/06	Sheen	240,000	13,000	41,000	39,000	3,000	14,000	<DL
	02/08/07	Sheen	230,000	15,000	41,000	37,000	3,700	20,000	-
	05/29/07	Sheen	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	09/05/07	Sheen	14,000	<450	41	210	99	1,600	-
	12/12/07	Sheen	9,200	<500	1,100	870	66	1,100	-
	02/13/08	0.00	17,000	590	2,800	2,700	300	1,900	-
	05/15/08	0.00	10,000	230	1,700	1,900	200	950	-
	08/05/08	0.00	6,100	<150	1,100	1,100	120	740	-
	11/07/08	0.00	4,200	<50	580	570	44	400	-
	02/05/09	0.00	7,800	26*	1,100	810	190	690	-
	05/05/09	0.00	7,200	77*	1,200	1,200	150	860	-
	08/21/09	0.00	28,000	390*	6,200	3,200	450	3,100	-
	11/23/09	0.00	17,000	32*	430	1,600	730	2,800	-
<b>02/26/10</b>	<b>0.00</b>	<b>21,000</b>	<b>29*</b>	<b>1,500</b>	<b>1,500</b>	<b>870</b>	<b>3,300</b>	-	
MW-8 (12-22)	05/15/08	0.00	90	<5.0	0.62	2.4	<0.5	1.0	-
	08/05/08	0.00	81	<5.0	0.66	7.2	1.2	9.1	-
	11/07/08	0.00	430	<5.0	2.9	26	6.1	86	-
	02/05/09	0.00	<50	<5.0	0.98	1.3	<0.5	<0.5	-
	05/05/09	0.00	94	<5.0	0.91	7.1	2.2	17	-
	08/21/09	0.00	480	<5.0	30	100	17	130	-
	11/23/09	0.00	62	<5.0	5.3	2.0	2.4	3.3	-
	<b>02/26/10</b>	-	-	-	-	-	-	-	-
MW-9 (12-22)	05/15/08	0.00	60,000	960	14,000	410	1,500	3,500	-
	08/05/08	0.00	42,000	<1,200	13,000	400	1,800	4,800	-
	11/07/08 <sup>2</sup>	0.00	53,000	400	13,000	350	1,800	3,100	-
	02/05/09	0.00	32,000	360*	11,000	310	1,600	2,700	-
	05/05/09	0.00	44,000	730*	14,000	520	1,900	3,400	-
	08/21/09	0.00	48,000	900*	15,000	550	2,000	3,300	-
	11/23/09	0.00	39,000	750	11,000	390	1,800	2,400	-
	<b>02/26/10</b>	<b>0.00</b>	<b>44,000</b>	<b>760*</b>	<b>12,000</b>	<b>360</b>	<b>1,900</b>	<b>3,800</b>	-

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
<b>MW-10</b> (12-22)	02/03/05	0.00	36,000	<500	4,700	7,200	660	3,400	-
	05/09/05	0.00	88,000	<1,500	6,900	20,000	2,300	9,900	-
	08/05/05	0.00	88,000	<1,100	10,000	21,000	1,900	9,800	-
	11/09/05	0.00	63,000	<1,100	5,400	13,000	1,900	7,900	-
	02/09/06	0.00	100,000	<500	6,600	19,000	2,900	13,000	-
	05/04/06	0.00	100,000	<500	8,500	25,000	3,000	13,000	-
	08/04/06	0.00	190,000	<2,200	17,000	35,000	2,800	13,000	-
	11/08/06	0.00	57,000	<500	2,500	7,600	1,600	5,700	<DL
	02/08/07	0.00	69,000	<1,000	4,400	14,000	2,200	8,800	-
	05/29/07	0.00	100,000	<1,000	5,300	19,000	2,600	12,000	-
	09/05/07	0.00	87,000	<1,000	6,100	20,000	2,400	12,000	-
	12/12/07	Sheen	4,700	<50	95	280	110	730	-
	02/13/08	0.00	4,500	<250	190	370	65	880	-
	05/15/08	0.00	4,800	<50	130	320	110	710	-
	08/05/08	0.00	3,500	<120	230	180	74	190	-
	11/07/08 <sup>3</sup>	-	-	-	-	-	-	-	-
	02/05/09	-	-	-	-	-	-	-	-
	05/05/09	-	-	-	-	-	-	-	-
	08/21/09	-	-	-	-	-	-	-	-
	11/23/09	-	-	-	-	-	-	-	-
<b>02/26/10</b>	-	-	-	-	-	-	-	-	



**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
<b>MW-11</b> (12-22)	02/03/05	Sheen	170,000	<3,000	23,000	35,000	3,100	16,000	-
	05/09/05	Sheen	210,000	3,500	29,000	40,000	3,400	16,000	-
	07/27/05	Sheen	220,000	2,500	26,000	37,000	3,200	18,000	-
	08/05/05	Sheen	210,000	<2,500	35,000	42,000	3,300	16,000	-
	11/09/05	Sheen	180,000	9,100	32,000	47,000	3,600	18,000	-
	02/09/06	Sheen	210,000	10,000	33,000	39,000	3,800	20,000	-
	05/04/06	Sheen	190,000	12,000	34,000	41,000	3,500	17,000	-
	08/04/06	Sheen	290,000	11,000	33,000	43,000	3,300	15,000	-
	11/08/06	0.00	240,000	14,000	34,000	44,000	3,300	16,000	<DL
	02/08/07	0.00	230,000	19,000	43,000	44,000	3,900	20,000	-
	05/29/07	0.00	230,000	19,000	35,000	39,000	3,600	20,000	-
	09/05/07	0.00	200,000	19,000	34,000	36,000	3,700	23,000	-
	12/12/07	0.00	81,000	4,000	9,400	9,500	1,700	9,700	-
	02/13/08	0.00	36,000	4,200	5,700	4,000	560	5,300	-
	05/15/08	0.00	15,000	2,300	2,800	1,400	120	1,900	-
	08/05/08	0.00	12,000	1,100	1,800	760	98	630	-
	11/07/08 <sup>3</sup>	-	-	-	-	-	-	-	-
	02/05/09	-	-	-	-	-	-	-	-
	05/05/09	-	-	-	-	-	-	-	-
	08/21/09	-	-	-	-	-	-	-	-
11/23/09	-	-	-	-	-	-	-	-	
<b>02/26/10</b>	-	-	-	-	-	-	-	-	

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)	
<b>MW-12</b> (12-22)	02/03/05	Sheen	250,000	100,000	52,000	41,000	3,400	15,000	-	
	05/09/05	Sheen	210,000	91,000	44,000	28,000	3,300	13,000	-	
	08/05/05	Sheen	170,000	52,000	38,000	28,000	3,000	12,000	-	
	11/09/05	Sheen	180,000	52,000	39,000	25,000	2,900	12,000	-	
	02/09/06	Sheen	170,000	34,000	40,000	23,000	3,500	15,000	-	
	05/04/06	Sheen	160,000	47,000	33,000	28,000	2,800	10,000	-	
	08/04/06	Sheen	240,000	55,000	40,000	24,000	3,200	12,000	-	
	11/08/06	0.00	190,000	33,000	40,000	23,000	2,700	13,000	<DL	
	02/08/07	0.00	150,000	34,000	38,000	19,000	3,300	12,000	-	
	05/29/07	0.00	150,000	30,000	30,000	15,000	3,100	13,000	-	
	09/05/07	0.00	160,000	38,000	33,000	21,000	3,200	14,000	-	
	12/12/07	0.00	58,000	6,700	10,000	7,100	1,200	4,900	-	
	02/13/08	0.00	17,000	3,000	3,600	2,300	440	1,800	-	
	05/15/08	0.00	7,800	1,900	2,000	500	130	640	-	
	08/05/08	0.00	3,900	800	730	130	61	200	-	
	11/07/08 <sup>3</sup>	-	-	-	-	-	-	-	-	-
	02/05/09	-	-	-	-	-	-	-	-	-
	05/05/09	-	-	-	-	-	-	-	-	-
	08/21/09	-	-	-	-	-	-	-	-	-
11/23/09	-	-	-	-	-	-	-	-	-	
<b>02/26/10</b>	-	-	-	-	-	-	-	-	-	

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
<b>MW-13</b> (12-22)	05/15/08	0.00	<250	6,700	18	<2.5	<2.5	<2.5	-
	08/05/08	0.00	<250	3,400	<2.5	5.7	<2.5	4.3	-
	11/07/08	0.00	61	380	2.8	1.4	0.55	0.87	-
	02/05/09	0.00	<50	14	<0.5	<0.5	<0.5	<0.5	-
	05/05/09	0.00	<50	<5.0	0.53	3.2	1.1	7.5	-
	08/21/09	0.00	85	<5.0	2.0	10	2.2	13	-
	11/23/09	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	-
	<b>02/26/10</b>	<b>0.00</b>	<b>500</b>	<b>&lt;5.0</b>	<b>9.8</b>	<b>58</b>	<b>20</b>	<b>110</b>	-
<b>MW-14</b> (12 - 22)	08/21/09	0.00	3,000	<1.0*	11	41	92	40	-
	11/23/09	0.00	1,600	<5.0	6.1	16	33	4.9	-
	<b>02/26/10</b>	<b>0.00</b>	<b>1,800</b>	<b>&lt;5.0</b>	<b>4.7</b>	<b>24</b>	<b>18</b>	<b>11</b>	-
<b>MW-15</b> (12 - 22)	08/21/09	0.00	190	23	23	15	6.6	25	-
	11/23/09	0.00	280	19	65	4.6	20	28	-
	<b>02/26/10</b>	<b>0.00</b>	<b>96</b>	<b>27</b>	<b>9.9</b>	<b>3.7</b>	<b>3.1</b>	<b>9.2</b>	-
<b>MW-16</b> (12 - 22)	08/21/09	0.00	860	20	80	110	26	130	-
	11/23/09	0.00	870	31	280	13	46	63	-
	<b>02/26/10</b>	<b>0.00</b>	<b>240</b>	<b>21</b>	<b>46</b>	<b>28</b>	<b>16</b>	<b>59</b>	-

**TABLE 4: GROUNDWATER ANALYTICAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Well ID (screen interval)	Date Collected	Apparent LNAPL Thickness (ft)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)
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**NOTES:**

- not sampled/analyzed

ft = feet

ns/fp = not sampled / free product present

µg/L = micrograms per liter or parts per billion (ppb)

TPH-g by EPA Method SW8015Cm

BTEX & MTBE by EPA Method SW8021B

TPH-g = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary-butyl ether

HVOC= halogenated volatile organic compounds (e.g., PCE, TCE, DCE, VC)

DL = detection limit

\* = MTBE by EPA Method 8260

1) Analytical results for MW-2 and MW-3 reversed from lab data based on historical concentration trends observed

2) Groundwater sample re-analyzed for MTBE-only by EPA Method SW8260B

3) Wellheads removed and wells now located ~4' below grade beneath new residential construction; routine sampling is no longer possible

**TABLE 5: GROUNDWATER ANALYTICAL DATA SUMMARY (SOIL BORINGS)**

Vic's Automotive, 245 8th Street, Oakland, California

Sample ID	Date Collected	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
<b>SB-1 W</b>	08/18/96	140,000	480	12,000	30,000	3,900	19,000
<b>SB-2 W</b>	08/18/96	130,000	2,300	15,000	20,000	2,800	15,000
<b>SB-3 W</b>	08/18/96	120,000	27,000	19,000	29,000	1,900	9,500
<b>SB-4 W</b>	04/02/03	310,000	17,000	45,000	65,000	4,500	23,000
<b>SB-5 W</b>	04/03/03	420	ND<5.0	11	3.7	18	1.1
<b>SB-6 W</b>	04/02/03	210	ND<5.0	0.57	4.2	1.1	1.4
<b>SB-7 W</b>	04/02/03	240,000	69,000	42,000	45,000	3,100	16,000
<b>SB-8 W</b>	04/02/03	51	360	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>SB-9 W</b>	04/03/03	7,300	ND<100	2,100	280	300	140
<b>SB-10 W</b>	04/03/03	210,000	ND<5000	22,000	38,000	3,400	18,000
<b>SB-11 W</b>	04/03/03	200,000	ND<2000	18,000	39,000	3,600	18,000
<b>SB-12 W</b>	04/02/03	ND<50	ND<5.0	ND<0.5	0.85	ND<0.5	0.53
<b>SB-13 W</b>	04/03/03	190	ND<20	ND<0.5	1.1	1.9	1.8
<b>SB-14 W</b>	04/03/03	ND<50	140	ND<0.5	0.95	ND<0.5	1.3
<b>SB-15 W</b>	04/03/03	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>SB-18W</b>	<b>03/17/10</b>	<b>230</b>	<b>ND&lt;5.0</b>	<b>3.2</b>	<b>39</b>	<b>10</b>	<b>65</b>

**NOTES:**

TPH-g by EPA Method 8015C

BTEX &amp; MTBE by EPA Method 8021B

ND = not detected at or above the laboratory reporting limit

µg/L = micrograms per liter

TPH-g = total petroleum hydrocarbons as gasoline

MTBE = Methyl tert-butyl ether

BTEX = Benzene, ethylbenzene, toluene, and xylenes

**TABLE 6: SOIL ANALYTICAL DATA SUMMARY**

Vic's Automotive, 245 8th Street, Oakland, California

Sample ID	Date Collected	Depth (ft bgs)	TPH-g (mg/kg)	TOG (mg/kg)	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)
MW-1 (6')	7/14/95	6	390	-	-	0.28	0.29	0.29	0.62
MW-1 (11')	7/14/95	11	370	-	-	0.24	0.24	0.23	0.61
MW-2 (6')	7/14/95	6	ND	24	-	ND	ND	ND	ND
MW-2 (11')	7/14/95	11	300	38	-	0.30	0.23	0.24	0.63
SB-1 (18')	8/18/96	18	9,100	-	47	57	580	190	1,000
SB-1 (24')	8/18/96	24	30	-	0.20	0.37	1.4	0.52	2.5
SB-2 (24')	8/18/96	24	1.1	-	0.032	0.11	0.17	0.018	0.099
SB-3 (24')	8/18/96	24	16	-	4.7	1.6	2.5	0.21	0.95
MW-3 15'	05/25/01	15	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-3 20'	05/25/01	20	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-4 15'	05/25/01	15	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-4 20'	05/25/01	20	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-4 12'	04/02/03	12	25	-	ND<0.5	0.41	1.0	0.2	1.3
SB-4 15'	04/02/03	15	260	-	ND<1.7	3.5	15	4.5	23
SB-5 11'	04/03/03	11	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-6 16'	04/02/03	16	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-7 12'	04/02/03	12	700	-	ND<10	6.0	25	9.3	50
SB-7 18'	04/02/03	18	4,900	-	ND<25	65	260	77	400
SB-8 17'	04/02/03	17	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-9 16'	04/03/03	16	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-10 12'	04/03/03	12	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-11 12'	04/03/03	12	1.4	-	ND<0.05	0.12	0.10	0.026	0.066
SB-11 16'	04/03/03	16	2,700	-	ND<30	29	170	49	250
SB-12 15'	04/02/03	15	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005

**TABLE 6: SOIL ANALYTICAL DATA SUMMARY**

Vic's Automotive, 245 8th Street, Oakland, California

Sample ID	Date Collected	Depth (ft bgs)	TPH-g (mg/kg)	TOG (mg/kg)	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
SB-13 14'	04/03/03	14	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-14 14'	04/03/03	14	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-15 14'	04/03/03	14	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-5 16'	01/11/05	16	100	-	ND<5.0	2.6	6.0	1.5	8.4
MW-5 20'	01/11/05	20	37	-	ND<0.50	2.6	5.6	0.91	4.6
MW-7 16'	01/11/05	16	19	-	2.9	3.3	3.5	0.4	1.9
MW-7 20.5'	01/11/05	20.5	340	-	ND<5.0	9.6	25	7.0	35
MW-6 20'	01/19/05	20	14	-	ND<0.25	0.099	4.1	0.33	1.7
MW-10 15.5'	01/20/05	15.5	840	-	ND<2.0	11	58	16	83
MW-11 15.5'	01/19/05	15.5	3,200	-	ND<10	35	320	85	430
MW-12 15.5'	01/19/05	15.5	13	-	8.5	2.5	2.8	0.22	1.1
MW-9-15'	03/17/08	15	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-9-20'	03/17/08	20	1.5	-	ND<0.05	0.37	0.0052	0.047	0.067
MW-13-15'	03/17/08	15	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-13-20'	03/17/08	20	ND<1.0	-	0.086	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-8-15'	03/18/08	15	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-8-20'	03/18/08	20	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-14-16'	07/28/09	16	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-14-23'	07/28/09	23	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-15-16'	07/27/09	16	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-15-24'	07/27/09	24	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-16-16'	07/27/09	16	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-16-25'	07/27/09	25	ND<1.0	-	0.24	ND<0.005	ND<0.005	ND<0.005	ND<0.005

**TABLE 6: SOIL ANALYTICAL DATA SUMMARY**

Vic's Automotive, 245 8th Street, Oakland, California

Sample ID	Date Collected	Depth (ft bgs)	TPH-g (mg/kg)	TOG (mg/kg)	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)
SB-16-15'	03/17/10	15	ND<1.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-16-17'	03/17/10	17	34	-	-	ND<0.005	ND<0.005	ND<0.005	0.20
SB-16-20'	03/17/10	20	2,100	-	-	ND<1.0	ND<1.0	1.1	68
SB-16-23'	03/17/10	23	5.0	-	-	ND<0.005	0.056	0.019	0.18
SB-16-25'	03/17/10	25	2.0	-	-	ND<0.005	0.028	0.005	0.041
SB-17-15'	03/17/10	15	3.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-17-18'	03/17/10	18	900	-	-	ND<0.25	ND<0.25	0.52	27
SB-17-19'	03/17/10	19	1,900	-	-	ND<1.0	4.5	4.4	83
SB-17-20'	03/17/10	20	4,300	-	-	87	320	85	430
SB-17-23	03/17/10	23	ND<1.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-18-15'	03/17/10	15	ND<1.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-18-17'	03/17/10	17	ND<1.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-18-20'	03/17/10	20	250	-	-	2.5	8.7	2.7	18
SB-18-21'	03/17/10	21	9.6	-	-	0.05	0.14	0.051	0.31
SB-18-23'	03/17/10	23	1.8	-	-	0.12	0.073	0.044	0.18
SB-18-25'	03/17/10	25	6.1	-	-	0.012	1.3	0.17	0.99
SB-19-15'	03/17/10	15	ND<1.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-19-17'	03/17/10	17	18	-	-	ND<0.005	0.018	ND<0.005	0.021
SB-19-20'	03/17/10	20	7,500	-	-	100	490	130	700
SB-19-23	03/17/10	23	ND<1.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-19-25	03/17/10	25	ND<1.0	-	-	ND<0.005	ND<0.005	ND<0.005	ND<0.005

**NOTES:**

ND = not detected at or above the laboratory reporting limit

mg/kg = milligrams per kilogram of soil

TPH-g = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary-butyl ether

TOG = Total Oil and Grease



**TABLE 7: SOIL PHYSICAL PROPERTIES DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample ID	Date	Notes	Gravel (%)	Coarse Sand (%)	Medium Sand (%)	Fine Sand (%)	Silt (%)	Clay (%)	Hydraulic Conductivity (cm/sec)	Moisture Content (%)	Total Porosity (%)	Specific Gravity	TOC (mg/kg)	TOC (%)	Bulk Density (g/cm <sup>3</sup> )
MW-7-15.5'	01/11/05	1,3,4	0.2	0.0	1.5	81.8	8.1	8.4	1.0E-06	18.3%	36.1%	2.74	---	---	1.75
MW-7-21'	01/11/05	1,3,4	0.0	0.0	1.9	88.0	4.2	5.9	5.0E-06	23.1%	38.7%	2.73	---	---	1.67
MW-11-15.5'	01/11/05	2	0.1	0.0	2.3	73.8	23.8		---	---	---	---	---	---	---
MW-11-20.5'	01/01/05	2	0.0	0.0	2.8	86.9	10.2		---	---	---	---	---	---	---
MW-8-15'	03/18/08	1,5,6	0.1	---	---	67.3	18.7	13.9	---	13.6%	---	---	440	0.044%	2.20
MW-8-20'	03/18/08	1,6	0.1	---	---	90.8	3.5	5.7	---	---	---	---	ND	ND	2.00
MW-9-15'	03/17/08	1,6	0.0	---	---	78.2	6.8	15	---	---	---	---	290	0.029%	2.00
MW-9-20'	03/17/08	1,6	0.2	---	---	92.9	3.9	3.0	---	---	---	---	ND	ND	2.00

**NOTES:**

Particle size distribution by ASTM D422 (Sieve Analysis)

Hydraulic conductivity by ASTM D5084 Method C: Falling Head / Rising Tailwater

cm/sec = centimeters per second

% = percent

mg/kg = milligrams per kilogram of soil

TOC = total organic carbon

g/cm<sup>3</sup> = grams per cubic centimeter

**Hydraulic Conductivity Unit Conversions**

1 cm/sec ≈ 1,035 darcy

1 cm/sec ≈ 2,820 feet/day

1 cm/sec ≈ 864 meter/day

**Intrinsic Permeability Unit Conversions**

1 cm<sup>2</sup> ≈ 101,320,202 darcy

1 cm<sup>2</sup> ≈ 97,894 cm/sec

1 cm<sup>2</sup> ≈ 84,574,459 meter/day

1) Particle size distribution by sieve and hydrometer (silt and clay reported as separate fractions)

2) Particle size distribution by sieve only (silt and clay reported together)

3) Specific gravity measured with a pycnometer

4) Bulk Density is a "dry bulk density" by ASTM D2937 (sample is always dried)

5) Moisture content by ASTM D2216-92

6) Bulk Density is a "wet bulk density" by the Soil Science Society of America (SSSA) Method #5 (sample is not dried, unless requested)

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)
MW-1S	08/10/07	1,2	100%	OFF	21	-	-	-	-	3,400	ND<14	68	210	30	160
	09/28/07		OFF	OFF	20	-	-	-	-	-	-	-	-	-	-
	10/17/07		OFF	50%	21	0	0.0	20.9	0.0	380	ND<14	26	58	5.7	46
	11/16/07	50%	50%	21	2,800	0.5	20.7	0.5	3,200	ND<14	69	220	20	110	
	12/26/07	50%	50%	18	3,000	1.5	20.7	0.4	3,900	ND<27	79	210	41	210	
	01/22/08	50%	OFF	18	160	0.0	19.7	0.3	660	ND<14	5.8	23	2.7	28	
	02/07/08	4	OFF	OFF	21.5	0	0.0	20.9	0.0	-	-	-	-	-	-
	03/18/08		OFF	OFF	14.5	0	xx	20.9	0.0	140	ND<0.68	1.3	6.9	0.78	6.9
	04/30/08		OFF	OFF	18	50	0.0	20.9	0.1	520	3.3	13	38	6.7	53
	05/29/08		OFF	OFF	19.5	-	-	-	-	-	-	-	-	-	-
	06/26/08	7	OFF	OFF	23	-	-	-	-	-	-	-	-	-	-
	07/30/08		OFF	OFF	17	310	0.0	18.3	1.1	-	-	-	-	-	-
	09/30/08		OFF	100%	16.5	5	0.0	20.9	0.4	65	0.71	0.44	2.2	0.65	12
	11/04/08		100%	100%	13	4,250	1.5	12.6	2.9	3,100	ND<180	63	140	14	120
	12/02/08		100%	100%	10	2,710	0.5	20.3	0.9	3,300	ND<14	57	150	12	110
	01/06/09		100%	100%	12	55	0.0	20.9	0.0	35	ND<0.68	3.6	5.6	0.22	1.8
	02/09/09		100%	100%	12	15	0.0	20.9	0.0	36	ND<0.68	4.7	6.7	0.35	3.1
	03/18/09		100%	100%	10	10	0.0	20.9	0.3	120	ND<1.0	1.8	9.6	0.69	4.2
	04/21/09	100%	100%	11	10	0.0	20.4	0.2	42	ND<0.68	0.56	2.3	0.29	1.9	
	05/19/09	100%	100%	11.5	35	0.0	19.8	0.7	54	ND<0.68	1.1	6.2	0.79	4.0	
	08/31/09	100%	OFF	12	540	0.0	13.7	3.2	39	ND<0.68	0.54	2.0	0.27	2.8	
	09/10/09	OFF	OFF	15	-	-	-	-	-	-	-	-	-	-	
	09/17/09	OFF	OFF	14	30	-	20.9	0.2	51	ND<2.7	1.3	8.8	0.59	4.2	
	09/25/09	OFF	OFF	13	-	-	-	-	-	-	-	-	-	-	
	10/02/09	OFF	OFF	14	-	-	-	-	-	-	-	-	-	-	
	10/20/09	OFF	OFF	12	340	0.0	20.9	0.1	130	ND<2.7	5.2	15	1.8	13	
	11/03/09	OFF	OFF	-	-	-	-	-	-	-	-	-	-	-	
	12/11/09	OFF	OFF	13	250	0.0	20.9	0.0	160	ND<1.4	5.1	12	1.5	14	
<b>04/20/10</b>	<b>OFF</b>	<b>100%</b>	<b>13</b>	<b>0</b>	<b>0.0</b>	<b>16.1</b>	<b>0.8</b>	<b>42</b>	<b>3.6</b>	<b>11</b>	<b>1.3</b>	<b>0.53</b>	<b>1.3</b>		
<b>04/28/10</b>	<b>100%</b>	<b>OFF</b>	<b>15</b>	<b>25</b>	<b>0.0</b>	<b>20.4</b>	<b>0.7</b>	<b>13</b>	<b>5.6</b>	<b>1.5</b>	<b>0.48</b>	<b>0.11</b>	<b>0.75</b>		
<b>05/05/10</b>	<b>OFF</b>	<b>100%</b>	<b>14</b>	<b>35</b>	<b>0.0</b>	<b>20.9</b>	<b>0.1</b>	<b>44</b>	<b>ND&lt;2.0</b>	<b>2.4</b>	<b>21</b>	<b>1.7</b>	<b>9.0</b>		

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)
MW-2S	08/10/07		100%	100%	21	-	-	-	-	11,000	ND<110	280	770	81	360
	09/28/07	1	100%	100%	20	5,900	2.5	20.6	0.4	5,100	ND<35	110	310	46	260
	10/17/07		100%	100%	21	1,450	1.0	20.9	0.1	1,900	ND<20	59	120	12	73
	11/16/07		100%	100%	21	4,600	2.5	20.7	0.5	5,800	ND<27	120	340	40	200
	12/26/07		100%	100%	18	2,600	1.5	20.9	0.4	3,100	ND<27	84	230	37	190
	01/22/08		100%	100%	18	1,000	0.5	17.7	0.6	3,000	ND<14	61	190	24	180
	02/07/08	5	100%	100%	21.5	1,000	0.5	20.9	0.2	-	-	-	-	-	-
	03/18/08		100%	100%	14.5	100	xx	20.9	0.6	1,400	2.3	17	51	13	81
	04/30/08		100%	OFF	18	190	0.0	20.7	0.5	1,900	ND<6.8	22	75	16	110
	05/29/08		OFF	OFF	19.5	-	-	-	-	-	-	-	-	-	-
	06/26/08		OFF	OFF	23	-	-	-	-	-	-	-	-	-	-
	07/30/08	7	OFF	OFF	17	100	0.0	20.3	0.6	-	-	-	-	-	-
	09/30/08		OFF	100%	16.5	160	0.0	16.7	1.8	220	ND<0.68	0.44	3.1	1.0	17
	11/04/08		100%	100%	13	6,800	1.5	11.8	3.1	3,800	ND<14	78	170	18	150
	12/02/08		100%	100%	10	3,200	0.5	18.3	0.9	3,200	ND<14	66	170	14	130
	01/06/09		100%	100%	11	1,950	0.5	17.7	1.6	3,400	ND<30	69	150	13	95
	02/09/09		100%	100%	12	900	0.0	16.4	1.4	1,100	ND<10	25	53	4.9	49
	03/18/09		100%	100%	10	30	0.0	20.9	0.0	130	ND<0.68	1.1	5.6	0.43	2.6
	04/21/09		100%	100%	11	15	0.0	17.1	1.4	130	ND<0.68	1.3	3.9	0.36	4.9
	05/19/09		100%	100%	11.5	190	0.0	12.6	3.5	460	ND<2.0	4.3	13	2.0	19
	08/31/09		100%	100%	12	980	0.0	8.5	5.1	1,800	ND<20	29	57	8.6	79
	09/10/09		100%	100%	15	1,700	0.5	15.3	3.2	2,000	ND<15	52	100	6.4	74
	09/17/09		100%	100%	14	2,400	0.5	19.8	1.6	2,700	ND<25	80	140	11	100
	09/25/09		100%	100%	13	2,500	0.5	20.0	1.2	2,900	ND<10	67	130	10	77
	10/02/09		100%	100%	14	2,800	0.5	20.2	1.1	2,800	ND<10	63	130	8.5	72
	10/20/09		100%	100%	13	2,900	1.0	19.8	1.3	3,000	ND<35	85	170	9.7	82
	11/03/09		100%	100%	14	2,450	0.5	20.2	1.0	2,500	ND<14	68	130	8.6	69
	12/11/09		100%	100%	13	1,400	0.0	9.2	4.4	1,600	ND<10	39	81	6.6	52
<b>04/20/10</b>			<b>100%</b>	<b>100%</b>	<b>13</b>	<b>20</b>	<b>0.0</b>	<b>15.1</b>	<b>1.0</b>	<b>91</b>	<b>ND&lt;5.0</b>	<b>18</b>	<b>2.6</b>	<b>1.2</b>	<b>5.4</b>
<b>04/28/10</b>			<b>100%</b>	<b>100%</b>	<b>15</b>	<b>0</b>	<b>0.0</b>	<b>18.8</b>	<b>1.3</b>	<b>18</b>	<b>6.4</b>	<b>1.3</b>	<b>0.62</b>	<b>0.25</b>	<b>1.1</b>
<b>05/05/10</b>			<b>100%</b>	<b>100%</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data						
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)	
MW-5S	08/10/07		100%	100%	21	-	-	-	-	54	ND<0.68	0.60	2.7	0.60	3.7	
	09/28/07	1	100%	100%	20	8,000	5.5	20.2	0.3	3,800	ND<60	70	150	19	120	
	10/17/07		100%	100%	21	880	0.5	20.9	0.1	1,100	ND<14	27	56	5.3	36	
	11/16/07		100%	100%	21	4,600	3.0	20.0	0.7	3,800	ND<110	64	170	21	170	
	12/26/07		100%	OFF	18	200	0.0	20.9	0.0	140	ND<0.68	0.45	3.7	1.5	14	
	01/22/08		OFF	OFF	18	300	0.0	18.0	0.4	760	ND<4.5	3.3	16	2.4	28	
	02/07/08	4	OFF	OFF	21.5	-	-	-	-	-	-	-	-	-	-	
	03/18/08		OFF	OFF	14.5	0	xx	19.9	0.3	580	ND<2.7	3.0	24	4.2	39	
	04/30/08		OFF	OFF	18	0	0.0	19.4	1.0	2,000	ND<10	18	56	5.7	63	
	05/29/08		OFF	OFF	19.5	-	-	-	-	-	-	-	-	-	-	
	06/26/08		OFF	OFF	23	-	-	-	-	-	-	-	-	-	-	
	07/30/08	7	OFF	50%	17	1,000	0.0	14.0	2.8	-	-	-	-	-	-	
	09/30/08		50%	100%	16.5	1,850	0.0	16.0	2.8	2,000	ND<14	27	61	6.2	87	
	11/04/08		100%	100%	13	2,450	0.5	14.6	2.3	3,900	ND<27	30	100	6.1	150	
	12/02/08		100%	100%	10	1,810	0.0	19.7	0.1	1,900	ND<27	ND<3.1	29	2.9	81	
	01/06/09	8	100%	100%	11	1,350	0.0	17.3	0.3	-	-	-	-	-	-	
	02/09/09		100%	100%	12	260	0.0	19.7	0.3	270	ND<4.5	2.4	7.5	0.90	23	
	03/18/09		100%	100%	10	50	0.0	20.8	0.3	99	ND<2.0	2.1	6.0	0.76	6.2	
	04/21/09		100%	100%	11	20	0.0	20.3	0.3	40	ND<1.0	1.1	4.0	0.51	4.4	
	05/19/09		100%	100%	11.5	400	0.0	19.4	0.5	450	ND<3.0	1.7	6.8	0.71	5.6	
	08/31/09		100%	100%	-	660	-	13.5	3.3	1,300	ND<10	9.6	21	3.0	54	
	09/10/09		100%	100%	15	1,100	0.0	16.8	1.9	1,800	ND<6.8	18	49	4.0	110	
	09/17/09		100%	100%	14	1,050	0.0	19.2	1.2	2,200	ND<6.8	19	66	6.6	160	
	09/25/09		100%	100%	13	1,100	0.0	19.1	1.3	2,100	ND<2.7	11	44	5.9	110	
	10/02/09		100%	100%	14	1,300	0.0	19.2	1.3	2,100	ND<2.7	9.4	35	4.9	100	
	10/20/09		100%	100%	13	1,150	0.0	19.4	1.1	1,700	ND<5.0	6.3	28	2.9	88	
	11/03/09		100%	100%	14	550	0.0	19.5	1.0	1,300	ND<2.7	4.7	24	2.0	82	
	12/11/09		100%	100%	13	350	0.0	18.2	1.0	440	ND<2.7	2.6	9.8	1.8	26	
	<b>04/20/10</b>			<b>100%</b>	<b>100%</b>	<b>13</b>	<b>0</b>	<b>0.0</b>	<b>19.3</b>	<b>0.2</b>	<b>29</b>	<b>ND&lt;0.68</b>	<b>1.3</b>	<b>2.9</b>	<b>0.55</b>	<b>3.2</b>
	<b>04/28/10</b>			<b>100%</b>	<b>100%</b>	<b>15</b>	<b>0</b>	<b>0.0</b>	<b>20.8</b>	<b>0.1</b>	<b>14</b>	<b>ND&lt;0.68</b>	<b>0.6</b>	<b>1.3</b>	<b>0.15</b>	<b>0.98</b>
<b>05/05/10</b>			<b>100%</b>	<b>100%</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data						
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)	
MW-6S	08/10/07	1	100%	100%	21	-	-	-	-	5,800	ND<30	69	280	24	140	
	09/28/07		100%	100%	20	>11,000	8.0	19.7	0.5	6,800	ND<60	100	360	34	190	
	10/17/07		100%	100%	21	1,350	0.5	20.9	0.1	1,700	ND<10	24	90	9.7	79	
	11/16/07		100%	100%	21	6,300	4.5	19.2	1.0	6,400	ND<27	56	270	40	310	
	12/26/07		100%	100%	18	4,600	2.5	18.5	1.3	4,200	ND<27	21	96	14	180	
	01/22/08		100%	100%	18	1,050	0.5	15.6	1.0	1,900	ND<14	11	74	13	100	
	02/07/08		-	-	21.5	-	-	-	-	-	-	-	-	-	-	-
	03/18/08		100%	100%	14.5	15	xx	20.5	0.1	230	ND<1.4	1.2	9.2	2.4	16	
	04/30/08		100%	OFF	18	140	0.0	20.7	0.7	760	ND<6.8	3.5	18	3.2	36	
	05/29/08		OFF	OFF	19.5	-	-	-	-	-	-	-	-	-	-	
	06/26/08	OFF	100%	23	210	0.0	19.8	0.4	400	ND<10	2.0	18	3.1	24		
	07/30/08	7	100%	100%	17	270	0.0	20.2	0.7	460	ND<4.5	1.7	14	2.2	19	
	09/30/08		100%	100%	16.5	570	0.0	17.4	2.0	640	ND<14	7.7	42	3.7	31	
	11/04/08		100%	100%	13	580	0.0	17.4	1.2	900	ND<2.7	4.6	21	4.6	46	
	12/02/08		100%	100%	10	460	0.0	20.6	0.3	710	ND<14	3.2	13	1.4	30	
	01/06/09		100%	100%	11	280	0.0	19.9	0.4	520	ND<14	4.1	17	2.3	32	
	02/09/09		100%	100%	12	80	0.0	20.9	0.1	60	ND<0.68	1.4	3.4	0.49	8.2	
	03/18/09		100%	100%	10	70	0.0	20.9	0.0	61	ND<3.0	1.3	1.7	0.38	4.0	
	04/21/09		100%	100%	11	10	0.0	20.9	0.0	18	0.98	0.41	0.47	0.13	1.4	
	05/19/09		100%	100%	11	-	-	-	-	20	ND<0.68	0.59	0.98	0.17	2.1	
	08/31/09		100%	OFF	12	170	0.0	18.9	0.9	330	ND<2.7	5.5	27	3.7	26	
	09/10/09	OFF	OFF	15	-	-	-	-	-	-	-	-	-	-		
	09/17/09	OFF	OFF	14	560	0.0	19.6	0.3	370	ND<3.0	1.9	6.9	1.4	9.2		
	09/25/09	OFF	OFF	13	-	-	-	-	-	-	-	-	-	-		
	10/02/09	OFF	OFF	14	-	-	-	-	-	-	-	-	-	-		
	10/20/09	OFF	OFF	12	80	0.0	20.9	0.0	78	ND<0.68	0.69	2.7	1.7	9.5		
	11/03/09	OFF	OFF	-	-	-	-	-	-	-	-	-	-	-		
	12/11/09	OFF	OFF	13	50	0.0	20.9	0.0	29	ND<0.68	0.20	1.1	0.30	3.1		
	<b>04/20/10</b>	<b>OFF</b>	<b>100%</b>	<b>13</b>	<b>210</b>	<b>0.0</b>	<b>9.6</b>	<b>3.0</b>	<b>450</b>	<b>ND&lt;25</b>	<b>46</b>	<b>29</b>	<b>6.7</b>	<b>37</b>		
	<b>04/28/10</b>	<b>100%</b>	<b>100%</b>	<b>15</b>	<b>150</b>	<b>0.0</b>	<b>20.4</b>	<b>0.9</b>	<b>250</b>	<b>ND&lt;15</b>	<b>7.4</b>	<b>31</b>	<b>6.8</b>	<b>39</b>		
<b>05/05/10</b>	<b>100%</b>	<b>100%</b>	<b>18</b>	<b>110</b>	<b>0.0</b>	<b>20.2</b>	<b>0.8</b>	<b>240</b>	<b>ND&lt;6.8</b>	<b>3.9</b>	<b>11</b>	<b>1.1</b>	<b>7.4</b>			

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data						
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)	
MW-7S	08/10/07				21	-	-	-	-	19,000	ND<450	620	590	27	100	
	09/28/07	1	100%	100%	20	11,000	19	20.0	0.5	13,000	ND<150	350	630	69	370	
	10/17/07		100%	100%	21	0	0.0	20.9	0.0	390	ND<14	27	60	6.0	51	
	11/16/07		100%	50%	21	10,000	8.0	20.5	0.4	7,700	ND<45	170	390	47	280	
	12/26/07		50%	100%	18	5,500	3.0	20.4	0.5	4,700	ND<45	100	220	27	190	
	01/22/08		100%	100%	18	2,050	1.0	18.2	0.4	3,900	ND<14	69	200	20	210	
	02/07/08		-	-	21.5	-	-	-	-	-	-	-	-	-	-	-
	03/18/08		100%	100%	14.5	390	xx	20.2	0.3	2,000	ND<5.0	25	81	11	78	
	04/30/08		100%	OFF	18	600	1.0	19.0	1.2	4,100	ND<14	66	150	15	150	
	05/29/08		OFF	OFF	19.5	-	-	-	-	-	-	-	-	-	-	-
	06/26/08		OFF	100%	23	5,200	1.5	15.8	2.7	4,800	ND<30	56	71	4.0	110	
	07/30/08	7	100%	100%	17	2,750	0.5	18.3	1.7	-	-	-	-	-	-	-
	09/30/08		100%	100%	16.5	4,200	1.0	12.6	5.9	2,800	ND<30	57	72	4.2	110	
	11/04/08		100%	100%	13	9,100	1.5	7.5	3.5	4,100	ND<14	53	87	4.3	130	
	12/02/08		100%	100%	10	4,350	0.5	19.5	1.1	3,900	ND<27	44	89	4.1	110	
	01/06/09		100%	100%	11	3,150	0.5	15.4	2.3	2,000	ND<4.5	19	43	3.0	77	
	02/09/09		100%	100%	12	1,050	0.0	13.4	2.5	1,100	ND<10	19	21	1.8	34	
	03/18/09		100%	100%	10	440	0.0	15.3	2.7	690	ND<14	28	22	1.9	17	
	04/21/09		100%	100%	11	30	0.0	20.4	1.3	53	4.5	2.7	2.2	0.28	3.0	
	05/19/09		100%	100%	11.5	490	0.0	9.2	5.2	890	ND<14	29	33	1.8	20	
	08/31/09		100%	100%	12	1,450	0.0	9.3	8.2	1,900	ND<30	52	37	3.0	64	
	09/10/09		100%	100%	15	3,800	0.0	10.6	4.2	3,100	ND<20	68	71	3.8	130	
	09/17/09		100%	100%	14	7,000	2.0	18.8	1.8	5,200	ND<35	120	140	9.0	200	
	09/25/09		100%	100%	13	7,600	2.0	18.8	1.6	5,500	ND<25	89	130	8.0	150	
	10/02/09		100%	100%	14	8,050	2.0	18.8	1.6	5,300	ND<35	100	160	11	210	
	10/20/09		100%	100%	13	5,450	1.5	18.8	1.7	3,800	ND<40	63	110	6.9	120	
	11/03/09		100%	100%	14	3,900	1.0	19.0	1.5	3,800	ND<20	42	87	6.3	140	
	12/11/09		100%	100%	13	1,250	0.0	9.5	7.0	1,300	ND<5.0	20	50	11	63	
	<b>04/20/10</b>			<b>100%</b>	<b>100%</b>	<b>13</b>	<b>220</b>	<b>0.0</b>	<b>8.2</b>	<b>6.3</b>	<b>540</b>	<b>ND&lt;25</b>	<b>36</b>	<b>21</b>	<b>5.3</b>	<b>31</b>
	<b>04/28/10</b>			<b>100%</b>	<b>100%</b>	<b>15</b>	<b>220</b>	<b>0.0</b>	<b>19.0</b>	<b>1.7</b>	<b>720</b>	<b>ND&lt;25</b>	<b>15</b>	<b>20</b>	<b>1.3</b>	<b>18</b>
<b>05/05/10</b>			<b>100%</b>	<b>100%</b>	<b>18</b>	<b>440</b>	<b>0.0</b>	<b>19.3</b>	<b>1.5</b>	<b>1,000</b>	<b>ND&lt;35</b>	<b>21</b>	<b>28</b>	<b>1.3</b>	<b>16</b>	

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)
MW-10S	11/21/07		100%	100%	19	>44,000	43.0	17.0	2.2	28,000	ND<68	300	800	63	230
	12/26/07		100%	100%	18	3,900	2.5	19.4	0.5	6,300	ND<14	55	350	64	300
	01/22/08		100%	100%	16.5	1,850	0.5	16.1	0.5	4,700	ND<14	38	230	49	310
	02/07/08		-	-	-	-	-	-	-	-	-	-	-	-	-
	03/18/08		100%	100%	14.5	270	xx	19.0	0.9	2,100	ND<14	13	73	31	190
	04/30/08		100%	100%	18	310	0.5	19.6	0.9	2,500	ND<14	11	76	33	230
	05/29/08		100%	100%	18	1,750	0.0	19.6	0.8	1,800	ND<6.8	13	47	17	120
	06/26/08		100%	100%	23	370	0.0	20.7	0.1	780	ND<1.4	4.1	15	4.9	38
	07/30/08	7	100%	100%	17	1,050	0.0	20.3	0.8	1,600	ND<14	16	50	9.5	95
	09/30/08		100%	OFF	16.5	640	0.0	20.9	0.4	690	ND<4.0	10	29	5.1	53
	11/04/08		OFF	100%	13	1,900	0.5	13.0	2.5	2,300	ND<14	36	89	8.1	120
	12/02/08		100%	100%	10	1,550	0.0	20.3	0.6	1,500	ND<14	26	73	8.4	71
	01/06/09		100%	100%	11	1,150	0.0	18.2	1.2	2,200	ND<15	31	64	6.7	64
	02/09/09		100%	100%	12	310	0.0	17.8	0.7	400	ND<2.7	5.6	12	1.1	21
	03/18/09		100%	100%	10	130	0.0	18.7	0.7	220	ND<10	8.9	7.7	1.4	10
	04/21/09		100%	100%	11	110	0.0	16.9	1.0	240	ND<5.0	4.4	5.7	0.98	9.6
	05/19/09		100%	100%	11.5	75	0.0	12.2	2.3	370	ND<5.0	4.9	7.7	1.2	13
	08/31/09		100%	100%	12	650	-	8.3	0.0	1,700	ND<10	18	22	4.4	67
	09/10/09		100%	100%	15	730	0.0	15.9	2.6	1,600	ND<10	29	63	5.3	75
	09/17/09		100%	100%	14	1,300	0.0	19.4	1.5	1,900	ND<15	40	82	7.2	85
	09/25/09		100%	100%	13	450	0.0	19.7	1.2	2,400	ND<10	37	81	8.1	72
	10/02/09		100%	100%	14	2,150	0.0	19.6	1.1	1,700	ND<20	38	79	6.6	76
	10/20/09		100%	100%	13	2,000	0.5	19.4	1.3	2,200	ND<20	47	97	7.2	65
11/03/09		100%	100%	14	1,400	0.0	19.3	1.3	2,300	ND<10	39	85	6.5	72	
12/11/09		100%	100%	13	1,250	0.0	7.1	4.2	1,500	ND<14	24	40	3.0	37	
<b>04/20/10</b>			<b>100%</b>	<b>100%</b>	<b>13</b>	<b>50</b>	<b>0.0</b>	<b>15.4</b>	<b>0.9</b>	<b>140</b>	<b>ND&lt;5.0</b>	<b>23</b>	<b>4.6</b>	<b>2.0</b>	<b>11</b>
<b>04/28/10</b>			<b>100%</b>	<b>100%</b>	<b>15</b>	<b>110</b>	<b>0.0</b>	<b>18.6</b>	<b>1.5</b>	<b>310</b>	<b>ND&lt;3.0</b>	<b>4.5</b>	<b>6.1</b>	<b>0.55</b>	<b>7.5</b>
<b>05/05/10</b>			<b>100%</b>	<b>100%</b>	<b>18</b>	<b>120</b>	<b>0.0</b>	<b>19.6</b>	<b>0.9</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
MW-11S	11/21/07		100%	50%	19	36,600	26.5	19.2	2.2	20,000	ND<68	240	640	63	240
	12/26/07		50%	100%	18	1,350	0.5	20.9	0.2	3,400	ND<75	50	220	50	230
	01/22/08		100%	100%	16.5	1,000	0.0	19.3	0.2	3,000	ND<30	81	190	39	230
	02/07/08		-	-	-	-	-	-	-	-	-	-	-	-	-
	03/18/08		100%	100%	14.5	130	xx	20.0	0.3	1,700	ND<14	26	66	26	150
	04/30/08		100%	100%	18	120	0.0	20.9	0.2	600	ND<5.0	6.7	23	5.9	49
	05/29/08		100%	100%	18	950	0.0	20.9	0.3	1,800	ND<30	24	47	18	120
	06/26/08		100%	100%	23	480	0.0	20.9	0.1	940	ND<15	12	28	8.4	57
	07/30/08	7	100%	100%	17	980	0.0	20.9	0.3	1,600	ND<30	22	50	13	100
	09/30/08		100%	OFF	16.5	510	0.0	20.9	0.2	490	ND<10	11	22	3.8	40
	11/04/08		OFF	100%	13	360	0.0	16.5	1.4	820	ND<20	22	21	5.2	57
	12/02/08		100%	100%	10	320	0.0	20.9	0.2	1,400	ND<35	23	57	6.3	73
	01/06/09		100%	100%	11	790	0.0	18.9	0.6	1,200	ND<20	29	53	5.7	56
	02/09/09		100%	100%	12	380	0.0	17.6	0.8	500	ND<6.0	14	18	2.3	28
	03/18/09		100%	100%	10	280	0.0	17.3	1.2	400	ND<3.0	48	18	3.4	20
	04/21/09		100%	100%	11	210	0.0	16.9	1.2	460	ND<20	32	20	3.3	31
	05/19/09		100%	100%	11.5	200	0.0	15.5	1.5	80	ND<3.0	5.1	3.2	0.58	6.7
	08/31/09		100%	100%	12	360	-	9.1	3.5	1,000	ND<20	36	17	3.7	63
	09/10/09		100%	100%	15	420	0.0	17.7	1.5	870	ND<30	38	32	5.7	68
	09/17/09		100%	100%	14	490	0.0	20.6	0.7	890	ND<25	27	39	4.1	63
	09/25/09		100%	100%	13	510	0.0	20.6	0.5	840	ND<30	19	31	2.6	33
	10/02/09		100%	100%	14	820	0.0	20.6	0.5	880	ND<15	22	40	3.9	55
	10/20/09		100%	100%	13	750	0.0	20.4	0.6	800	ND<15	20	32	3.4	39
11/03/09		100%	100%	14	400	0.0	20.7	0.4	820	ND<10	16	30	2.6	42	
12/11/09		100%	100%	13	350	0.0	13.0	2.5	660	ND<6.8	19	19	2.2	28	
<b>04/20/10</b>			<b>100%</b>	<b>100%</b>	<b>13</b>	<b>140</b>	<b>0.0</b>	<b>9.0</b>	<b>2.4</b>	<b>440</b>	<b>16</b>	<b>77</b>	<b>12</b>	<b>4.7</b>	<b>30</b>
<b>04/28/10</b>			<b>100%</b>	<b>OFF</b>	<b>15</b>	<b>80</b>	<b>0.0</b>	<b>20.8</b>	<b>0.5</b>	<b>150</b>	<b>15</b>	<b>15</b>	<b>4.9</b>	<b>1.6</b>	<b>9.4</b>
<b>05/05/10</b>			<b>OFF</b>	<b>OFF</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>



**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)
MW-12S	11/21/07		50%	50%	19	110	0.0	20.9	0.7	1,400	ND<100	87	51	10	40
	12/26/07		50%	50%	18	720	0.0	20.9	0.1	1,200	ND<45	27	100	13	74
	01/22/08		100%	100%	16.5	630	0.0	19.3	0.2	1,100	ND<45	14	50	8.4	65
	02/07/08		-	-	-	-	-	-	-	-	-	-	-	-	-
	03/18/08		100%	100%	14.5	0	xx	20.9	0.0	460	ND<30	42	32	4.2	36
	04/30/08		100%	100%	18	65	0.0	20.9	0.2	390	5	8.8	17	3.9	30
	05/29/08		100%	100%	18	150	0.0	20.9	0.3	490	ND<10	14	23	4.4	30
	06/26/08		100%	100%	23	140	0.0	20.9	0.1	300	4.1	5.1	14	2.6	22
	07/30/08	7	100%	100%	17	240	0.0	20.9	0.3	450	ND<5.0	4.5	20	3.8	32
	09/30/08		100%	OFF	16.5	190	0.0	20.9	0.2	230	ND<5.0	3.9	12	2.2	28
	11/04/08		OFF	100%	13	140	0.0	18	0.8	260	ND<5.0	6.5	7.4	1.2	14
	12/02/08		100%	100%	10	150	0.0	20.5	0.6	660	ND<5.0	7.3	29	4.5	66
	01/06/09		100%	100%	11	380	0.0	20.3	0.4	490	ND<6.8	9.1	18	2.2	37
	02/09/09		100%	100%	12	70	0.0	20.1	0.3	110	ND<5.0	4.2	4.0	0.58	8.1
	03/18/09		100%	100%	10	25	0.0	20.9	0.2	98	ND<5.0	7.6	4.2	0.53	2.5
	04/21/09		100%	100%	11	30	0.0	20.6	0.5	40	3.4	6.5	2.1	0.41	2.0
	05/19/09		100%	100%	11.5	20	0.0	19.2	0.7	52	ND<3.0	4.7	1.8	0.47	3.5
	08/31/09		100%	OFF	12	20	-	16.0	1.4	130	ND<3.0	3.9	3.0	0.67	8.0
	09/10/09		OFF	OFF	15	-	-	-	-	-	-	-	-	-	-
	09/17/09		OFF	OFF	14	20	-	20.8	0.4	24	ND<2.0	1.7	1.8	0.18	1.9
09/25/09		OFF	OFF	13	-	-	-	-	-	-	-	-	-	-	
10/02/09		OFF	OFF	14	-	-	-	-	-	-	-	-	-	-	
10/20/09		OFF	OFF	12	20	0.0	20.9	0.2	120	ND<1.4	4.2	7.9	0.70	8.6	
11/03/09		OFF	OFF	-	-	-	-	-	-	-	-	-	-	-	
12/11/09		OFF	OFF	13	35	0.0	17.8	0.6	60	ND<1.0	2.6	4.4	0.45	5.6	
<b>04/20/10</b>		<b>OFF</b>	<b>100%</b>	<b>13</b>	<b>0</b>	<b>0.0</b>	<b>16.2</b>	<b>0.8</b>	<b>46</b>	<b>2.9</b>	<b>5.0</b>	<b>1.1</b>	<b>0.62</b>	<b>3.7</b>	
<b>04/28/10</b>		<b>100%</b>	<b>OFF</b>	<b>15</b>	<b>15</b>	<b>0.0</b>	<b>20.8</b>	<b>0.5</b>	<b>31</b>	<b>5.5</b>	<b>3.5</b>	<b>0.5</b>	<b>0.44</b>	<b>1.6</b>	
<b>05/05/10</b>		<b>OFF</b>	<b>OFF</b>	<b>18</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
AS	10/17/07	7	100%	100%	-	0	0.0	20.9	0.0	130	ND<1.4	4.3	11	1.4	12
	11/08/07		100%	100%	-	0	0.0	20.9	0.0	19	ND<0.68	0.60	1.8	0.18	3.2
	01/15/08		100%	100%	-	-	-	-	-	1,100	19	31	100	17	180
	01/31/08		100%	100%	-	-	-	-	-	69	ND<4.5	1.7	5.0	0.81	11
	02/07/08		100%	100%	-	0	0.0	20.9	0.0	31	1.4	0.47	1.5	0.21	4.1
	03/18/08		100%	100%	-	-	-	-	-	31	0.71	0.60	1.8	0.34	3.2
	04/30/08		100%	100%	-	10	0.0	20.9	0.0	37	ND<0.68	0.36	1.4	0.34	4.1
	05/29/08		100%	100%	-	60	0.0	20.9	0.0	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	0.16
	06/26/08		100%	100%	-	10	0.0	20.9	0.0	44	0.97	0.89	2.5	0.54	6.3
	07/30/08		100%	100%	-	0	0.0	20.9	0.0	41	ND<1.4	0.81	2.2	0.20	4.2
	09/30/08		100%	100%	-	0	0.0	20.9	0.0	-	-	-	-	-	-
	11/04/08		100%	100%	-	0	0.0	20.9	0.1	21	ND<0.68	0.38	0.91	0.13	2.6
	12/02/09		100%	100%	-	0	0.0	20.9	0.1	10	ND<0.68	ND<0.077	0.22	ND<0.057	0.79
	01/06/09		100%	100%	-	0	0.0	20.9	0.1	150	ND<1.5	1.9	6.9	1.1	22
	02/09/09		100%	100%	-	15	0.0	20.9	0.0	18	ND<0.68	0.28	0.57	0.078	1.5
	03/18/09		100%	100%	-	0	0.0	20.9	0.0	ND<7.0	ND<0.68	ND<0.077	0.085	ND<0.057	0.15
	04/21/09		100%	100%	-	0	0.0	20.9	0.0	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	05/19/09		100%	100%	-	0	0.0	20.9	0.0	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	08/31/09		100%	100%	-	0	0.0	20.9	0.0	ND<7.0	ND<0.68	ND<0.077	0.096	ND<0.057	0.24
	09/10/09		100%	100%	-	0	0.0	20.9	0.0	-	-	-	-	-	-
	09/17/09		100%	100%	-	0	0.0	20.9	0.0	-	-	-	-	-	-
09/25/09	100%	100%	-	0	0.0	20.9	0.0	-	-	-	-	-	-		
10/02/09	100%	100%	-	0	0.0	20.9	0.0	7.3	ND<1.0	0.27	0.57	ND<0.057	0.93		
10/20/09	100%	100%	-	-	-	-	-	-	-	-	-	-	-		
11/03/09	100%	100%	-	0	0.0	20.9	0.0	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057		
12/11/09	100%	100%	-	-	-	-	-	-	-	-	-	-	-		
<b>04/20/10</b>	<b>100%</b>	<b>100%</b>	-	<b>0</b>	<b>0.0</b>	<b>20.9</b>	<b>0.0</b>	<b>11</b>	<b>0.91</b>	<b>0.69</b>	<b>1.2</b>	<b>0.18</b>	<b>1.1</b>		

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)
PRED	06/28/07		-	-	18.5	-	-	-	-	-	-	-	-	-	-
	07/11/07		-	-	21.5	10,750	-	-	-	6,600	ND<90	180	340	39	190
	07/27/07		-	-	20	>11,000	-	-	-	11,000	ND<75	170	330	38	160
	08/01/07		-	-	19	6,000	9.1	18.5	1.1	5,500	ND<70	140	250	16	71
	08/10/07		-	-	21	-	-	-	-	7,700	ND<90	210	410	41	190
	09/28/07	1	-	-	20	5,700	3.5	20.7	0.3	4,000	ND<50	90	170	9.3	42
	10/17/07		-	-	21	9,050	-	-	-	5,100	ND<60	130	210	8.6	51
	11/08/07		-	-	21	0	0.0	20.9	0.0	4,000	ND<0.68	0.35	2.2	0.68	6.6
	11/16/07		-	-	21	3,050	2.0	20.7	0.4	3,700	ND<120	63	170	20	120
	11/16/07		-	-	21	6,100	4.5	20.3	0.7	6,000	ND<27	100	250	27	170
	11/21/07		-	-	19	12,000	13.5	19.4	1.2	2,500	ND<14	39	120	16	79
	12/04/07		-	-	20	10,500	9.5	18.8	0.9	7,900	ND<32	120	340	48	280
	12/26/07		-	-	18	3,650	2.0	20.9	0.5	4,100	ND<27	72	250	42	270
	01/08/08	3	-	-	18	-	-	-	-	-	-	-	-	-	-
	01/15/08		-	-	19	710	0.0	20.0	0.3	1,900	ND<14	29	89	16	100
	01/22/08		-	-	18	800	0.0	17.8	0.5	1,900	ND<14	34	100	13	100
	01/31/08		-	-	21	1,250	0.5	20.9	0.5	2,200	ND<14	36	120	19	160
	02/07/08		-	-	21.5	700	0.0	20.9	0.4	2,000	ND<35	34	110	10	130
	03/18/08		-	-	14.5	160	xx	15.3	0.9	630	ND<3.0	7.0	25	5.6	38
	04/30/08		-	-	18	280	0.5	20.2	0.0	2,100	ND<5.0	20	63	16	120
	05/29/08		-	-	19.5	1,500	0.0	19.6	0.8	2,100	ND<10	21	45	18	120
	06/26/08		-	-	23	280	0.5	20.2	0.0	860	ND<5.0	11	27	6.5	50
	07/30/08	7	-	-	17	1,350	0.0	19.3	1.1	2,200	ND<6.8	24	62	10	90
	09/30/08		-	-	16.5	1,650	0.5	16.1	1.8	1,100	ND<10	20	42	8.2	78
	11/04/08		-	-	13	2,500	0.5	16.1	1.8	2,700	ND<10	31	77	9.3	130
	12/02/08		-	-	10	1,100	0.0	20.5	0.6	2,200	ND<5.0	27	80	8.7	130

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethyl-benzene (ppmv)	Xylenes (ppmv)
<b>PRED Cont.</b>	01/06/09		-	-	11	1,300	0.0	18.4	1.2	1,200	ND<80	21	58	5.7	78
	02/09/09		-	-	12	880	0.0	15.6	1.5	1,200	ND<10	17	31	3.1	46
	03/18/09		-	-	10	60	0.0	20.8	0.4	130	ND<0.68	5.2	11	1.2	7.1
	04/21/09		-	-	11	35	0.0	19.9	0.3	58	ND<1.4	1.9	3.5	0.44	3.7
	05/19/09		-	-	11.5	100	0.0	19.2	0.8	190	ND<2.7	3.4	7.3	0.95	8.0
	08/31/09		-	-	12	400	-	13.8	26	870	ND<4.5	11	21	3.0	29
	09/10/09		-	-	15	1,650	0.5	15.9	2.5	1,700	ND<20	34	62	5.8	110
	09/17/09	8	-	-	14	1,950	0.5	19.4	1.4	2,600	ND<20	52	100	7.5	140
	09/17/09	9	-	-	7	520	0.0	20.3	0.5	-	-	-	-	-	-
	09/25/09		-	-	13	2,450	0.5	19.6	1.2	2,700	ND<6.8	36	80	6.6	91
	10/02/09		-	-	14	2,200	0.0	19.6	1.1	2,400	ND<20	43	85	8.3	110
	10/20/09	10	-	-	13	2,200	0.5	19.6	1.2	2,500	ND<20	38	80	6.7	110
	10/20/09	11	-	-	12	930	0.0	20.9	0.3	590	ND<5.0	7.7	19	2.0	30
	11/03/09		-	-	14	1,450	0.5	20.9	1.0	2,000	ND<10	27	58	4.5	71
	12/11/09	12	-	-	13	380	0.0	14.7	2.2	690	ND<2.7	10	20	2.0	25
	12/11/09	13	-	-	13	1,050	0.0	18.9	1.5	-	-	-	-	-	-
	12/16/09	14	-	-	13	1,200	0.0	20.1	1.2	1,200	ND<14	35	72	5.1	52
	<b>04/20/10</b>		-	-	<b>13</b>	<b>140</b>	<b>0.0</b>	<b>16.5</b>	<b>1.4</b>	<b>240</b>	<b>ND&lt;5.0</b>	<b>17</b>	<b>21</b>	<b>3.3</b>	<b>17</b>
	<b>04/28/10</b>		-	-	<b>15</b>	<b>65</b>	<b>0.0</b>	<b>20.9</b>	<b>0.5</b>	<b>120</b>	<b>ND&lt;5.0</b>	<b>5.1</b>	<b>7.0</b>	<b>0.9</b>	<b>5.9</b>
	<b>04/29/10</b>		-	-	<b>20</b>	<b>150</b>	<b>0.0</b>	<b>19.3</b>	<b>1.3</b>	<b>300</b>	<b>ND&lt;14</b>	<b>9.1</b>	<b>20</b>	<b>3.0</b>	<b>18</b>
<b>05/05/10</b>		-	-	<b>18</b>	<b>210</b>	<b>0.0</b>	<b>19.7</b>	<b>1.2</b>	<b>340</b>	<b>ND&lt;10</b>	<b>6.5</b>	<b>15</b>	<b>1.3</b>	<b>12</b>	

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
POSTD	06/28/07		-	-	-	10,000	6.5	18.2	1.4	3,800	ND<60	120	160	22	110
	07/11/07		-	-	-	3,550	-	-	-	1,400	ND<14	36	82	12	67
	07/27/07		-	-	-	4,550	-	-	-	3,400	ND<14	56	120	15	70
	08/01/07		-	-	-	5,200	-	-	-	2,500	ND<27	59	140	17	95
	08/10/07		-	-	-	4,800	2.0	19.9	0.5	5,300	ND<45	130	290	37	180
	09/28/07		-	-	-	6,750	4.0	20.7	0.3	4,800	ND<60	100	210	23	120
	10/17/07		-	-	-	4,500	2.5	20.9	0.0	1,800	ND<14	41	110	14	100
	11/08/07		-	-	-	1,300	1.0	20.9	0.4	2,000	ND<15	42	100	12	88
	11/16/07		-	-	-	4,150	2.0	20.5	0.4	3,600	ND<14	58	190	25	180
	11/21/07		-	-	-	8,600	7.5	20.5	0.8	5,500	ND<25	75	210	28	130
	12/04/07		-	-	-	6,500	5.0	19.8	0.6	3,400	ND<16	44	120	22	120
	12/26/07		-	-	-	2,000	1.0	20.9	0.3	1,300	ND<45	26	96	15	100
	01/08/08		-	-	-	1,200	0.5	20.9	0.3	1,700	ND<14	23	79	13	83
	01/15/08		-	-	-	45	0.0	20.7	0.0	620	ND<14	11	39	6.6	44
	01/22/08		-	-	-	280	0.0	20.2	0.0	1,100	ND<14	14	50	8.4	65
	01/31/08		-	-	-	470	0.0	20.9	0.1	770	ND<14	12	38	6.9	62
	02/07/08		-	-	-	120	0.0	20.9	0.0	690	ND<6.8	10	37	6.6	58
	03/18/08		-	-	-	75	xx	20.2	0.4	310	ND<3.5	3.9	12	3.0	20
	04/30/08		-	-	-	55	0.0	20.9	0.2	700	ND<2.0	7.6	23	5.0	42
	05/29/08		-	-	-	630	0.0	20.7	0.2	500	ND<3.5	5.4	12	4.1	29
	06/26/08		-	-	-	55	0.0	20.9	0.2	620	ND<10	7.8	25	5.4	45
	07/30/08	6,7	-	-	-	-	-	-	-	-	-	-	-	-	-
	09/30/08		-	-	-	-	-	-	-	-	-	-	-	-	-
	11/04/08		-	-	-	-	-	-	-	-	-	-	-	-	-
	12/02/08		-	-	-	-	-	-	-	-	-	-	-	-	-
	01/06/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	02/09/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	03/18/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	04/21/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	05/19/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	08/31/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	09/10/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	09/17/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	09/25/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	10/02/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	10/20/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	11/03/09		-	-	-	-	-	-	-	-	-	-	-	-	-
	12/11/09		-	-	-	-	-	-	-	-	-	-	-	-	-

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
STACK	06/28/07		-	-	-	0	0.0	12.3	5.4	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	07/27/08		-	-	-	-	-	-	-	-	-	-	-	-	-
	08/10/07		-	-	-	-	-	-	-	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	09/28/07		-	-	-	0	0.0	14.0	4.5	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	10/17/07		-	-	-	-	-	-	-	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	11/08/07		-	-	-	-	-	-	-	21	ND<0.68	0.24	1.5	0.29	2.4
	11/16/07		-	-	-	0	0.0	14.8	4.8	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	12/26/07		-	-	-	-	-	-	-	-	-	-	-	-	-
	01/18/08		-	-	-	-	-	-	-	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	02/07/08		-	-	-	0	0.0	19.0	1.7	-	-	-	-	-	-
	03/18/08		-	-	-	0	xx	18.0	1.9	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	04/30/08		-	-	-	0	0.0	17.7	2.0	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	05/29/08		-	-	-	0	0.0	17.7	2.5	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	06/26/08		-	-	-	0	0.0	17.9	1.9	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	07/30/08	7	-	-	-	0	0.0	17.0	1.8	27	ND<0.68	0.09	0.64	0.16	2.1
	09/30/08		-	-	-	0	0.0	16.1	2.0	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	11/04/08		-	-	-	0	0.0	15.7	2.9	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	12/02/08		-	-	-	0	0.0	17.7	2.3	52	ND<0.68	0.19	1.5	0.34	4.4
	01/06/09		-	-	-	0	0.0	17.7	2.3	26	ND<0.68	ND<0.077	0.52	0.11	1.9
	02/09/09		-	-	-	0	0.0	16.1	2.6	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	03/18/09		-	-	-	0	0.0	18.3	2.0	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	04/21/09		-	-	-	0	0.0	18.3	2.2	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	05/19/09		-	-	-	0	0.0	17.9	2.2	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
	08/31/09		-	-	-	0	0.0	16.0	3.0	ND<7.0	ND<0.68	ND<0.077	0.069	ND<0.057	0.35
	09/10/09		-	-	-	0	0.0	18.1	2.0	-	-	-	-	-	-
	10/02/09		-	-	-	0	0.0	17.6	2.5	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057
10/20/09		-	-	-	-	-	-	-	-	-	-	-	-	-	
11/03/09		-	-	-	0	0.0	17.7	2.4	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057	
12/11/09		-	-	-	-	-	-	-	-	-	-	-	-	-	
04/20/10		-	-	-	-	20	0.0	17.3	3.1	ND<7.0	ND<0.68	ND<0.077	ND<0.065	ND<0.057	ND<0.057

**TABLE 8: HVDPE VAPOR ANALYTICAL & FIELD SCREENING DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Port ID	Sample Date	Notes	Initial Valve Position	Final Valve Position	Manifold Vacuum (in-Hg)	Field Screening Data				Vapor Analytical Data					
						TVH (ppmv)	CH <sub>4</sub> (%)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)

**NOTES:**

TPH-g = total petroleum hydrocarbons as gasoline  
 MTBE = methyl tertiary-butyl ether  
 in-Hg = inches of mercury  
 ppmv = parts per million by volume  
 % = percent concentration by volume  
 PRED = pre-dilution sample port at combined inlet  
 POSTD = post-dilution sample part at thermal/catalytic oxidizer inlet  
 - not sampled/analyzed

TPH-g by EPA Method 8015C  
 BTEX & MTBE by EPA Method 8021B  
 xx = methane sensor damaged; pending replacement  
 TVH = total volatile hydrocarbons (calibrated w/ hexane)  
 CH<sub>4</sub> = methane by infrared detection (0 to 100% by volume)  
 O<sub>2</sub> = oxygen by electrochemical detection (0-40% by volume)  
 CO<sub>2</sub> = carbon dioxide by infrared detection (0 to 20% by volume)  
 TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> measured w/ RKI Eagle gas detector

- 1) Individual well water separator trap used for the 1st time.
- 2) Vacuum leak detected at wellhead due to broken wellhead seal; well turned off.
- 3) Pump failed, not strong enough to collect sample from PRED @ 18 in-Hg.
- 4) Opened 100% for field screening, turned OFF after screening, no lab sample collected.
- 5) Opened 100% for field screening, no lab sample collected.
- 6) Discontinued POSTD process sampling port starting in the 3rd Quarter, 2008 because it no longer provides any additional useful information.
- 7) HVDPE system shutdown most of the month of August for quarterly soil gas monitoring and pending repair of the rotary phase converter.
- 8) Field screened and sampled with MW-1S, MW-6S, and MW-12S OFF.
- 9) Field screened and sampled with MW-1S, MW-6S, and MW-12S ON; note the significant loss of applied vacuum and decrease in the concentration of hydrocarbons.
- 10) Field screened and sampled with MW-1S, MW-6S, and MW-12S OFF.
- 11) Field screened and sampled with MW-1S, MW-6S, and MW-12S ON; note the slight loss of applied vacuum (~1 in-Hg) and decrease in the concentration of hydrocarbons.
- 12) Field screened and sampled with MW-1S, MW-6S, and MW-12S ON.
- 13) Field screened and sampled with MW-1S, MW-6S, and MW-12S OFF; note the significant increase in the concentration of hydrocarbons.
- 14) The 1-Liter Tedlar® bag was damaged during transportation to the laboratory on 12/11/09; therefore, the samples was recollected on 12/16/09.

**TABLE 9: HVDPE PERFORMANCE & MASS REMOVAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Date	Notes	Possible Runtime (days)	Possible Runtime (hrs)	Hour Meter Reading	Actual Runtime (days)	Actual Runtime (hrs)	System Runtime (%)	Inlet Temp (°F)	Inlet Vac (in-Hg)	Well Velocity (fpm)	Well Flow (scfm)	PRED TPH-g (ppmv)	Mass Removal Rate (lbs/day)	Total Mass Removed (pounds)	Total Mass Removed (gallons)
06/28/07	1 Startup	-	-	10	-	-	-	60	18	850	42	-	-	0	0
07/11/07		13	312	53	2	43	14%	60	22	1,725	85	6,600	224	402	67
07/27/07		16	384	103	2	51	13%	60	20	1,700	83	11,000	368	1,180	197
08/01/07		5	120	160	2	57	47%	60	19	1,900	93	5,500	206	1,668	278
08/10/07	2,3	9	216	350	8	189	88%	60	22	1,800	88	7,700	273	3,820	637
09/28/07	4	49	1,176	896	23	546	46%	60	20	1,700	83	4,000	134	6,865	1,144
10/17/07		19	456	1,239	14	343	75%	60	21	1,100	54	5,100	110	8,446	1,408
11/08/07		22	528	1,709	20	470	89%	60	22	1,100	54	4,000	87	10,141	1,690
11/16/07		8	192	1,874	7	166	86%	60	21	1,100	54	6,000	130	11,038	1,840
11/21/07	5	5	120	1,994	5	120	100%	60	20.5	1,500	74	2,500	74	11,407	1,901
12/04/07		13	312	2,231	10	236	76%	60	20	1,150	56	7,900	179	13,168	2,195
12/26/07		22	528	2,566	14	335	63%	60	18	1,300	64	4,100	105	14,633	2,439
01/15/08		20	480	3,016	19	451	94%	60	19	1,200	59	1,900	45	15,476	2,579
01/22/08	6,7	7	168	3,064	2	48	29%	60	18	1,500	74	1,900	56	15,589	2,598
01/31/08		9	216	3,276	9	212	98%	60	20	1,250	61	2,200	54	16,067	2,678
02/07/08		7	168	3,443	7	167	99%	60	22	1,100	54	2,000	43	16,368	2,728
03/18/08	8,9	40	960	3,653	9	210	22%	60	15	1,400	69	630	17	16,520	2,753
04/01/08		14	336	3,952	12	299	89%	60	19	1,500	74	2,100	62	17,292	2,882
04/30/08		29	696	4,591	27	639	92%	60	19	1,900	93	2,100	79	19,383	3,231
05/29/08		29	696	4,978	16	387	56%	60	19.5	900	44	2,100	37	19,983	3,331
06/26/08		28	672	5,489	21	511	76%	60	23	1,200	59	860	20	20,416	3,403
07/30/08		34	816	6,184	29	694	85%	60	17	1,600	79	2,200	69	22,422	3,737
09/30/08		62	1,488	6,673	20	489	33%	60	9	2,000	98	1,100	43	23,304	3,884
11/04/08		35	840	7,062	16	389	46%	60	11	1,200	59	2,700	64	24,339	4,057
12/02/08		28	672	7,697	26	635	94%	60	10	1,200	59	2,200	52	25,715	4,286



**TABLE 9: HVDPE PERFORMANCE & MASS REMOVAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Date	Notes	Possible Runtime (days)	Possible Runtime (hrs)	Hour Meter Reading	Actual Runtime (days)	Actual Runtime (hrs)	System Runtime (%)	Inlet Temp (°F)	Inlet Vac (in-Hg)	Well Velocity (fpm)	Well Flow (scfm)	PRED TPH-g (ppmv)	Mass Removal Rate (lbs/day)	Total Mass Removed (pounds)	Total Mass Removed (gallons)
01/06/09		35	840	8,298	25	601	72%	60	11	1,200	59	1,200	28	26,425	4,404
02/09/09		34	816	8,300	0	2	0%	60	12	1,200	59	1,200	28	26,427	4,405
03/18/09		37	888	8,320	1	20	2%	60	10	1,400	69	130	4	26,430	4,405
04/21/09		34	816	8,975	27	655	80%	60	11	1,400	69	58	2	26,474	4,412
05/19/09		28	672	9,001	1	26	4%	60	10	1,250	61	190	5	26,479	4,413
08/31/09		104	2,496	9,149	6	148	6%	60	12	1,400	69	870	24	26,626	4,438
09/10/09		10	240	9,260	5	111	46%	60	15	1,500	74	1,700	50	26,859	4,476
09/17/09		7	168	9,411	6	151	90%	60	14	1,300	64	2,600	67	27,277	4,546
09/25/09		8	192	9,602	8	192	100%	60	13	2,000	98	2,700	106	28,126	4,688
10/02/09		7	168	9,771	7	169	100%	60	14	1,100	54	2,400	52	28,491	4,749
10/20/09		18	432	10,131	15	360	83%	60	13	3,000	147	2,500	148	30,706	5,118
11/03/09		14	336	10,468	14	337	100%	60	14	1,500	74	2,000	59	31,536	5,256
12/16/09		43	1,032	10,648	7	180	17%	60	14	2,000	98	1,200	47	31,890	5,315
<b>04/20/10</b>		<b>125</b>	<b>3,000</b>	<b>10,820</b>	<b>7</b>	<b>172</b>	<b>6%</b>	<b>60</b>	<b>13</b>	<b>2,000</b>	<b>98</b>	<b>240</b>	<b>9</b>	<b>31,958</b>	<b>5,326</b>
<b>04/28/10</b>		<b>8</b>	<b>192</b>	<b>11,009</b>	<b>8</b>	<b>189</b>	<b>100%</b>	<b>60</b>	<b>15</b>	<b>1,100</b>	<b>54</b>	<b>120</b>	<b>3</b>	<b>31,979</b>	<b>5,330</b>
<b>04/29/10</b>		<b>1</b>	<b>24</b>	<b>11,033</b>	<b>1</b>	<b>24</b>	<b>100%</b>	<b>60</b>	<b>15</b>	<b>2,000</b>	<b>98</b>	<b>300</b>	<b>12</b>	<b>31,990</b>	<b>5,332</b>
<b>05/05/10</b>		<b>7</b>	<b>168</b>	<b>11,179</b>	<b>7</b>	<b>170</b>	<b>100%</b>	<b>60</b>	<b>15</b>	<b>2,000</b>	<b>98</b>	<b>340</b>	<b>13</b>	<b>32,073</b>	<b>5,346</b>
<b>AVERAGES</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100%</b>	<b>60</b>	<b>15</b>	<b>1,775</b>	<b>87</b>	<b>250</b>	<b>9</b>	<b>-</b>	<b>-</b>

**TABLE 9: HVDPE PERFORMANCE & MASS REMOVAL DATA SUMMARY**

Vic's Auto, 245 8th Street, Oakland, California

Sample Date	Notes	Possible Runtime (days)	Possible Runtime (hrs)	Hour Meter Reading	Actual Runtime (days)	Actual Runtime (hrs)	System Runtime (%)	Inlet Temp (°F)	Inlet Vac (in-Hg)	Well Velocity (fpm)	Well Flow (scfm)	PRED TPH-g (ppmv)	Mass Removal Rate (lbs/day)	Total Mass Removed (pounds)	Total Mass Removed (gallons)
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**NOTES:**

ppmv = parts per million by volume

TPH-g = total petroleum hydrocarbons as gasoline

TPH-g by EPA Method 8015C

in-Hg = inches of mercury (gauge pressure)

hrs = hours

- not analyzed/applicable

fpm = feet per minute

scfm = standard cubic feet per minute

Flow = Velocity x Cross Sectional Area of the Pipe

Cross Sectional Area of 3" Pipe = 0.0491 ft<sup>2</sup>

Well Flow = Well Velocity \* 0.0491

PRED = TPH-g influent concentration

- |  |   |
|--|---|
| 1) System installed and started up on June 26, 2007                  | 6) Propane delivery missed; system shutdown on 01/02/08               |
| 2) Propane delivery missed; system shutdown on 08/06/07              | 7) Propane delivery missed; system shutdown on 01/22/08               |
| 3) Propane delivery missed; system shutdown on 08/21/07              | 8) System shutdown most of February to evaluate free product recovery |
| 4) System down between 09/11 and 09/24/08 due to electrical problems | 9) Catalyst module installed and started up in March of 2008          |
| 5) System expanded; MW-10, MW-11 and MW-12 extraction added online   | 10)   |

**MASS REMOVAL RATE (MRR) ESTIMATE ASSUMPTIONS:**

MRR Estimate = (20,000\*10<sup>-6</sup>)\*(50scfm)\*(1440min/day)\*(28.32L/ft<sup>3</sup>)\*(1mol/22.4L)\*(100g/mol)\*(1lb/454g)

MRR Estimate assumes negligible change in air density, constant concentration and average molecular weight

1 mole occupies 22.4 Liters at STP

MW<sub>gas</sub> = 100 grams/mole (weathered gasoline)

1ft<sup>3</sup> = 28.38 liters

1 gallon gas ~ 6 pounds

STP is 21°C and 1 atm

1 day = 1440 minutes

1 lb = 454 grams

**AVERAGES = average values are shown in red for the current quarter and reporting period**

**APPENDIX A**

**ACPWA SOIL BORING PERMIT**

# Alameda County Public Works Agency - Water Resources Well Permit



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

Application Approved on: 03/01/2010 By jamesy

Permit Numbers: W2010-0123  
Permits Valid from 03/11/2010 to 03/11/2010

Application Id: 1267231109477  
Site Location: 245 8th Street  
Project Start Date: 03/11/2010  
Assigned Inspector: Contact John Shouldice at (510) 670-5424 or johns@acpwa.org

City of Project Site:Oakland

Completion Date:03/11/2010

Applicant: AEI Consultants - Adrian Angel  
2500 Camino Diablo, Walnut Creek, CA 94597  
Property Owner: Victor Lum  
245 8th Street, Oakland, CA 94607  
Client: Adrian Angel  
2500 Camino Diablo, Walnut Creek, CA 94597  
Contact: Adrian Angel

Phone: 408-559-7600

Phone: 510-832-9014

Phone: 408-559-7600

Phone: 408-559-7600  
Cell: 831-331-3547

Receipt Number: WR2010-0057 Total Due: \$265.00  
Payer Name : Peter McIntyre Total Amount Paid: \$265.00  
Paid By: VISA PAID IN FULL

## Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 4 Boreholes  
Driller: PeneCore Drilling - Lic #: 906899 - Method: DP

Work Total: \$265.00

## Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2010-0123	03/01/2010	06/09/2010	4	3.00 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 John Shouldice for an inspection time at 510-670-5424 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. Permittee, 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

## **Alameda County Public Works Agency - Water Resources Well Permit**

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.

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# PROGRAMS AND SERVICES

## Well Standards Program

The Alameda County Public Works Agency, Water Resources is located at:

399 Elmhurst Street

Hayward, CA 94544

For Driving Directions or General Info, Please Contact 510-670-5480 or [wells@acpwa.org](mailto:wells@acpwa.org)

For Drilling Permit information and process contact [James Yoo](mailto:James.Yoo@acpwa.org) at

Phone: 510-670-6633

FAX: 510-782-1939

Email: [Jamesy@acpwa.org](mailto:Jamesy@acpwa.org)

Alameda County Public Works is the administering agency of [General Ordinance Code, Chapter 6.88](#) . The purpose of this chapter is to provide for the regulation of groundwater wells and exploratory holes as required by [California Water Code](#). The provisions of these laws are administered and enforced by Alameda County Public Works Agency through its Well Standards Program.

**Drilling Permit Jurisdictions in Alameda County:** There are four jurisdictions in Alameda County.

### Location: Agency with Jurisdiction Contact Number

Berkeley City of Berkeley Ph: 510-981-7460

Fax: 510-540-5672

Fremont, Newark, Union City Alameda County Water District Ph: 510-668-4460

Fax: 510-651-1760

Pleasanton, Dublin, Livermore, Sunol [Zone 7 Water Agency](#) Ph: 925-454-5000

Fax: 510-454-5728

**The Alameda County Public Works Agency, Water Resources** has the responsibility and authority to issue drilling permits and to enforce the County Water Well Ordinance 73-68. This jurisdiction covers the western Alameda County area of **Oakland, Alameda, Piedmont, Emeryville, Albany, San Leandro, San Lorenzo, Castro Valley, and Hayward** . The purpose of the drilling permits are to ensure that any new well or the destruction of wells, including geotechnical investigations and environmental sampling within the above jurisdiction and within Alameda County will not cause pollution or contamination of ground water or otherwise jeopardize the health, safety or welfare of the people of Alameda County.

**Permits** are required for all work pertaining to wells and exploratory holes at any depth within the jurisdiction of the Well Standards Program. A completed [permit application \(30 Kb\)\\*](#) , along with a site map, should be submitted at least **ten (10) working days prior to the planned start of work**. Submittals should be sent to the address or fax number provided on the application form. When submitting an application via fax, please use a high resolution scan to retain legibility.

### Fees

**Beginning April 11, 2005** , the following fees shall apply:

A permit to construct, rehabilitate, or destroy wells, including cathodic protection wells, but excluding dewatering wells (\*Horizontal hillside dewatering and dewatering for construction period only), shall cost \$300.00 per well.

A permit to bore exploratory holes, including temporary test wells, shall cost \$200 per site. A site includes the project parcel as well as any adjoining parcels.

Please make checks payable to: **Treasurer, County of Alameda**

### Permit Fees are exempt to State & Federal Projects

Applicants shall submit a letter from the agency requesting the fee exemption.

**Scheduling Work/Inspections:**

Alameda County Public Works Agency (ACPWA), Water Resources Section requires scheduling and inspection of permitted work. All drilling activities must be scheduled in advance. Availability of inspections will vary from week to week and will come on a first come, first served bases. To ensure inspection availability on your desired or driller scheduled date, the following procedures are required:

Please contact **James Yoo at 510-670-6633** to schedule the inspection date and time (You must have drilling permit approved prior to scheduling).

Schedule the work as far in advance as possible (at least 5 days in advance); and confirm the scheduled drilling date(s) at least 24 hours prior to drilling.

Once the work has been scheduled, an ACPWA Inspector will coordinate the inspection requirements as well as how the Inspector can be reached if they are not at the site when Inspection is required. Expect for special circumstances given, all work will require the inspection to be conducted during the working hours of 8:30am to 2:30pm., Monday to Friday, excluding holidays.

**Request for Permit Extension:**

Permits are only valid from the start date to the completion date as stated on the drilling permit application and Conditions of Approval. To request an extension of a drilling permit application, applicants must request in writing prior to the completion date as set forth in the Conditions of Approval of the drilling permit application. Please send fax or email to Water Resources Section, Fax 510-782-1939 or email at [wells@acpwa.org](mailto:wells@acpwa.org). There are no additional fees for permit extensions or for re-scheduling inspection dates. You may not extend your drilling permit dates beyond 90 days from the approval date of the permit application. **NO refunds** shall be given back after 90 days and the permit shall be deemed voided.

**Cancel a Drilling Permit:**

Applicants may cancel a drilling permit only in writing by mail, fax or email to Water Resources Section, Fax 510-782-1939 or email at [wells@acpwa.org](mailto:wells@acpwa.org). If you do not cancel your drilling permit application before the drilling completion date or notify in writing within 90 days, Alameda County Public Works Agency, Water Resources Section may void the permit and No refunds may be given back.

**Refunds/Service Charge:**

A service charge of \$25.00 dollars for the first check returned and \$35.00 dollars for each subsequent check returned.

Applicants who cancel a drilling permit application **before** we issue the approved permit(s), will receive a **FULL** refund (at any amount) and will be mailed back within two weeks.

Applicants who cancel a drilling permit application **after** a permit has been issued will then be charged a service fee of \$50.00 (fifty Dollars).

To collect the remaining funds will be determined by the amount of the refund to be refunded (see process below).

Board of Supervisors Minute Order, File No. 9763, dated January 9, 1996, gives blanket authority to the Auditor-Controller to process claims, from all County departments for the refund of fees which do not exceed \$500 (Five Hundred Dollars)(with the exception of the County Clerk whose limit is \$1,500).

Refunds over the amounts must be authorized by the Board of Supervisors Minute Order, File No. 9763 require specific approval by the Board of Supervisors. The forms to request for refunds under \$500.00 (Five Hundred Dollars) are available at this office or any County Offices. If the amount is exceeded, a Board letter and Minute Order must accompany the claim. Applicant shall fill out the request form and the County Fiscal department will process the request.

**Enforcement**

Penalty. Any person who does any work for which a permit is required by this chapter and who fails to obtain a permit shall be guilty of a misdemeanor punishable by fine not exceeding Five Hundred Dollars (\$500.00) or by imprisonment not exceeding six months, or by both such fine and imprisonment, and such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such

violation is committed, continued, or permitted, and shall be subject to the same punishment as for the original offense. (Prior gen. code §3-160.6)

**Enforcement actions will be determined by this office on a case-by-case basis**

Drilling without a permit shall be the cost of the permit(s) and a fine of \$500.00 (Five Hundred Dollars).

**Well Completion Reports** (State DWR-188 forms) must be filed with the Well Standards Program within 60 days of completing work. Staff will review the report, assign a state well number, and then forward it to the California Department of Water Resources (DWR). Drillers should not send completed reports to DWR directly. Failure to file a Well Completion Report or deliberate falsification of the information is a misdemeanor; it is also grounds for disciplinary action by the Contractors' State License Board. Also note that filed Well Completion Reports are considered private record protected by state law and can only be released to the well owner or those specifically authorized by government agencies.

See our website ([www.acgov.org/pwa/wells/index.shtml](http://www.acgov.org/pwa/wells/index.shtml)) for links to additional forms.



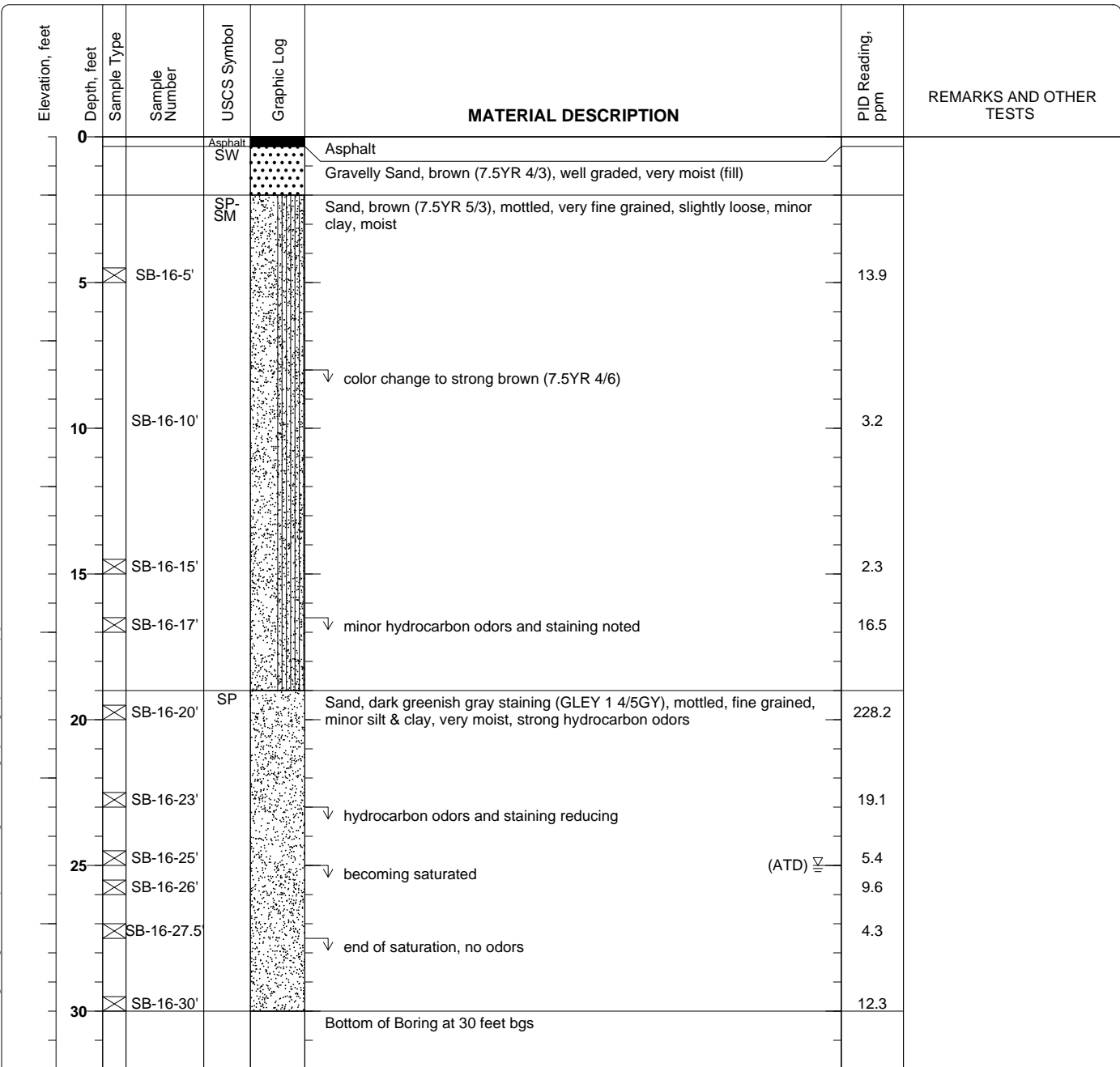
**APPENDIX B**

**SOIL BORING LOGS**

**Project: Victor Lum**  
**Project Location: 245 8th Street, Oakland, CA**  
**Project Number: 116907**

**Log of Boring SB-16**  
 Sheet 1 of 1

Date(s) Drilled <b>May 17, 2010</b>	Logged By <b>Adrian Angel</b>	Checked By <b>Peter McIntyre</b>
Drilling Method <b>Direct Push</b>	Drill Bit Size/Type <b>2.8 inch</b>	Total Depth of Borehole <b>30 feet bgs</b>
Drill Rig Type <b>Limited-access Track Rig 54LT</b>	Drilling Contractor <b>PeneCore</b>	Approximate Surface Elevation
Groundwater Level and Date Measured <b>25 feet ATD</b>	Sampling Method(s) <b>Tube</b>	Well Permit. <b>ACPWA Permit # W2010-0123</b>
Borehole Backfill <b>Tremie; neat cement grout</b>	Location	



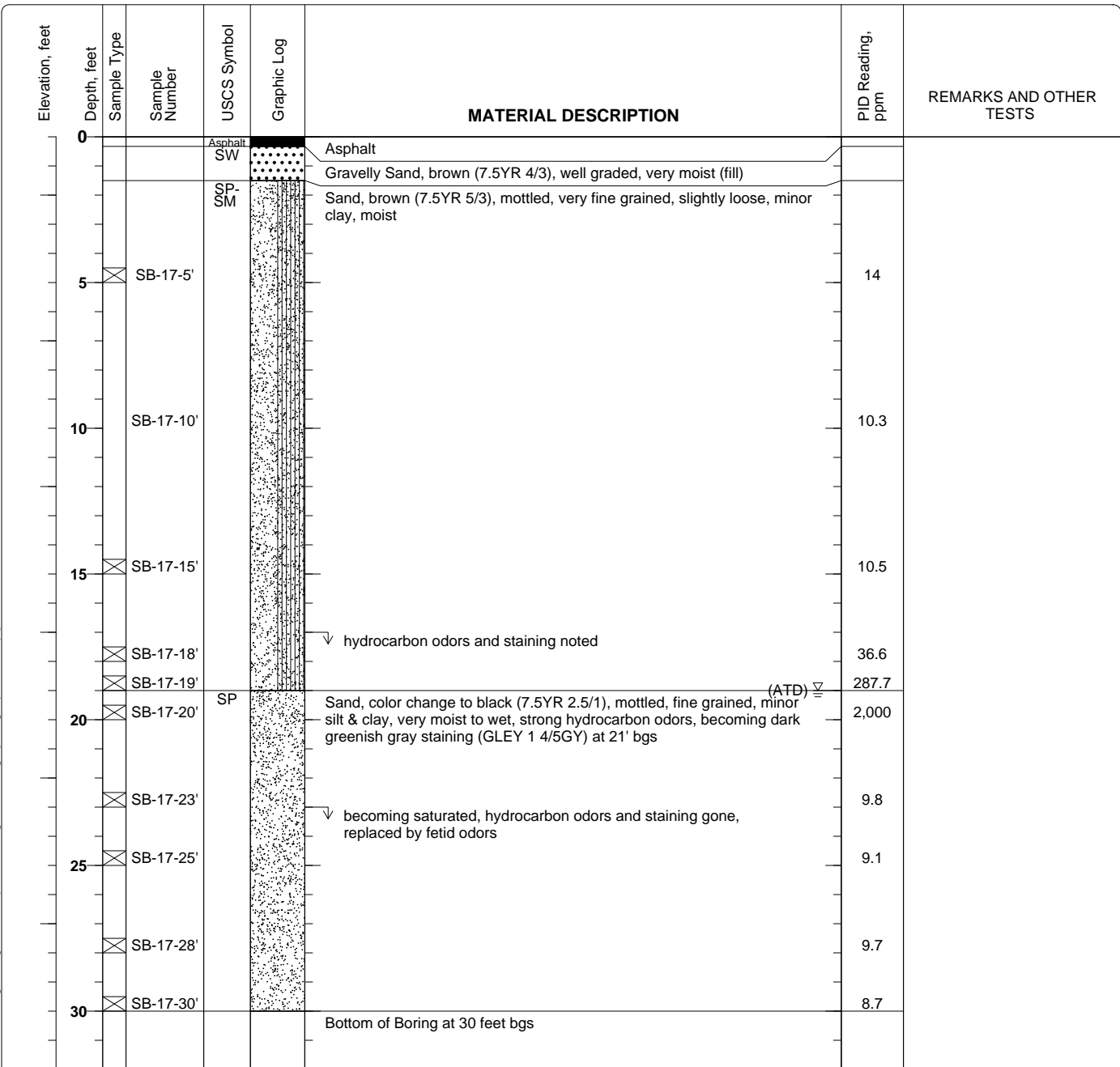
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Figure

**Project: Victor Lum**  
**Project Location: 245 8th Street, Oakland, CA**  
**Project Number: 116907**

**Log of Boring SB-17**  
 Sheet 1 of 1

Date(s) Drilled <b>March 17, 2010</b>	Logged By <b>Adrian Angel</b>	Checked By <b>Peter McIntyre</b>
Drilling Method <b>Direct Push</b>	Drill Bit Size/Type <b>2.8 inch</b>	Total Depth of Borehole <b>30 feet bgs</b>
Drill Rig Type <b>Limited-access Track Rig 54LT</b>	Drilling Contractor <b>PeneCore</b>	Approximate Surface Elevation
Groundwater Level and Date Measured <b>19 feet ATD</b>	Sampling Method(s) <b>Tube</b>	Well Permit. <b>ACPWA Permit # W2010-0123</b>
Borehole Backfill <b>Tremie; neat cement grout</b>	Location	



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Figure

**Project: Victor Lum**  
**Project Location: 245 8th Street, Oakland, CA**  
**Project Number: 116907**

**Log of Boring SB-18**  
 Sheet 1 of 1

Date(s) Drilled <b>March 17, 2010</b>	Logged By <b>Adrian Angel</b>	Checked By <b>Peter McIntyre</b>
Drilling Method <b>Direct Push</b>	Drill Bit Size/Type <b>2.8 inch</b>	Total Depth of Borehole <b>30 feet bgs</b>
Drill Rig Type <b>Limited-access Track Rig 54LT</b>	Drilling Contractor <b>PeneCore</b>	Approximate Surface Elevation
Groundwater Level and Date Measured <b>19.5 feet ATD</b>	Sampling Method(s) <b>Tube</b>	Well Permit. <b>ACPWA Permit # W2010-0123</b>
Borehole Backfill <b>Tremie; neat cement grout</b>	Location	

Elevation, feet	Depth, feet	Sample Type	Sample Number	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	REMARKS AND OTHER TESTS
0				Asphalt SW		Asphalt		
				SP-SM		Gravelly Sand, brown (7.5YR 4/3), well graded, very moist (fill)		
						Sand, brown (7.5YR 5/3), mottled, very fine grained, slightly loose, minor clay, moist		
	5	X	SB-18-5'				679.8	
	10		SB-18-10'				204	
	15	X	SB-18-15'				122.4	
		X	SB-18-17'				36.6	
	20	X	SB-18-20'	SP		Sand, dark greenish gray staining (GLEY 1 4/5GY), mottled, fine grained, minor silt & clay, very moist to slightly wet, strong hydrocarbon odors	223.3	(ATD) ∇
		X	SB-18-21'				1,232	
		X	SB-18-22'				542.2	
		X	SB-18-23'				48.5	
		X	SB-18-24'				76	
	25	X	SB-20-25'				74.6	
		X	SB-18-26.5				25.5	
						hydrocarbon odors and staining reducing		
						color change from dark greenish gray to brown (7.5YR 5/3), becoming saturated		
	30	X	SB-18-30'				28.5	
						Bottom of Boring at 30 feet bgs		

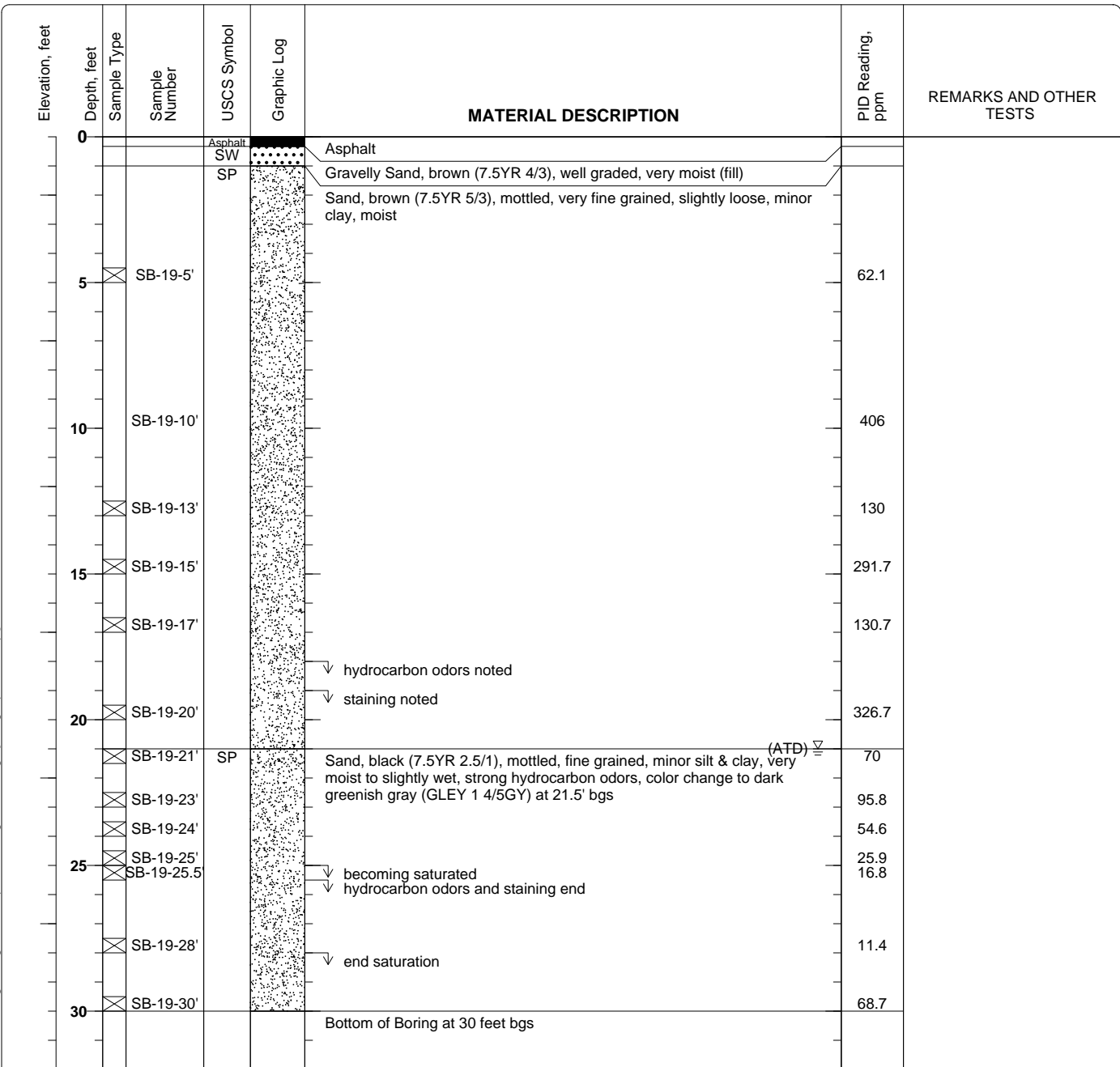
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Figure

**Project: Victor Lum**  
**Project Location: 245 8th Street, Oakland, CA**  
**Project Number: 116907**

**Log of Boring SB-19**  
 Sheet 1 of 1

Date(s) Drilled	March 17, 2010	Logged By	Adrian Angel	Checked By	Peter McIntyre
Drilling Method	Direct Push	Drill Bit Size/Type	2.8 inch	Total Depth of Borehole	30 feet bgs
Drill Rig Type	Limited-access Track Rig 54LT	Drilling Contractor	PeneCore	Approximate Surface Elevation	
Groundwater Level and Date Measured	21 feet ATD	Sampling Method(s)	Tube	Well Permit.	ACPWA Permit # W2010-0123
Borehole Backfill	Tremie; neat cement grout	Location			



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Figure

## **APPENDIX C**

### **LABORATORY ANALYTICAL REPORTS w/ CHAIN OF CUSTODY DOCUMENTATION**



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vics Automotive	Date Sampled: 03/17/10
	Client Contact: Adrian Angel	Date Received: 03/18/10
	Client P.O.: #WC082303	Date Reported: 03/26/10
		Date Completed: 03/26/10

**WorkOrder: 1003559**

March 26, 2010

Dear Adrian:

Enclosed within are:

- 1) The results of the **20** analyzed samples from your project: **#116907; Vics Automotive**,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.





**McCAMPBELL ANALYTICAL INC.**

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5360

Telephone: (925) 798-1620

Fax: (925) 798-1622

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**

RUSH  24 HR  48 HR  72 HR  5 DAY

EDF Required?  Yes  No

Email PDF Report:  YES

Report To: Adrian Angel

Bill To: Same

Company: AEI Consultants

PO #: WC082303

2500 Camino Diablo, Suite 200 *brockford@aeiconsultants.com*

Walnut Creek, CA 94597 E-Mail: *aangel@aeiconsultants.com*

Tel: (408) 559-7600

Fax: (408) 559-7601

Project #: 116907

Project Name: Vics Automotive

Project Location: 245 8<sup>th</sup> Street, Oakland, CA

Sampler Signature: *[Signature]*

**Analysis Request**

**Other**

**Comments**

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other			
SB-18-17'		3/17/10	10:10A	1	A	X						X					
SB-18-20'			10:15A	1	C							X					
SB-18-21'			10:25A	1	A							X	X	SAVE LEFT OVERS	X		
SB-18-22'			10:25A	1	A							X					HOLD
SB-18-23'			10:20A	1	A							X					
SB-18-24'			10:30A	1	A							X					HOLD
SB-18-25'			10:30A	1	A							X					
SB-18-26.5'			10:50A	1	A							X					HOLD
SB-18-28'			10:40A	1	A							X					HOLD
SB-18-30'			10:50A	1	A							X					HOLD
SB-19-5'			11:30A	1	A							X					HOLD
SB-19-10'			11:40A	1	A							X					HOLD
SB-19-13'			11:45A	1	A							X					HOLD
SB-19-15'			11:45A	1	A							X					HOLD

TPH as Diesel (8015) *unavailable*  
 Total Petroleum Oil & Grease (5520 E&F/B&F)  
 Total Petroleum Hydrocarbons (418.1)  
 Pesticides by EPA 8081  
 BTEX ONLY (EPA 602 / 8020)  
 Organo-chlorine pesticides EPA 8081  
 PCBs EPA 608 / 9080  
 VOCs EPA 624 / 8260  
 EPA 625 / 8270  
 PAH's / PNA's by EPA 625 / 8270 / 8310  
 CAM-17 Metals  
 Arsenic, copper, lead by EPA 6010 (TTL)  
 TPH-d by 8015 with silica gel clean up  
 MBTEX by EPA 8021/8015

*TPH as meter oil (8015)*

Relinquished By: *[Signature]*

Date: 3/18/10 Time: 1:40P

Received By: *[Signature]*

Relinquished By: *[Signature]*

Date: 3/18/10 Time: 1:05

Received By: *[Signature]*

Relinquished By:

Date: Time:

Received By:

ICE/C\* \_\_\_\_\_ PRESERVATION \_\_\_\_\_  
 GOOD CONDITION \_\_\_\_\_ APPROPRIATE \_\_\_\_\_  
 HEAD SPACE ABSENT \_\_\_\_\_ CONTAINERS \_\_\_\_\_  
 DECHLORINATED IN LAB \_\_\_\_\_ PERSERVED IN LAB \_\_\_\_\_

**McCAMPBELL ANALYTICAL INC.**

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

**CHAIN OF CUSTODY RECORD**  
**TURN AROUND TIME**

RUSH  24 HR  48 HR  72 HR  5 DAY

EDF Required?  Yes  No Email PDF Report:  YES

Report To: Adrian Angel Bill To: Same  
Company: AEI Consultants PO #: WC082303

2500 Camino Diablo, Suite 200 Walnut Creek, CA 94597  
Tel: (408) 559-7600 Project #: 116907  
E-Mail: aangel@aeiconsultants.com Fax: (408) 559-7601  
Project Name: Vics Automotive  
Project Location: 245 8<sup>th</sup> Street, Oakland, CA  
Sampler Signature: *[Signature]*

**Analysis Request**

**Other** **Comments**

BTEX & TPH as Gas (602/8020 + 8015)  
TPH as Diesel (8015) w/ *[scribble]*  
Total Petroleum Oil & Grease (5520 E&P/B&F)  
Total Petroleum Hydrocarbons (418.1)  
Pesticides by EPA 8081  
BTEX ONLY (EPA 602 / 8020)  
Organo-chlorine pesticides EPA 8081  
PCBs EPA 608 / 8080  
VOCs EPA 624 / 8260  
EPA 625 / 8270  
PAH's / PNA's by EPA 625 / 8270 / 8310  
CAM-17 Metals  
Arsenic, copper, lead by EPA 6010 (TTL)  
TPH-d by 8015 with silica gel clean up  
MBTEX by EPA 8021/8015

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other			
SB-19-17'		3/19/10	12:00P	1	A	X						X	X				
SB-19-20'			11:50A	1	C												
SB-19-21'			1:55P	1	C												HOLD
SB-19-23'			1:10P	1	C												
SB-19-24'			1:03P	1	C												HOLD
SB-19-25'			1:05P	1	C												
SB-19-25.5'			1:20P	1	C												HOLD
SB-19-28'			1:20P	1	C												HOLD
SB-19-30'			1:25P	1	C												HOLD
SB-16-5'			1:40P	1	C												HOLD
SB-16-10'			1:45P	1	C												HOLD
SB-16-15'			1:50P	1	C												HOLD
SB-16-17'			3:20P	1	C												
SB-16-20'			3:18P	1	C												

Relinquished By: <i>[Signature]</i>	Date: 3/18/10	Time: 1:40P	Received By: <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>	Date: 3/19/10	Time: 1:05P	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:

ICE? \_\_\_\_\_  
GOOD CONDITION \_\_\_\_\_  
HEAD SPACE ABSENT \_\_\_\_\_  
DECHLORINATED IN LAB \_\_\_\_\_

VOAS \_\_\_\_\_  
PRESERVATION APPROPRIATE \_\_\_\_\_  
CONTAINERS \_\_\_\_\_  
PERSERVED IN LAB \_\_\_\_\_

METALS \_\_\_\_\_  
OTHER \_\_\_\_\_

**McCAMPBELL ANALYTICAL INC.**

1538 Willow Pass Road, Pittsburg, CA 94565

Telephone: (925) 252-9262

Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**

RUSH  24 HR  48 HR  72 HR  5 DAY

EDF Required?  Yes  No

PDF Required?  Yes  No

Report To: Ricky Bradford

Bill To: AEI Consultants

Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597

P.O.#WC082303

E-Mail: rbradford@aeiconsultants.com

Telephone: (925) 746-6000

Fax: (925) 746-6099

AEI Project No. 116907

Project Name: Vic's Automotive

Project Location: 245 8<sup>th</sup> Street, Oakland, California 94607

Sampler Signature: *[Signature]*

Analysis Request

Other

Comments

SAMPLE ID	FIELD POINT NAME	SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015C)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	HVOC's - (8010 target list) by EPA 8260B	MTBE Only by EPA 8260B			
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other																				
SB-16-23		3/17/0	3:40	1	A	X					X																							
SB-16-25			3:30	1	A																													
SB-16-26			3:50	1	A																													HOLD
SB-16-30			3:55	1	A																													HOLD
SB-16-27.5			3:07	1	A																													HOLD
SB-18W				4	VOH	X																												HOLD

Relinquished By: *[Signature]*  
 Date: 3/18/0  
 Time: 1:40

Received By: *[Signature]*  
 Date: 3/18/0  
 Time: 1:05

ICE/GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB \_\_\_\_\_  
 PRESERVATION APPROPRIATE CONTAINERS PERSERVED IN LAB \_\_\_\_\_  
 VOAS O&G METALS OTHER

*[Handwritten mark]*

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1003559

ClientCode: AEL

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Report to:	Adrian Angel	Email: aangel@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT: 5 days
	AEI Consultants	cc: rbradford@aeiconsultants.com		AEI Consultants	Date Received: 03/18/2010
	2500 Camino Diablo, Ste. #200	PO: #WC082303		2500 Camino Diablo, Ste. #200	Date Printed: 03/19/2010
	Walnut Creek, CA 94597	ProjectNo: #116907; Vics Automotive		Walnut Creek, CA 94597	
	(408) 559-7600 FAX (408) 559-7601			dmockel@aeiconsultants.com	

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1003559-004	SB-17-18'	Soil	3/17/2010 8:40	<input type="checkbox"/>	A	A											
1003559-005	SB-17-19'	Soil	3/17/2010 8:50	<input type="checkbox"/>	A		A										
1003559-006	SB-17-20'	Soil	3/17/2010 8:45	<input type="checkbox"/>	A		A										
1003559-008	SB-17-23'	Soil	3/17/2010 9:05	<input type="checkbox"/>	A												
1003559-014	SB-18-15'	Soil	3/17/2010 10:15	<input type="checkbox"/>	A												
1003559-015	SB-18-17'	Soil	3/17/2010 10:10	<input type="checkbox"/>	A												
1003559-016	SB-18-20'	Soil	3/17/2010 10:05	<input type="checkbox"/>	A												
1003559-017	SB-18-21'	Soil	3/17/2010 10:25	<input type="checkbox"/>	A		A										
1003559-019	SB-18-23'	Soil	3/17/2010 10:20	<input type="checkbox"/>	A												
1003559-021	SB-18-25'	Soil	3/17/2010 10:30	<input type="checkbox"/>	A												
1003559-028	SB-19-15'	Soil	3/17/2010 11:45	<input type="checkbox"/>	A												
1003559-029	SB-19-17'	Soil	3/17/2010 12:00	<input type="checkbox"/>	A												
1003559-030	SB-19-20'	Soil	3/17/2010 11:50	<input type="checkbox"/>	A												
1003559-032	SB-19-23'	Soil	3/17/2010 13:10	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTX S	2	PREDF REPORT	3	TPH(DMO) S	4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments: Off hold 3/19/10

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

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1003559

ClientCode: AEL

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Adrian Angel  
AEI Consultants  
2500 Camino Diablo, Ste. #200  
Walnut Creek, CA 94597  
(408) 559-7600    FAX (408) 559-7601

Email: aangel@aeiconsultants.com  
cc: rbradford@aeiconsultants.com  
PO: #WC082303  
ProjectNo: #116907; Vics Automotive

**Bill to:**

Denise Mockel  
AEI Consultants  
2500 Camino Diablo, Ste. #200  
Walnut Creek, CA 94597  
dmockel@aeiconsultants.com

**Requested TAT: 5 days**

**Date Received: 03/18/2010**

**Date Printed: 03/19/2010**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1003559-034	SB-19-25'	Soil	3/17/2010 13:05	<input type="checkbox"/>	A												
1003559-040	SB-16-15'	Soil	3/17/2010 13:50	<input type="checkbox"/>	A												
1003559-041	SB-16-17'	Soil	3/17/2010 15:20	<input type="checkbox"/>	A												
1003559-042	SB-16-20'	Soil	3/17/2010 15:05	<input type="checkbox"/>	A												
1003559-043	SB-16-23'	Soil	3/17/2010 15:40	<input type="checkbox"/>	A												
1003559-044	SB-16-25'	Soil	3/17/2010 15:30	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTX S	2	PREDF REPORT	3	TPH(DMO) S	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Melissa Valles**

**Comments:**    Off hold 3/19/10

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



### Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **3/18/2010 3:05:00 PM**  
 Project Name: **#116907; Vics Automotive** Checklist completed and reviewed by: **Melissa Valles**  
 WorkOrder N°: **1003559** Matrix Soil/Water Carrier: Derik Cartan (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present? Yes  No   
 Chain of custody signed when relinquished and received? Yes  No   
 Chain of custody agrees with sample labels? Yes  No   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

#### Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 4.8°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
 Sample labels checked for correct preservation? Yes  No   
 Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No   
 (Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----

Client contacted: Date contacted: Contacted by:

Comments:



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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vics Automotive	Date Sampled: 03/17/10
	Client Contact: Adrian Angel	Date Received: 03/18/10
	Client P.O.: #WC082303	Date Extracted: 03/19/10
		Date Analyzed: 03/19/10-03/26/10

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 1003559

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
004A	SB-17-18'	S	900	---	ND<0.25	ND<0.25	0.52	27	50	93	d2
005A	SB-17-19'	S	1900	---	ND<1.0	4.5	4.4	83	200	120	d2
006A	SB-17-20'	S	4300	---	87	320	85	430	1000	---#	d1
008A	SB-17-23'	S	ND	---	ND	ND	ND	ND	1	85	
014A	SB-18-15'	S	ND	---	ND	ND	ND	ND	1	82	
015A	SB-18-17'	S	ND	---	ND	ND	ND	ND	1	86	
016A	SB-18-20'	S	250	---	2.5	8.7	2.7	18	100	95	d1
017A	SB-18-21'	S	9.6	---	0.050	0.14	0.051	0.31	5	85	d1
019A	SB-18-23'	S	1.8	---	0.12	0.073	0.044	0.18	1	78	d1
021A	SB-18-25'	S	6.1	---	0.012	1.3	0.17	0.99	1	90	d2
028A	SB-19-15'	S	ND	---	ND	ND	ND	ND	1	81	
029A	SB-19-17'	S	18	---	ND	0.018	ND	0.021	1	83	d7
030A	SB-19-20'	S	7500	---	100	490	130	700	200	---#	d1
032A	SB-19-23'	S	ND	---	ND	ND	ND	ND	1	81	
034A	SB-19-25'	S	ND	---	ND	ND	ND	ND	1	81	
040A	SB-16-15'	S	ND	---	ND	ND	ND	ND	1	86	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

- d1) weakly modified or unmodified gasoline is significant
- d2) heavier gasoline range compounds are significant (aged gasoline?)
- d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
- d9) no recognizable pattern



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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vics Automotive	Date Sampled: 03/17/10
	Client Contact: Adrian Angel	Date Received: 03/18/10
	Client P.O.: #WC082303	Date Extracted: 03/19/10
		Date Analyzed: 03/19/10-03/26/10

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 1003559

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
041A	SB-16-17'	S	34	---	ND	ND	ND	0.20	1	88	d7,d9
042A	SB-16-20'	S	2100	---	ND<1.0	ND<1.0	1.1	68	200	---#	d2
043A	SB-16-23'	S	5.0	---	ND	0.056	0.019	0.18	1	85	d1
044A	SB-16-25'	S	2.0	---	ND	0.028	0.0050	0.041	1	86	d1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant  
 d2) heavier gasoline range compounds are significant (aged gasoline?)  
 d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram  
 d9) no recognizable pattern





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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vics Automotive	Date Sampled: 03/17/10
	Client Contact: Adrian Angel	Date Received: 03/18/10
	Client P.O.: #WC082303	Date Extracted: 03/19/10
		Date Analyzed: 03/20/10-03/23/10

### Total Extractable Petroleum Hydrocarbons\*

Extraction method: SW3550C

Analytical methods: SW8015B

Work Order: 1003559

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1003559-005A	SB-17-19'	S	580	ND<100	20	100	e4,e2
1003559-006A	SB-17-20'	S	760	ND<100	20	107	e4,e2
1003559-017A	SB-18-21'	S	4.1	ND	1	112	e4,e2

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	ug/L
	S	1.0	5.0	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

e2) diesel range compounds are significant; no recognizable pattern  
e4) gasoline range compounds are significant.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 49351

WorkOrder 1003559

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 1003523-011A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	0.60	109	110	0.934	108	110	1.31	70 - 130	20	70 - 130	20
MTBE	ND	0.10	104	103	0.983	103	103	0	70 - 130	20	70 - 130	20
Benzene	ND	0.10	93.7	98.4	4.89	94	94.2	0.222	70 - 130	20	70 - 130	20
Toluene	ND	0.10	91.9	97.3	5.68	93	93	0	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	92.9	98.3	5.64	93.6	94.1	0.529	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	95.8	101	5.15	96	97.4	1.39	70 - 130	20	70 - 130	20
%SS:	88	0.10	89	101	12.1	97	103	5.94	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 49351 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1003559-004A	03/17/10 8:40 AM	03/19/10	03/19/10 10:50 PM	1003559-005A	03/17/10 8:50 AM	03/19/10	03/19/10 11:20 PM
1003559-006A	03/17/10 8:45 AM	03/19/10	03/19/10 11:50 PM	1003559-008A	03/17/10 9:05 AM	03/19/10	03/25/10 8:08 PM
1003559-014A	03/17/10 10:15 AM	03/19/10	03/25/10 8:38 PM	1003559-015A	03/17/10 10:10 AM	03/19/10	03/25/10 4:37 PM
1003559-016A	03/17/10 10:05 AM	03/19/10	03/20/10 1:50 AM	1003559-017A	03/17/10 10:25 AM	03/19/10	03/23/10 3:29 AM
1003559-019A	03/17/10 10:20 AM	03/19/10	03/23/10 8:00 PM	1003559-021A	03/17/10 10:30 AM	03/19/10	03/23/10 4:31 PM
1003559-028A	03/17/10 11:45 AM	03/19/10	03/23/10 5:04 PM	1003559-029A	03/17/10 12:00 PM	03/19/10	03/23/10 6:29 PM
1003559-030A	03/17/10 11:50 AM	03/19/10	03/20/10 5:48 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 49373

WorkOrder 1003559

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 1003559-040A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	0.60	105	109	3.91	100	107	7.14	70 - 130	20	70 - 130	20
MTBE	ND	0.10	114	109	4.40	104	105	1.56	70 - 130	20	70 - 130	20
Benzene	ND	0.10	94.2	88.5	6.26	88.5	90.9	2.73	70 - 130	20	70 - 130	20
Toluene	ND	0.10	94.4	89	5.83	89.2	91.5	2.58	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	93.4	88.4	5.43	88.7	90.9	2.37	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	93.6	89.5	4.45	89.9	91.8	2.14	70 - 130	20	70 - 130	20
%SS:	86	0.10	81	88	8.66	88	90	2.60	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 49373 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1003559-032A	03/17/10 1:10 PM	03/19/10	03/26/10 3:57 PM	1003559-034A	03/17/10 1:05 PM	03/19/10	03/25/10 5:51 PM
1003559-040A	03/17/10 1:50 PM	03/19/10	03/22/10 11:03 PM	1003559-041A	03/17/10 3:20 PM	03/19/10	03/22/10 11:33 PM
1003559-042A	03/17/10 3:05 PM	03/19/10	03/22/10 11:58 AM	1003559-043A	03/17/10 3:40 PM	03/19/10	03/23/10 8:30 PM
1003559-044A	03/17/10 3:30 PM	03/19/10	03/23/10 9:00 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 49374

WorkOrder 1003559

Analyte	EPA Method SW8015B		Extraction SW3550C						Spiked Sample ID: 1003559-017A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	4.1	40	117	119	1.70	105	106	0.797	70 - 130	30	70 - 130	30
%SS:	112	25	111	112	1.54	92	92	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 49374 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1003559-005A	03/17/10 8:50 AM	03/19/10	03/20/10 6:25 AM	1003559-006A	03/17/10 8:45 AM	03/19/10	03/20/10 7:32 AM
1003559-017A	03/17/10 10:25 AM	03/19/10	03/23/10 10:39 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vics Automotive	Date Sampled: 03/17/10
	Client Contact: Adrian Angel	Date Received: 03/18/10
	Client P.O.: #WC082303	Date Reported: 04/05/10
		Date Completed: 04/05/10

**WorkOrder: 1003559**

April 05, 2010

Dear Adrian:

Enclosed within are:

- 1) The results of the **4** analyzed samples from your project: **#116907; Vics Automotive**,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

1003559

**McCAMPBELL ANALYTICAL INC.**  
 110 2<sup>ND</sup> AVENUE SOUTH, #D7  
 PACHECO, CA 94553-5560  
 Telephone: (925) 798-1620 Fax: (925) 798-1622

**CHAIN OF CUSTODY RECORD**  
**TURN AROUND TIME**       
 RUSH 24 HR 48 HR 72 HR 5 DAY  
 EDF Required?  Yes  No Email PDF Report: YES

Report To: Adrian Angel Bill To: Same  
 Company: AEI Consultants PO #: WC082303  
 2500 Camino Diablo, Suite 200 rbradford@aeiconsultants.com  
 Walnut Creek, CA 94597 E-Mail: aangel@aeiconsultants.com  
 Tel: (408) 559-7600 Fax: (408) 559-7601  
 Project #: 116907 Project Name: Vics Automotive  
 Project Location: 245 8<sup>th</sup> Street, Oakland, CA  
 Sampler Signature: *[Signature]*

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX						METHOD PRESERVED	Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice				
SB-17-5		3/17/10	8:25A	1	A	X						X	BTEX & TPH as Gas (502/8020 + 8015) TPH as Diesel (8015) <i>[initials]</i>		<del>Hold</del> 3/24/10 5day
SB-17-10'			8:35A	1	C								Total Petroleum Oil & Grease (5520 E&F/B&F)		HOLD
SB-17-15'			8:38A	1	C								Total Petroleum Hydrocarbons (418.1)		HOLD
SB-17-18'			8:40A	1	C								Pesticides by EPA 8081		
SB-17-19'			8:50A	1	C								BTEX ONLY (EPA 602 / 8020)		
SB-17-20'			8:49A	1	C								Organochlorine pesticides EPA 8081		
SB-17-20-2up				1	C								PCBs EPA 608 / 8080		
SB-17-23'			9:05A	1	C								VOCs EPA 624 / 8260		
SB-17-25'			9:15A	1	C								EPA 625 / 8270		
SB-17-28'			9:16A	1	C								PAH's / PNA's by EPA 625 / 8270 / 8310		
SB-17-30'			9:20A	1	C								CAM-17 Metals		
SB-18-5'			9:55A	1	C								Arsenic, copper, lead by EPA 6010 (TTLIC)		
SB-18-10'			10:00A	1	C								TPH-d by 8015 with silica gel clean up		
SB-18-15'			10:15A	1	C								MBTEX by EPA 8021/8015		
													TPH as motor oil (8015)		

Relinquished By: *[Signature]* Date: 3/17/10 Time: 1:40P Received By: *[Signature]*  
 Relinquished By: *[Signature]* Date: 3/18/10 Time: 15:05 Received By: *[Signature]*  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/C 4.8  
 GOOD CONDITION  PRESERVATION APPROPRIATE   
 HEAD SPACE ABSENT  CONTAINERS   
 DECHLORINATED IN LAB \_\_\_\_\_ PERSERVED IN LAB \_\_\_\_\_  
 VOAS O&G METALS OTHER

off hold 3/19/10 per email

**McCAMPBELL ANALYTICAL INC.**

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**

RUSH  24 HR  48 HR  72 HR  5 DAY

EDF Required?  Yes  No Email PDF Report:  YES

Report To: Adrian Angel Bill To: Same  
Company: AEI Consultants PO #: WC082303

2500 Camino Diablo, Suite 200 Walnut Creek, CA 94597  
Tel: (408) 559-7600 Project #: 116907  
Project Location: 245 8<sup>th</sup> Street, Oakland, CA  
E-Mail: aangel@aeiconsultants.com  
Fax: (408) 559-7601  
Project Name: Vics Automotive  
Sampler Signature: *[Signature]*

**Analysis Request**

**Other**

**Comments**

BTEX & TPH as Gas (402/8020 + 8015)  
TPH as Diesel (8015) w/ ~~silica gel clean up~~  
Total Petroleum Oil & Grease (3520 E&F/B&F)  
Total Petroleum Hydrocarbons (418.1)  
Pesticides by EPA 8081  
BTEX ONLY (EPA 602 / 8020)  
Organo-chlorine pesticides EPA 8081  
PCBs EPA 608 / 8080  
VOCs EPA 624 / 8260  
EPA 625 / 8270  
PAH's / PNA's by EPA 625 / 8270 / 8310  
CAM-17 Metals  
Arsenic, copper, lead by EPA 6010 (TTLIC)  
TPH-d by 8015 with silica gel clean up  
MBTEX by EPA 8021/8015  
**TPH (D,MO) 3/24/10 5day**

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other				
SB-19-17'		3/19/10	12:50P	1	A	X						X						
SB-19-20'			11:50A	1	C													
SB-19-21'			1:15P	1	C													HOLD
SB-19-23'			1:10P	1	C													HOLD
SB-19-24'			1:03P	1	C													HOLD
SB-19-25'			1:05P	1	C													HOLD
SB-19-25.5'			1:20P	1	C													HOLD
SB-19-28'			1:20P	1	C													HOLD
SB-19-30'			1:25P	1	C													HOLD
SB-16-5'			1:40P	1	C													HOLD
SB-16-10'			1:45P	1	C													HOLD
SB-16-15'			1:50P	1	C													HOLD
SB-16-17'			3:20P	1	C													
SB-16-20'			3:15P	1	C													

Relinquished By: *[Signature]* Date: 3/19/10 Time: 1:40P Received By: *[Signature]*  
Relinquished By: *[Signature]* Date: 3/19/10 Time: 1505 Received By: *[Signature]*  
Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICEA: \_\_\_\_\_ PRESERVATION \_\_\_\_\_  
GOOD CONDITION \_\_\_\_\_ APPROPRIATE \_\_\_\_\_  
HEAD SPACE ABSENT \_\_\_\_\_ CONTAINERS \_\_\_\_\_  
DECLORINATED IN LAB \_\_\_\_\_ PERSERVED IN LAB \_\_\_\_\_

VOAS  O&G  METALS  OTHER

**McCAMPBELL ANALYTICAL INC.**

1538 Willow Pass Road, Pittsburg, CA 94565

Telephone: (925) 252-9262

Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**

RUSH  24 HR  48 HR  72 HR  5 DAY  
 PDF Required?  Yes  No

EDF Required?  Yes  No

Report To: Ricky Bradford Bill To: AEI Consultants  
 Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597  
 P.O.#WC082303 *angel@aeiconsultants.com*  
 E-Mail: *rbradford@aeiconsultants.com*  
 Telephone: (925) 746-6000 Fax: (925) 746-6099  
 AEI Project No. 116907 Project Name: Vic's Automotive  
 Project Location: 245 8<sup>th</sup> Street, Oakland, California 94607  
 Sampler Signature: *[Signature]*

**Analysis Request**

**Other** **Comments**

SAMPLE ID	FIELD POINT NAME	SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015C/M/T/B/E)	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (413.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCD's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	HYOC's - (8010 target list) by EPA 8260B	MTBE Only by EPA 8260B							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other																								
SB-16-23'		3/17/10	3:40	1	A		X																															
SB-16-25'			3:30	1	A																																	
SB-16-26'			3:50	1	A																																	
SB-16-30'			3:55	1	A																																	
SB-16-27.5'			3:00	1	A																																	
SB-18W			-	4	60A	X																																

HOLD  
HOLD  
HOLD

3/29/10 sky

Relinquished By: *[Signature]* Date: 3/17/10 Time: 1:40 Received By: *[Signature]*  
 Relinquished By: *[Signature]* Date: 3/18/10 Time: 1:05 Received By: *[Signature]*  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/IT\* \_\_\_\_\_ PRESERVATION \_\_\_\_\_  
 GOOD CONDITION \_\_\_\_\_ APPROPRIATE \_\_\_\_\_  
 HEAD SPACE ABSENT \_\_\_\_\_ CONTAINERS \_\_\_\_\_  
 DECHLORINATED IN LAB \_\_\_\_\_ PERSERVED IN LAB \_\_\_\_\_

VOAS O&G METALS OTHER

*[Signature]*



# McC Campbell Analytical, Inc.

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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 100355 **A** ClientCode: AEL

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Adrian Angel  
 AEI Consultants  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597  
 (925) 283-6000 FAX (925) 283-6121

Email: aangel@aeiconsultants.com  
 cc: rbradford@aeiconsultants.com  
 PO: #WC082303  
 ProjectNo: #116907; Vics Automotive

**Bill to:**

Denise Mockel  
 AEI Consultants  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597  
 dmockel@aeiconsultants.com

**Requested TAT: 5 days**

**Date Received: 03/18/2010**

**Date Add-On: 03/29/2010**

**Date Printed: 03/29/2010**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1003559-003	SB-17-15'	Soil	3/17/2010 8:38	<input type="checkbox"/>	A												
1003559-030	SB-19-20'	Soil	3/17/2010 11:50	<input type="checkbox"/>			A										
1003559-042	SB-16-20'	Soil	3/17/2010 15:05	<input type="checkbox"/>			A										
1003559-048	SB-18W	Water	3/17/2010	<input type="checkbox"/>		A											

**Test Legend:**

1	G-MBTEX_S	2	G-MBTEX_W	3	TPH(DMO)_S	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Melissa Valles**

**Comments:** Off hold 3/19/10

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



# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vics Automotive	Date Sampled: 03/17/10
	Client Contact: Adrian Angel	Date Received: 03/18/10
	Client P.O.: #WC082303	Date Extracted: 03/29/10-04/01/10
		Date Analyzed: 03/31/10-04/01/10

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 1003559

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
003A	SB-17-15'	S	3.0	ND	ND	ND	ND	ND	1	91	d7
048A	SB-18W	W	230	ND	3.2	39	10	65	1	103	d1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	0.5	μg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	0.005	mg/Kg

\* water and vapor samples are reported in μg/L, soil/sludge/solid samples in mg/kg, wipe samples in μg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

# cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant  
d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram



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"When Quality Counts"

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 Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
 Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vics Automotive	Date Sampled: 03/17/10
	Client Contact: Adrian Angel	Date Received: 03/18/10
	Client P.O.: #WC082303	Date Extracted: 03/29/10
		Date Analyzed: 04/02/00

### Total Extractable Petroleum Hydrocarbons\*

Extraction method: SW3550C

Analytical methods: SW8015B

Work Order: 1003559

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1003559-030A	SB-19-20'	S	670	20	1	119	e4,e2
1003559-042A	SB-16-20'	S	490	58	1	118	e4,e2,e6

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	ug/L
	S	1.0	5.0	mg/Kg

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

e2) diesel range compounds are significant; no recognizable pattern  
 e4) gasoline range compounds are significant.  
 e6) one to a few isolated peaks present in the THP(d/mo) chromatogram



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 49566

WorkOrder 1003559

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 1003801-022A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	0.60	110	108	1.78	111	111	0	70 - 130	20	70 - 130	20
MTBE	ND	0.10	109	102	6.49	110	115	4.48	70 - 130	20	70 - 130	20
Benzene	ND	0.10	103	106	3.26	102	105	2.76	70 - 130	20	70 - 130	20
Toluene	ND	0.10	89.5	92.2	2.88	89.3	91.5	2.43	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	92.1	94.3	2.39	91.7	93.2	1.61	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	105	107	1.45	105	107	1.73	70 - 130	20	70 - 130	20
%SS:	92	0.10	97	104	7.64	103	100	3.60	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 49566 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1003559-003A	03/17/10 8:38 AM	03/29/10	03/31/10 5:30 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 49572

WorkOrder 1003559

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 1003788-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	60	81.4	90.9	10.9	94.7	97.2	2.62	70 - 130	20	70 - 130	20
MTBE	ND	10	108	100	7.89	99.3	101	1.26	70 - 130	20	70 - 130	20
Benzene	ND	10	97.3	92.8	4.71	99.4	94.4	5.18	70 - 130	20	70 - 130	20
Toluene	ND	10	91	82.2	10.1	87.6	84.9	3.15	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	85.3	81.4	4.60	87	85	2.37	70 - 130	20	70 - 130	20
Xylenes	ND	30	99.1	93.8	5.50	99.2	97.7	1.57	70 - 130	20	70 - 130	20
%SS:	102	10	109	100	8.11	104	100	4.72	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 49572 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1003559-048A	03/17/10	04/01/10	04/01/10 2:13 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



**QC SUMMARY REPORT FOR SW8015B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 49558

WorkOrder 1003559

Analyte	EPA Method SW8015B		Extraction SW3550C						Spiked Sample ID: 1003773-010A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	ND	40	108	110	2.51	118	118	0	70 - 130	30	70 - 130	30
%SS:	86	25	96	97	0.688	83	82	1.08	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 49558 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1003559-030A	03/17/10 11:50 AM	03/29/10	04/02/00 4:10 AM	1003559-042A	03/17/10 3:05 PM	03/29/10	04/02/00 3:02 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.