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Alameda County  
Environmental Health

April 30, 2009

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

**Subject: Perjury Statement and Report Transmittal  
Quarterly Site Monitoring Report (First Quarter, 2009)**

245 8<sup>th</sup> Street  
Oakland, California 94607  
AEI Project No. 116907  
ACEH RO#0000202

Dear Mr. Wickham:

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

If you have any questions or need additional information, please do not hesitate to call me at (510) 832-9014, or Mr. Ricky Bradford at AEI Consultants, (925) 746-6000 extension 148.

Sincerely,



Victor Lum

Owner

Vic's Automotive

RB/vl

Attachment

cc: Mr. Ricky Bradford, AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597

April 30, 2009

**QUATERLY SITE MONITORING REPORT  
(FIRST QUARTER, 2009)**

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

AEI Project No. 116907  
ACHCSA RO#00000202

Prepared For:

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

Prepared By:

**AEI Consultants**  
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**AEI**

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## 1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report on behalf of Mr. Victor Lum, owner and operator of Vic's Auto automotive repair and fuel service station 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 related to the release of gasoline fuel hydrocarbons from the former underground storage tank (UST) and dispensing system on the property. The ongoing investigation and mitigation of the release is being performed under the direction of the Alameda County Health Care Services Agency (ACHCSA). This report has been prepared to document the field activities and results of groundwater monitoring for the First Quarter, 2009 as well as the high vacuum dual phase extraction (HVDPE) system processing monitoring and operations and maintenance (O&M) activities for the months of January, February, and March of 2009.

The HVDPE system was installed and started up in June of 2007. The main purposes for installing and operating a HVDPE system onsite as interim corrective action include:

- Hydrocarbon mass removal by performing continuous HVDPE using existing monitoring/extraction wells for the removal, recovery, and treatment of light non-aqueous phase liquid (LNAPL), soil gas, and groundwater from the vadose zone, capillary fringe, and shallow saturated zone in accordance with state and local air and water quality permit requirements.
- Performing continuous HVDPE at the source and along the southwestern property boundary to the mitigate the potential for vapor intrusion into nearby residences situated above and in close proximity to the LNAPL and groundwater plumes by maintaining a low negative pressure (i.e., high vacuum) in the subsurface relative to the building foundations.

## 2.0 SITE DESCRIPTION & BACKGROUND

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 ACHSA concurred with the implementation of HVDPE using fixed equipment and requested a system design, operations and maintenance, and monitoring plan. In this letter, the ACHSA 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 ACHSA 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.
- 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 none-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 was 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 property was being developed.

### **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 HVDPE TECHNOLOGY AND PROCESS DESCRIPTION**

#### **4.1 Technology Overview**

HVDPE is a proven and effective technology for a wide range of soil types and subsurface conditions. HVDPE is often also referred to as dual phase extraction (DPE), multi-phase extraction (MPE), two-phase extraction (TPE), and sometimes “bioslurping”. There are several variations of this technology, but a great majority of HVDPE systems use a water-sealed liquid-ring vacuum pump to simultaneously extract and recover LNAPL, groundwater, and soil gas through a single 1-inch diameter adjustable drop tube (also called a “stinger”) sealed within a 2 to 4-inch diameter extraction well. The application of high vacuum enhances soil vapor extraction (SVE) by lowering the water table and creating dewatered zones and exposing previously saturated soils to airflow. The airflow through the subsurface supplies oxygen needed to enhance in-situ aerobic biodegradation of fuel hydrocarbons, which is analogous to bioventing technology.

#### **4.2 Site, System, & Process Description**

Light non-aqueous phase liquid (LNAPL), soil gas and groundwater are simultaneously extracted through a single 1-inch diameter drop tube currently installed in eight (8) monitoring/extracting wells (MW-1, MW-2, MW-5 to MW-7, and MW-10 to MW-12) using two (2) 15 horsepower water-sealed liquid ring pumps piped in parallel. These pumps can generate flows up to 140 cubic



feet per minute (cfm) each (i.e., 280 cfm combined capacity) and high vacuums of up to 28 in-Hg, but normally operate in the range of 18 to 22 in-Hg.

The monitoring wellheads were modified for dual phase extraction by installing a 1-inch PVC ambient bleed air valve, two-hole cast iron wellhead pump seal, stinger and casing vacuum gauges, and 1-inch clear, flexible PVC stinger. The manifold and conveyance piping leading up to the manifold were constructed out of schedule 80 PVC. Recovered LNAPL, soil gas, and groundwater are separated by a knock-out tank. Because the LNAPL and other gasoline fuel hydrocarbons dissolved in the groundwater are volatilized under high vacuum (i.e., >20 in-Hg), an oil-water separator is not used. A progressive cavity pump transfers the groundwater from the knock-out tank to the top of the low-profile air stripping unit. Groundwater trickles-down through small holes in the air stripper trays, where nearly 99% of the remaining volatile fuel hydrocarbons are stripped from the groundwater. Groundwater is pumped from the air stripper reservoir to a single 1,000-pound activated carbon absorber, where its further treated and polished and then discharged to the onsite sanitary sewer under a wastewater discharge permit from the East Bay Municipal Utilities District (EBMUD).

The soil gas and off-gas from the air stripping unit is routed to a thermal/catalytic oxidizer operating in catalytic mode for direct thermal destruction. The catalytic oxidizer operates at 700 °F with a minimum destruction efficiency of 99% as required by permit. The treated off-gas is discharge through a stack located 15 feet above grade under a Bay Area Air Quality Management District (BAAQMD) air quality permit.

A Dwyer<sup>®</sup> Instruments (Model No. DS-300) averaging pitot tube combined with a dual-scale Magnehelic<sup>®</sup> differential pressure gauge is used to measure the well velocity and total velocity. The well velocity and total velocity are multiplied by the cross sectional area of the pipe (i.e., 0.0491 ft<sup>2</sup> for a 3-inch pipe) to obtain the actual flow rate. The difference between the well flow rate and total flow rate is the air stripper flow rate. All flow rates are corrected to standard temperature and pressure (i.e., 70°F and 1 atm or 29.92 in-Hg) using formulas provided by Dwyer<sup>®</sup>. The groundwater recovery volume is measured with a Neptune (Model T-10) cold water flow totalizer and recorded along with the equipment hour meter reading during each O&M visit. The flow totalizer and hour meter readings are used to estimate the average daily flow rate between sampling dates.

The field point names for the vapor influent sample ports are the monitoring well identification followed by the letter “S” (i.e., MW-1S, MW-2S, MW-5S, MW-6S, MW-7S and MW-10S to MW-12S). These sample ports are labeled and located along a common manifold inside the fenced equipment enclosure. Control valves are installed on each line to regulate the vacuum and flow. Clear sections of pipe are also installed on each line to observe the flow patterns and process streams.

The field point names for the vapor influent samples ports before dilution air, after dilution air, and from the air stripping unit and the stack gas effluent sample port are: PRED, POST, AS, and STACK.

The field point names for the water influent sample ports for the combined influent, after the air stripper, after the first carbon absorber, and after the last carbon absorber at the effluent: INF, POST-AS, POST-C1, and EFF.

The four (4) nested soil gas probes used for collecting soil gas samples and vacuum measurements are as follows: SG-1-5', SG-10', SG-2-5', SG-2-10', SG-3-5', SG-3-10', to SG-4-5' and SG-1-10'.

The location of the sample ports for the extraction wells are shown on Figure 3. The soil gas probe locations are shown on Figure 2.

## **5.0 SUMMARY OF MONITORING ACTIVITIES**

### **5.1 Quarterly Groundwater Monitoring**

The HVDPE system was shutdown on January 6, 2009, approximately one (1) month prior to this groundwater monitoring event. On February 5, 2009, the water levels were measured and groundwater samples were collected from all of the monitoring / dual-phase extraction wells, except for MW-10 through MW-12. Measuring the depth to water and sampling these wells is no longer feasible because the wellheads were removed and the wells were buried beneath a new residential construction in August of 2008. The well locations are shown in Figure 2.

The well caps and stingers, where applicable, were removed and depths from the top of the well casings were measured with an electronic water level indicator prior to sampling. Wells with historic free product (i.e., MW-1, MW-6, and MW-7) were checked with an oil-water interface meter. Wells with no measurable free product were purged of at least three well volumes of water with a submersible purge pump and sampled using disposable clear plastic bailers.

Temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured while purging the wells and the turbidity was visually noted. Once temperature, pH, specific conductivity stabilized after three consecutive readings, and following the recovery of water levels to at least 90% of the static level, a water sample was collected.

The groundwater samples were collected with disposable bailers into 40-milliliter (mL) volatile organic analysis (VOA) vials and capped so that no head space or air bubbles were present within the sample containers. Samples were preserved on ice and transported under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (DHS Certification #1644). A total of ten (10) groundwater samples were submitted for chemical analysis for TPH-g by EPA Method SW8015C and MBTEX by EPA Method SW8021B. In addition, due to the elevated detection limit for MTBE by EPA Method SW8021B, the samples collected from MW-5 through MW-7 and MW-9 were tested for MTBE only by EPA Method SW8260B.

## 5.2 Quarterly Soil Gas Monitoring for Vapor Intrusion Evaluation

Per concurrence from the ACHCSA in a letter dated October 3, 2008, quarterly soil gas sampling has been temporarily suspended during the operation of the HVDPE system.

### 5.2.1 Routine Monitoring and Data Collection

An AEI project engineer monitored the system using the remote monitoring system via email daily from the office. The system was also monitored and checked by a senior field technician weekly to biweekly and as needed to respond to system shutdowns. A Daily Field Report and O&M Field Logs were filled out during each site visit. Routine O&M visits ranged from approximately 2 to 4 hours per visit, depending upon the activities performed.

The following data was recorded on the Daily Field Report and/or O&M Field Log during each site visit:

- HVDPE System: current hour meter reading, PG&E meter reading (kilowatt-hours), system runtime (hours), system inlet vacuum (in-Hg), vacuum at the inlets of both liquid ring pumps (in-Hg), well velocity (fpm) and calculated well flow rate (cfm) by multiplying the well velocity by the cross-sectional area (ft<sup>2</sup>) of a 3-inch pipe, control valve initial and final positioning (% open), and cooling fan(s) status (on/off).
- HVDPE Wells: the stinger vacuum (in-Hg), casing vacuum (in-Hg), and drop tube depth (ft toc) data were collected monthly or as needed.
- Thermal/Catalytic Oxidizer: propane level (%), preheat controller temperature (°F), exhaust controller temperature (°F), total velocity (fpm) and calculated total flow rate (cfm) by multiplying the total velocity and by the cross-sectional area (ft<sup>2</sup>) of a 3-inch pipe.
- Air Stripper: variable frequency drive setting (Hz), outlet velocity (fpm) and calculated outlet flow rate (cfm) by subtracting the well flow rate from the total flow rate, air stripper tray backpressure (in-H<sub>2</sub>O), control valve positioning (% open).
- Activated Carbon Absorbers: inlet pressure (psig), outlet pressure (psig), flow totalizer reading (gallons), and whether or not the bag filter was change and/or carbon absorber backwashed.

### 5.2.2 Influent & Effluent Vapor Monitoring

Influent and effluent vapor samples were collected on January 6, February 9, and March 18, 2009. The extraction well and other process sample ports were continuously purged and sampled with a Gast<sup>®</sup> (Model DOA-P707-FB) 1/3 horsepower diaphragm vacuum / pressure pump, capable of up to 1.1 cfm free airflow and vacuums up to 25.5 in-Hg, using the “side-stream” purging and

sampling method as described in Downey, et al., 2004 and Hincsee, et al., 1996. A 2-liter water separator device was used to collect vapor samples from the dual-phase air-water influent process stream.

TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> concentrations were continuously monitored with an RKI Instruments Eagle (Type 474-04) multi-gas detector using a sampling tee placed several feet downstream of the pump outlet. The hydrocarbon detector, which is a catalytic bead sensor, was calibrated with a 40% LEL (i.e., 4,400 ppmv) hexane gas standard. The methane, oxygen, and carbon dioxide detectors were also calibrated with the appropriate gas standards. Once the readings stabilized, they were recorded on the field data sheets and a vapor sample was collected into 1-liter Tedlar bag using the same sampling tee.

The Tedlar bags were stored in a cardboard box and transported under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (DHS Certification No. 1644) on the day of collection. The samples were analyzed for TPH-g by EPA Method 8015C and MBTEX by EPA Method 8021B.

### ***5.2.3 Influent & Effluent Water Monitoring***

Influent and effluent water samples were collected on January 6, February 9, and March 18, 2009. The process water sample ports were purge of approximately 1-Liter of water prior to sample collection. Water was collected into three (3) 40-millileter (mL) volatile organic analysis (VOA) vials, or as required by the analysis, and capped so that no head space or air bubbles were present within the sample containers.

The water samples were placed in a pre-chilled cooler on a mixture of water and ice and transported under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (DHS Certification #1644) on the day of collection. The samples were analyzed for TPH-g by EPA Method SW8015C and MBTEX by EPA Method SW8021B.

Additionally, as required by EBMUD semi-annually, an effluent sample (i.e., Sample ID "EFF") was collected on February 9, 2009 and analyzed for Total Oil and Grease Hydrocarbon by EPA Method 1664 HEM-SGT with silica gel cleanup.

### ***5.2.4 Soil Gas Composition & Vacuum Influence Monitoring***

On February 9 and March 10, 2009, nested soil gas probes (GP-1 and GP-2) were screened in the field for TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> and vacuum influence was measured. The soil gas probes were not screened nor was the vacuum influence measured during the month of January because the system was shutdown on January 6, 2009 for a one (1) month rebound evaluation.

The vacuum influence was measured with a set of Magnehelic differential pressure gauges and recorded first. A 3/16-inch inside diameter clear vinyl or equivalent tubing was used to connect the Magnehelic<sup>®</sup> gage to the plug valve and soil gas probe. The following pressure ranges in inches of water were normally available: 0-0.2", 0-1", 0-5", 0-10", 0-20", 0-50", 0-100", and 0-150".

Then the soil gas probes were continuously purged and sampled with a Geotech (Model Geopump II) peristaltic pump, capable of vacuums up to 25 in-Hg, using the "side-stream" purging and sampling method as described in Downey, et al., 2004 and Hinchee, et al., 1996.

TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> concentrations were continuously monitored with an RKI Instruments Eagle (Type 474-04) multi-gas detector using a sampling tee placed several feet downstream of the pump outlet. The hydrocarbon detector, which is a catalytic bead sensor, was calibrated with a 40% LEL (i.e., 4,400 ppmv) hexane gas standard. The methane, oxygen, and carbon dioxide detectors were also calibrated with the appropriate gas standards. Once the readings stabilized, they were recorded on the field data sheets. Vapor samples were not collected into 1-liter tedlar bags for laboratory analysis.

### **5.3 HVDPE System Operations & Maintenance**

#### **5.3.1 Routine Maintenance**

Routine maintenance performed during this quarter included:

- Performed visual inspections of all major system components, including checking for signs of leaks, physical wear, and/or damage during each site visit.
- Checked the cooling blower filter, dilution air inlet filter, and air stripper blower filter. All three (3) filters were changed this quarter and are routinely changed on a quarterly basis or as needed based on a visual inspection of the filter elements.
- Checked the two (2) separator filters on Liquid Ring Pump #2 (LRP #2). Both filters were changed this quarter and are routinely changed on a quarterly basis or as needed based on the quality of the influent process water.
- During the monitoring event on February 5, 2009 and later on February 9, 2009, an AEI technician unsuccessfully attempted to backwash the PV-1000 (1,000-pound) liquid-phase carbon absorber.
- Formerly considered a non-routine maintenance item, the aluminum fins on the heat exchanger for LRP #2 were cleaned with compressed air during each O&M visit.
- No other routine maintenance was performed during this quarter.

### 5.3.2 *Non-Routine Maintenance*

Non-routine maintenance performed during this quarter included:

- On February 19, 2009, Liquid Ring Pump (LRP #1) was removed from the HVDPE system and transported back to the office for further inspection, disassembly, and subsequent repair. Due to an electrical short and damaged wiring, LRP #1 was removed from service on July 29, 2008. Please refer to page 12 of AEI's "System Modifications & Quarterly Site Monitoring Report (Third Quarter, 2008)", dated November 15, 2008, for more information.
- Between February 24 and 25, 2009, LRP #1 was inspected and disassembled by an AEI senior technician. The electric motor and liquid ring pump assembly, which are bolted together as a single unit, were transported to Magdeburg Systems in San Leandro for a final inspection, evaluation, and subsequent repair.
- On February 27, 2009, due to age and precipitation of dissolved inorganics (e.g., calcium, iron, magnesium, manganese, etc.), constant high backpressure across the carbon bed, and unsuccessful attempts at backwashing and restoring the unit, the spent carbon was swapped out with new carbon by Siemens Water Technology per the rental contract. A total of five (5) 55-gallon drums of spent carbon (1,000 pounds total) were generated. The drums of spent carbon have been profiled, characterized as non-hazardous waste, and should be properly disposed of off-site by Siemens during the next quarter.
- On February 27, 2009, after the carbon change out, an AEI technician attempted to restart the HVDPE system. However, the catalytic oxidizer could not be restarted due to a problem with the Veri-Flame burner and flame monitoring system and/or possibly other devices.
- On March 3, 2009, Magdeburg confirmed the stator component of the electric motor for LRP #1 was damaged beyond repair and provided a quote for rewinding the stator and replacing the non drive end bearing and seal.
- On March 9, 2009, several components, including the cooling fan assembly, were delivered to Magdeburg for further inspection. A quote for a complete pump overhaul was requested.
- On March 10, 2009, after consulting with the project engineer, an AEI technician unsuccessfully attempted troubleshooting the Veri-Flame burner and flame monitoring system.
- On March 17, 2009, an AEI project engineer successfully troubleshooted the Veri-Flame burner and flame monitoring system and discovered a problem with the temperature controller setup and configuration settings. After consulting with the equipment manufacturer, the original setup and configuration settings were restored and the system was restarted without a problem.

- On March 17, 2009, Magdeburg provided an updated quote for rewinding the stator and a complete pump overhaul, which includes cleaning all parts by boiling, wire wheeling, and/or bead blasting, machining all worn internal parts back to factory specifications or replacing them, replacing the non drive end and drive end bearings, the mechanical seal and tolerance ring, and the rotary shaft lip seal, setting internal clearances to factory specification, and painting the pump.
- On March 24, 2009, the repairs to LRP #1 were authorized and on March 31, 2009 Magdeburg ordered parts from the manufacturer in Germany. The repairs to LRP #1 are expected to be completed by the end of April to early May 2009 and will be reported in the next Site Monitoring Report.
- No other none-routine maintenance was performed during this quarter.

### **5.3.3 System Modifications**

System modifications completed during this quarter included:

- No major system modifications were performed during this quarter.

## **6.0 RESULTS & CONCLUSIONS**

### **6.1 Apparent LNAPL Thickness, Groundwater Elevations, and Hydraulic Gradient**

The results of the apparent LNAPL thickness measurements, groundwater elevations, and hydraulic gradient for this monitoring episode are summarized below:

- LNAPL was not encountered, nor was a hydrocarbon sheen noted, in any of the monitoring wells, although elevated concentrations of dissolved hydrocarbons, such as TPH-g, BTEX, and MTBE, remain onsite and offsite.
- Not including the recently installed wells MW-8, MW-9, and MW-13, groundwater elevations ranged from approximately 14.70 (MW-4) to 16.29 (MW-6) feet above mean sea level (msl). The elevations of MW-8, MW-9, and MW-13 relative to msl have not been surveyed pending the installation of two (2) additional monitoring wells (MW-15 and MW-16) in a parking lane along the southeastern side of 7<sup>th</sup> Street and installation of one (1) monitoring well (MW-14) along Alice Street.
- The groundwater elevations have been influenced by the HVDPE groundwater extraction activities. Therefore, groundwater elevation contours have not been included on Figure 4.
- The normal historical groundwater flow direction has been predominantly to the south with an average hydraulic gradient of approximately 0.010 ft/ft.

The historic and current groundwater elevation data is summarized in Table 1 with the current data shown on Figure 4. A summary of the current and historic average groundwater elevations and flow directions are presented in Table 2.

## 6.2 Groundwater Sample Analytical Data

The analytical results for the groundwater sample collected for this monitoring episode are summarized below:

- The highest concentrations of TPH-g were detected in MW-1, MW-6 and MW-9 at 42,000 µg/L, 92,000 µg/L, and 32,000 µg/L, respectively.
- The highest concentration of benzene was detected in MW-9 at 11,000 µg/L. The next highest concentrations of benzene were detected in MW-1, MW-6, and MW-7, all three at a 1,100 µg/L.
- The highest concentration of MTBE was detected in MW-9 at 360 µg/L. The second highest concentration was detected in MW-2 at 82 µg/L.
- Elevated concentrations of TPH-g were detected in source area wells MW-2, MW-5, and MW-7 at 1,000 µg/L, 2,800 µg/L, and 7,800 µg/L, respectively.
- Very low to almost none-detectable levels of TPH-g, BTEX, and MTBE were detected in MW-3, MW-4, and MW-8. Very low to almost none-detectable levels of TPH-g and BTEX were detected in MW-13.
- LNAPL of any apparent measurable thickness has not been detected in MW-1, MW-6, and MW-7 since May of 2007.
- Dissolved hydrocarbons have been significantly reduced (by at least one order of magnitude) onsite and offsite by operating the HVDPE system, although rebound was observed particularly in source area wells MW-1 and MW-6.
- It is unknown at this time if the elevated concentrations of TPH-g and BTEX in MW-9 will be reduced by operating the HVDPE system.

A summary of the current and historic groundwater analytical data is summarized in Table 3 with current data shown on Figure 5. Refer to Appendix A for the monitoring well field sampling forms. The laboratory analytical report with chain of custody and quality assurance / quality control documentation is included in Appendix C.



## 6.3 HVDPE System Process Monitoring

### 6.3.1 Influent & Effluent Vapor Sample Analytical Data

The analytical results of the monthly influent and effluent vapor samples are summarized below:

- On January 6, 2009, the highest concentrations of TPH-g were detected in MW-2S (35 ppmv), MW-7S (2,000 ppmv), MW-10S (2,200 ppmv), and M-11S (1,200 ppmv). Likewise, the highest concentrations of benzene were detected in MW-2S (1.6 ppmv), MW-7S (2.3 ppmv), MW-10S (1.2 ppmv), and MW-11S (0.6 ppmv). The highest levels of CO<sub>2</sub> were also detected in these wells at concentrations ranging from 0.6% in MW-11S to 2.3% in MW-7S.
- On February 9, 2009, the highest concentrations of TPH-g were detected in MW-2S (1,100 ppmv), MW-7S (1,100 ppmv), MW-10S (500 ppmv), and MW-12S (490 ppmv). The highest concentrations of benzene were detected in MW-2S (25 ppmv), MW-7S (19 ppmv), MW-10S (5.6 ppmv), and MW-11S (14 ppmv). The highest levels of CO<sub>2</sub> were detected in the same above wells ranging from 0.7% in MW-10S to 2.5% in MW-7S.
- On March 18, 2009, the highest concentrations of TPH-g were detected in MW-2S (130 ppmv), MW-7S (690 ppmv), MW-10S (220 ppmv), and MW-11S (400 ppmv). The highest concentrations of benzene were detected in MW-5S (2 ppmv), MW-7S (28 ppmv), MW-10S (8.9 ppmv), and MW-11S (48 ppmv). The highest levels of CO<sub>2</sub> were detected in MW-7S, MW-10S, and MW-11S ranging from 0.7% in MW-10S to 2.7% in MW-7S.
- The pre-dilution (PRED) influent concentrations of TPH-g ranged from 30 ppmv to 150 ppmv.
- The air stripping system effluent concentrations of TPH-g ranged from non-detect (less than 7.0 ppmv) to 150 ppmv.
- Sampling the post-dilution (POSTD) process sample port was discontinued starting in the Third Quarter, 2008 monitoring and reporting period because it does not provide any additional useful information above of beyond what data has already been collected. Refer to Note #10 on Table 10 for more information.
- TPH-g, BTEX, and MTBE were not detected in the STACK sample at or above the laboratory reporting limit of 7 ppmv, except for a trace amount (26 ppmv) on January 6, 2009.

A summary of the historic and current vapor influent and effluent sample analytical and field screening data is presented in Table 5. The laboratory analytical report with chain of custody and quality assurance / quality control documentation is included in Appendix C.

### **6.3.2 Influent & Effluent Water Sample Analytical Data**

The results of the monthly influent and effluent water samples are summarized below:

- The concentrations of TPH-g and benzene detected in the combined water influent (INF) ranged from 7,800 to 11,000 µg/L and 96 to 250 µg/L, respectively.
- The concentrations of TPH-g and benzene detected in the water effluent from the air stripper (POST-AS) ranged from non-detect (less than 50 µg/L) to 250 µg/L and non-detect (less than 0.5 µg/L) to 3.1 µg/L.
- The average air stripper removal efficiency during this quarter was approximately 97.1%.
- TPH-g and BTEX were not detected in the effluent (EFF) at or above the laboratory reporting limits.

A summary of the historic and current water influent / effluent sample analytical data is presented in Table 6. The laboratory analytical report with chain of custody and quality assurance / quality control documentation is included in Appendix C.

### **6.3.3 Influent Well Vapor and Water Flow Rates**

The total well influent vapor velocity ranged from approximately 1,200 to 1,400 feet per minute (fpm) and the total well influent flow rate ranged from approximately 59 to 69 standard cubic feet per minute (scfm). Average groundwater extraction rates ranged from 0 to 5,002 gallons per day or approximately 0 to 3.5 gallons per minute (gpm). Approximately 104,690 gallons of groundwater was recovered, treated, and discharged to the sanitary sewer between December 2, 2008 and March 18, 2009. A total of approximately 1,385,760 gallons have been recovered and treated since startup in June of 2007.

A summary of the historic and current well vapor and water flow rates is presented in Tables 9 and 12. The laboratory analytical report with chain of custody and quality assurance / quality control documentation is included in Appendix C.

### **6.3.4 Mass Removal Rates**

Short-term and long-term vapor phase and dissolved phase mass removal rates in pounds per day (lbs/day) and gallons per day (gpd) were estimated using TPH-g concentrations based on lab data and the actual system runtime between sampling dates.

The vapor phase mass removal rates ranged from approximately 4 to 28 pounds per day (lbs/day) with an overall average of approximately 20 lbs/day during this reporting period. Approximately 715 pounds or 119 gallons of gasoline in the vapor phase was recovered and treated between

December 2, 2008 and March 18, 2009. Approximately 26,430 pounds or 4,405 gallons of vapor phase gasoline have been removed since startup in June of 2007.

Although insignificant when compared with the vapor phase mass removal data, the dissolved phase mass removal rates ranged from approximately 0 to 0.26 lbs/day with an overall average of approximately 0.11 lbs/day. Approximately 7 pounds or 1 gallon of gasoline in the dissolved phase was recovered and treated between December 2, 2008 and March 18, 2009. Approximately 141 pounds or 23 gallons of dissolved phase gasoline has been removed since startup.

A summary of the historic and current vapor phase mass removal rates with assumptions, unit conversions, and sample calculations are presented in Tables 9 and 10 and shown on Figure 8. The dissolve phase mass removal rates are presented in Table 12. A cumulative vapor phase mass removal graph is shown on Figure 9.

### ***6.3.5 Soil Gas Composition and Vacuum Influence***

The results of the TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> field screening data and vacuum influence measurements collected on February 9 and March 10, 2009 are summarized below:

- On February 9, 2009 water was detected in GP-2 at 10-feet bgs but not at 5-feet bgs. On March 10, 2009, water was detected in GP-2 at both 5 and 10-feet bgs. Water was not detected in GP-1 during either field screening events. Field screening and vacuum influence measurements were not collected from the probes when water was detected.
- Concentrations of total volatile hydrocarbons (TVH) were not detected in any of the soil gas probes at or above the detection limit of 5 ppmv.
- The concentration of O<sub>2</sub> in all probes screened at 5 and 10-feet bgs was nearly 20%.
- The concentrations of CO<sub>2</sub> in all probes screened at 5-feet bgs ranged from approximately 0.2 to 0.8%.
- The concentrations of CO<sub>2</sub> in only probe screened at 10-feet bgs was approximately 1.0%.
- Significant vacuum influence (i.e., greater than 0.1 inches of water – Hinchee, R.E., et al., 1996 and others) was measured at 0.39 in-H<sub>2</sub>O in GP-1 at 10-feet bgs.

A summary of the historic and current TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> soil gas field screening data and vacuum influence measurements are presented in Table 8.

## 7.0 SUMMARY & PLANNED ACTIVITIES

This report presented the findings of the First Quarter, 2009 groundwater monitoring event and included a discussion of the field activities and results of the HVDPE system operations and maintenance and process monitoring. Quarterly soil gas sampling for vapor intrusion has been temporarily suspended during the operation of the HVDPE system.

The main results of this monitoring period are summarized below:

- Elevated concentrations of TPH-g, BTEX, and MTBE were detected in MW-9. Very low to nearly non-detectable concentrations of TPH-g and BTEX were detected in MW-8 and MW-13. MTBE had not been detected in MW-8 above the standard reporting limit of 5 µg/L.
- Additional monitoring wells will need to be installed on the southwest side of 7<sup>th</sup> Street to complete the lateral plume delineation.
- The results of this groundwater and soil gas monitoring event are generally consistent with previous episodes with a notable decrease in groundwater table elevation, which is likely a result of the groundwater extraction activities onsite and offsite.
- LNAPL has not been detected since the HVDPE system was installed and started up in June of 2007, although elevated dissolved phase concentrations remain onsite and offsite.
- Overall, decreases in the concentrations of dissolved phase hydrocarbons in several wells onsite and offsite (most notably MW-1, 2, 5, 6, and 7) are the result of ongoing HVDPE remediation activities.
- An overall lower than historic but significant mass of volatile hydrocarbons is still being removed from the subsurface (up to 5 gallons per day). The influent vapor concentrations of hydrocarbons are within the range for catalytic oxidation, but may be still be too high for activated carbon to be a more cost-effective treatment option.
- Nearly ambient concentrations of oxygen indicate the HVDPE process is fully oxygenating the soils in the vadose zone, which can support and enhance aerobic biodegradation of hydrocarbons in the subsurface.
- Approximately 1.3 million gallons of groundwater was processed by the PV-1000 activated carbon absorber before requiring a change out due to high backpressure caused by precipitation of dissolved inorganics, but not due to contaminant breakthrough.

The following activities and system modifications are planned for the next quarter:

- Soil gas sampling has been temporarily suspended during the operation of the HVDPE system as approved by the ACHCSA in a letter dated October 3, 2008.
- The recently installed monitoring wells MW-8, MW-9, and MW-13 will continue to be sampled quarterly and analyzed for TPH-g by EPA Method 8015C and MBTEX by EPA Method 8021B.
- Due the elevated reporting limit for MTBE by EPA Method 8021B in certain monitoring wells, AEI recommends testing all wells with elevated reporting limits for MTBE by EPA Method 8260B during the next and subsequent groundwater monitoring events as needed.
- Continue operation of the HVPDE system, including monthly O&M and process monitoring, evaluate the system performance, and conduct air and water discharge compliance sampling and reporting as required by permit.
- Continue to screen the soil gas probes for TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> with the RKI Eagle gas detector on a quarterly rather than monthly basis. The soil gas probes will be screened according to the methods described in Downey, et al., 2004.
- Continue operation of the thermal oxidizer in catalytic mode to reduce auxiliary fuel consumption. As the influent vapor concentrations decline over the next quarter of system operation, evaluate (as applicable) if and when the system should be shutdown for rebound testing or operated on an intermittent schedule.
- Finish permitting with the City of Oakland and ACPWA for the installation of two (2) additional monitoring wells (MW-15 and MW-16) in the parking lane on the northwest side of 7<sup>th</sup> Street and one (1) monitoring well (MW-14) in a parking lane along Alice Street as discussed in AEI's "Site Monitoring Report (Second Quarter, 2008)", dated August 1, 2008. If permits can be obtained and the wells installed, developed, and sampled within a reasonable period of time, the results will be incorporated into the next Site Monitoring Report.
- While there is no room to reinstall soil gas probe GP-3 at 708 Alice Street, soil gas probe GP-4 will be reinstalled once the building construction activities have been completed, most likely during the Third or Fourth Quarter of 2009.

## 8.0 REFERENCES

Department of Toxic Substances Control (DTSC) & Los Angeles Regional Water Quality Control Board, 2003. "Advisory – Active Soil Gas Investigations", issued January 28, 2003.

Downey, D., Miller, R.N., and Dragoo, T., 2004. "Procedures for Conducting Bioventing Pilot Tests and Long-Term Monitoring of Bioventing Systems", prepared for the United States Air Force Center for Environmental Excellence by Parsons, Inc, Denver, Colorado.

DTSC, 2004. "Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air", Interim-Final, California Environmental Protection Agency, Sacramento, California, issued December 15, 2004, revised February 7, 2005.

Graymer, R.W., 2000. "Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California", U.S. Geologic Survey, Miscellaneous Field Studies MF2342, Online Version 1.0, includes 1 geologic map and 33 page pamphlet.

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Hinchee, R.E., et al., 1992. "Test Plan and Technical Protocol for a Field Treatability Test for Bioventing", prepared for United States Air Force Center for Environmental Excellence by the Battelle, Columbus, Ohio.

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Place, M.C., Coonfare, C.T., Chen, A., Hoeppe, R.E., and Rosansky, S.H., 2001. "Principles and Practices of Bioslurping", Battelle Press, Columbus, Ohio

United States Army Core of Engineers, 1999. "Multi-Phase Extraction Engineer Manual", EM 1110-1-4010, Washington, DC.

## 9.0 REPORT LIMITATIONS AND SIGNATURES

This report presents a summary of work completed by AEI Consultants, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide requested information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. These services were performed in accordance with generally accepted practices in the environmental engineering and geology fields that existed at the time and location of the work.

Should you have any questions or comments, or need any additional information, please contact Mr. Bradford (925) 944-2899, ext. 148 or Mr. McIntyre at (925) 944-2899, ext. 104.

Sincerely,

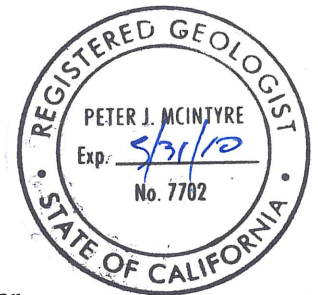
**AEI Consultants**

Adrian M. Angel  
Project Geologist

Richard J. Bradford  
Project Engineer

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Senior Technician

Peter J. McIntyre, PG  
Senior Project Manager



### Distribution List:

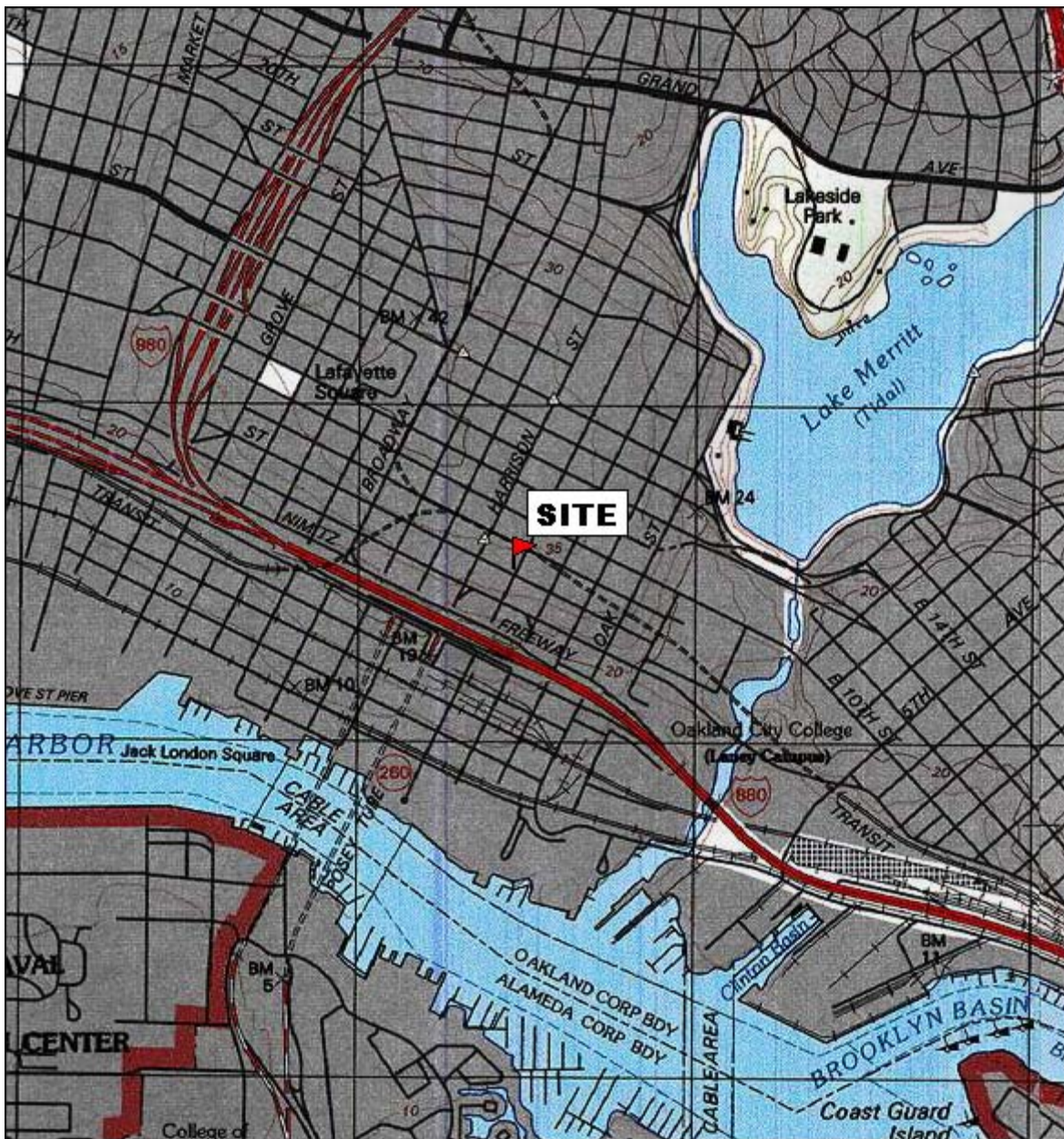
Mr. Victor Lum (1 copy)  
Vic's Automotive  
245 8<sup>th</sup> Street  
Oakland, California 94607

Attn. Mr. Jerry Wickham (electronic)  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

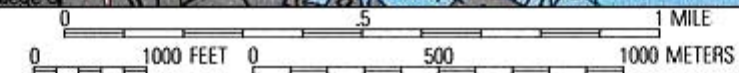
SWRCB's GeoTracker Information System (electronic)

## **FIGURES**





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15 1/4°



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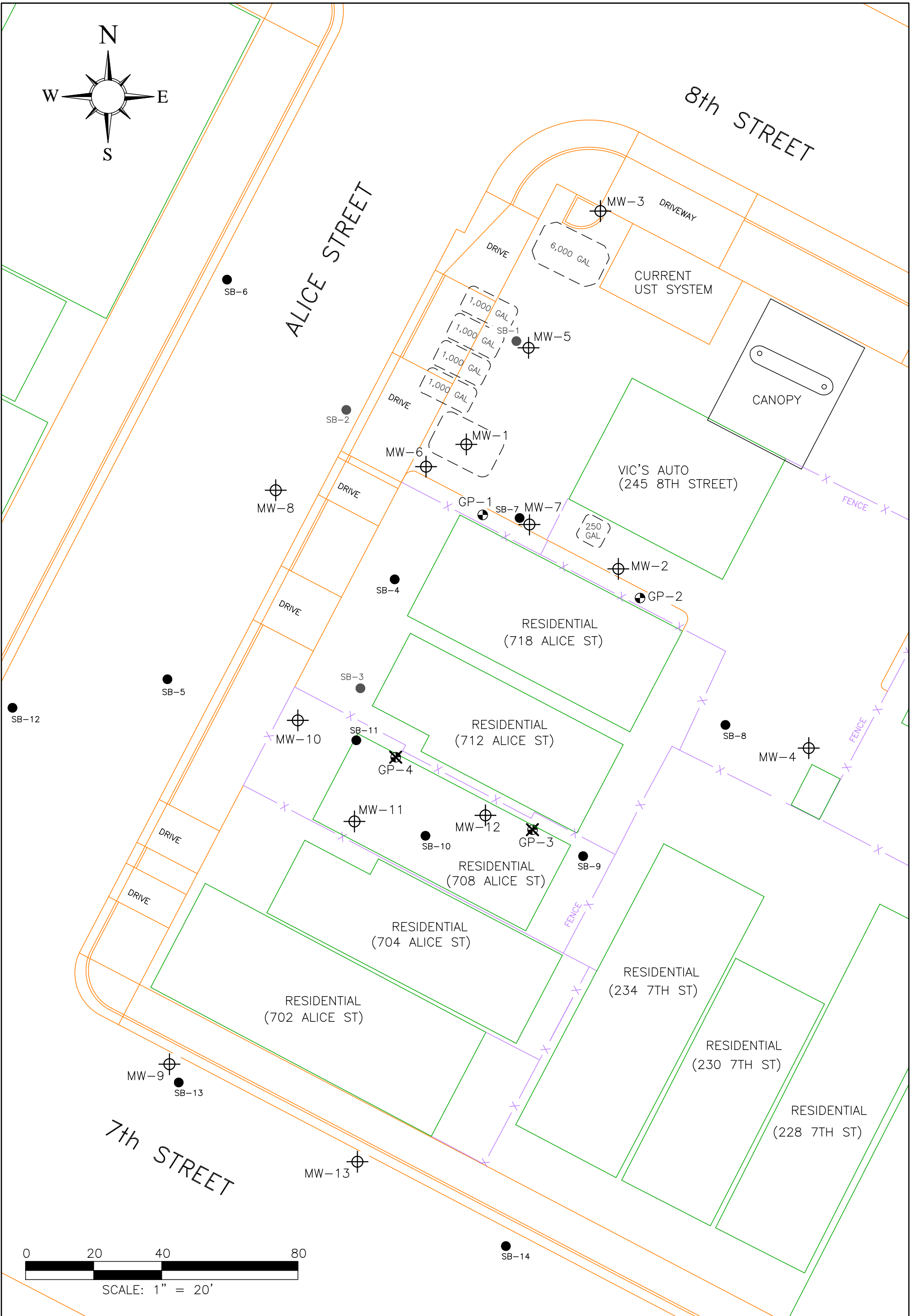
## AEI CONSULTANTS

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 (8/9/96)
- SOIL BORING (04/02 & 03/03)
- ⊙ SOIL GAS PROBE
- ⊗ ABANDONED SOIL GAS PROBE

DRAFTED BY RJB 10-01-07  
 REVISED BY RJB 02-28-09

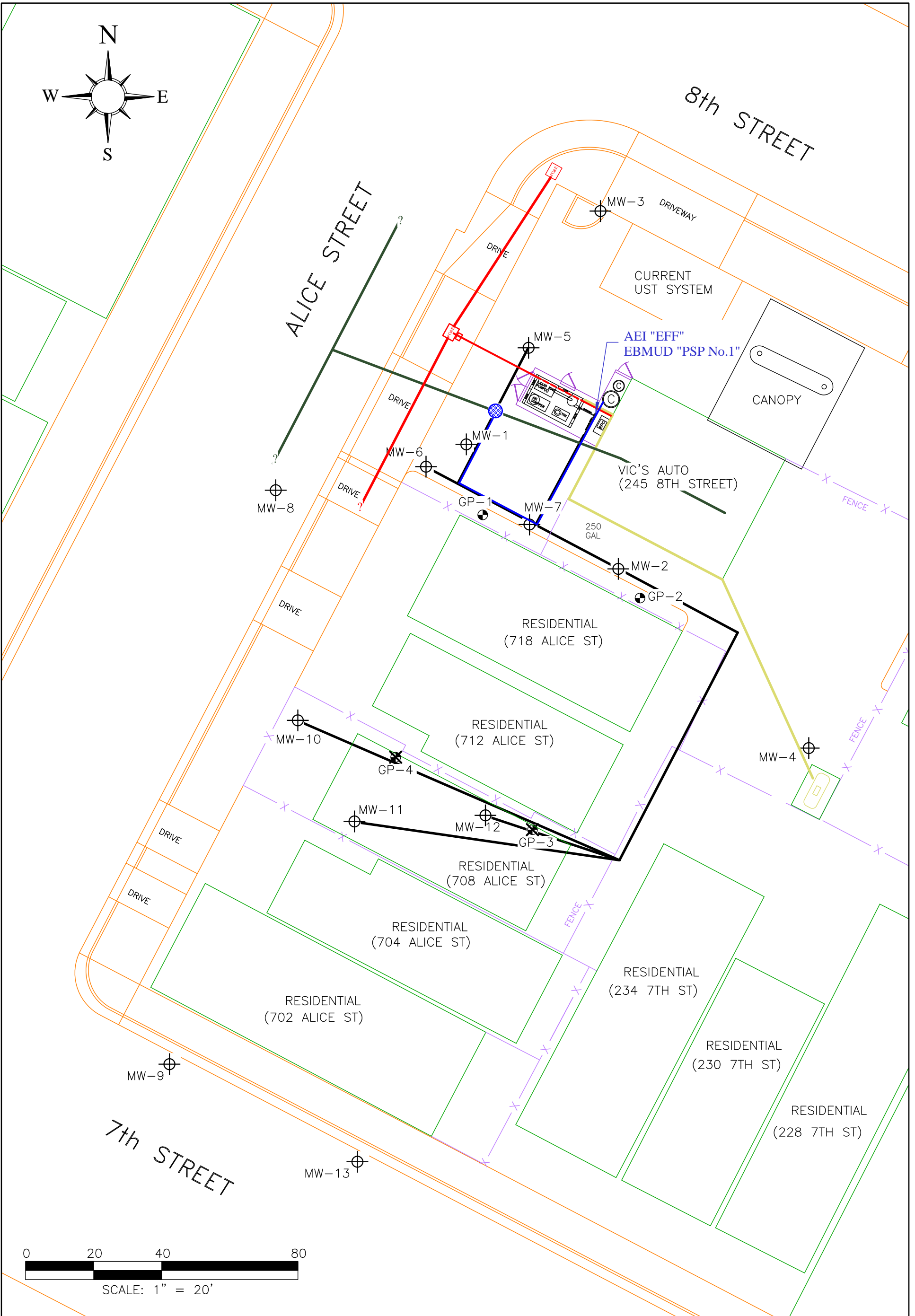


**AEI CONSULTANTS**  
 2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**SITE PLAN**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 2**  
 PROJECT NO. 116907



**LEGEND**

- MONITORING WELL
- SOIL BORING (8/9/96)
- SOIL BORING (04/02 & 03/03)
- SOIL GAS PROBE
- ABANDONED SOIL GAS PROBE
- HVDPE CONVEYANCE PIPING (~18 - 24" BGS)
- WATER DISCHARGE (~24" BGS)
- SANITARY SEWER (~36 - 48" BGS)
- TEMPORARY POWER SERVICE (~24" BGS)
- PROPANE LINE (~18 - 24" BGS)

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REVISED BY RJB 02-28-09



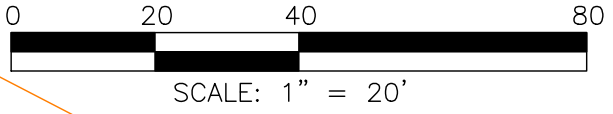
**AEI CONSULTANTS**

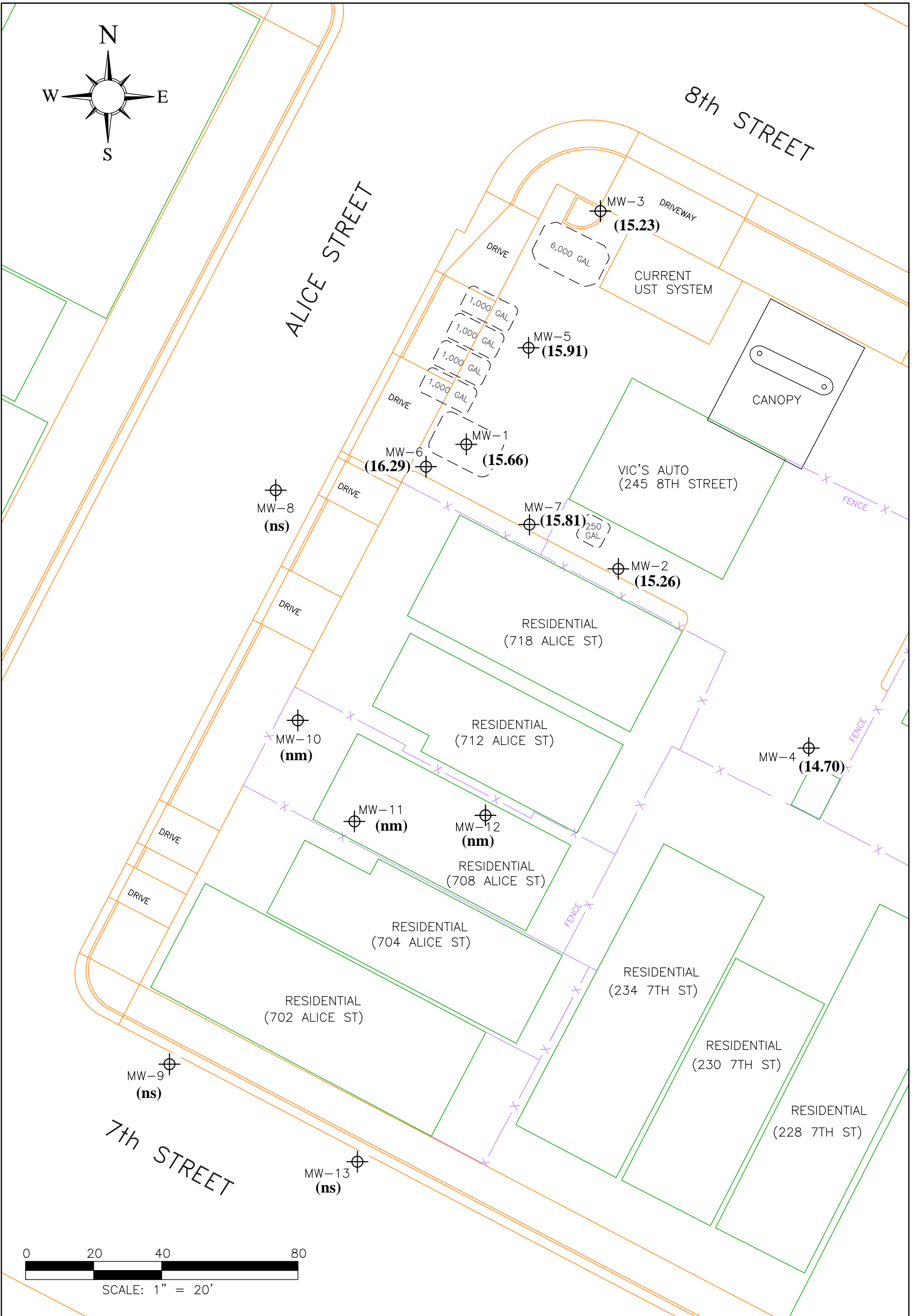
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**SYSTEME LAYOUT PLAN**


245 8TH STREET  
OAKLAND, CALIFORNIA

**FIGURE 3**  
PROJECT NO. 116907





**LEGEND**

 MONITORING WELL  
 MW-1 (15.00) = feet above mean sea level  
 Contour Interval = n/a  
 Contours plotted with Surfer V.7.0

\*Note: The HVDPE system was shutdown on January 6, 2009, approximately one (1) month prior to this monitoring event  
 ns = well elevation has not been surveyed  
 nm = depth to water not measured

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 FORMER UST LOCATION

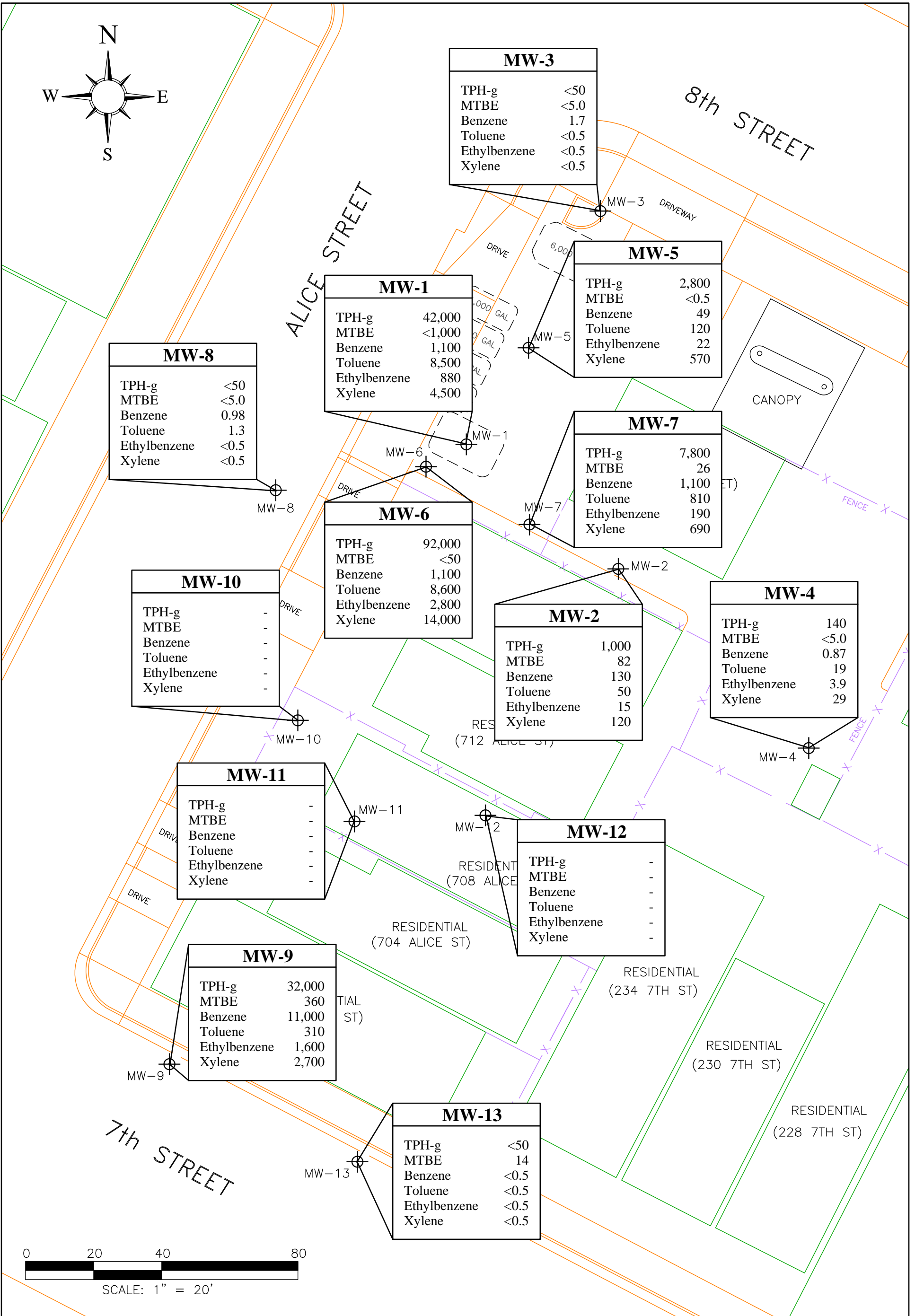
**AEI CONSULTANTS**

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**GROUNDWATER ELEVATION DATA (02/05/09)**

245 8TH STREET  
OAKLAND, CALIFORNIA

**FIGURE 4**  
PROJECT NO. 116907



**LEGEND**

⊕ MONITORING WELL

All groundwater sample analytical data in micrograms per liter (ug/L) or ppb

TPH-g = Total Petroleum Hydrocarbons as gasoline  
 MTBE = Methyl tertiary-butyl ether  
 NS/FP= not sampled / free product present

\*Note: The HVDPE system was shutdown on January 6, 2009, approximately one (1) month prior to this monitoring event

◻ FORMER UST LOCATION

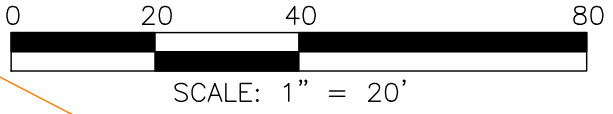
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 2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**GROUNDWATER SAMPLE ANALYTICAL DATA (02/05/09)**

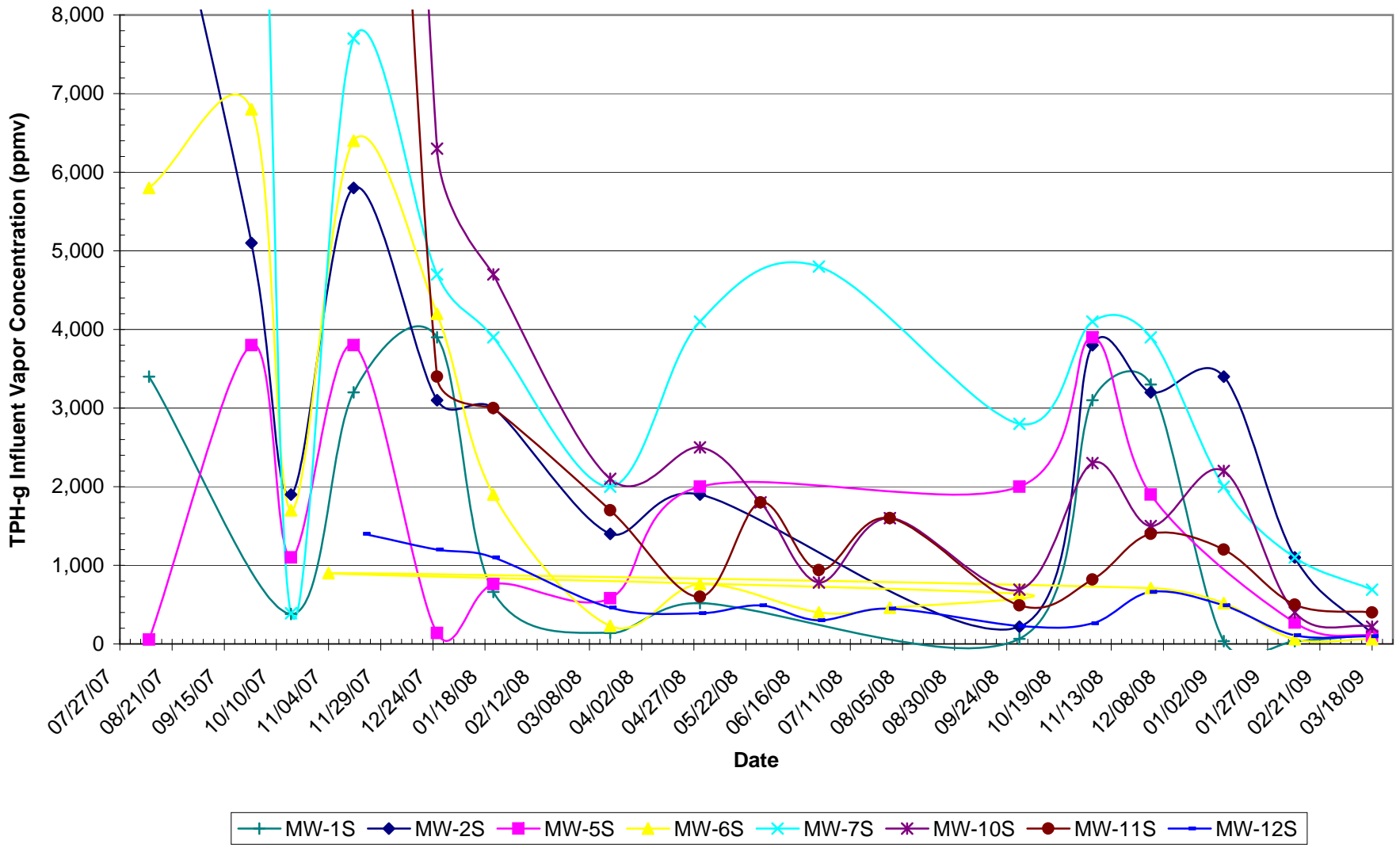
245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 5**  
 PROJECT NO. 116907



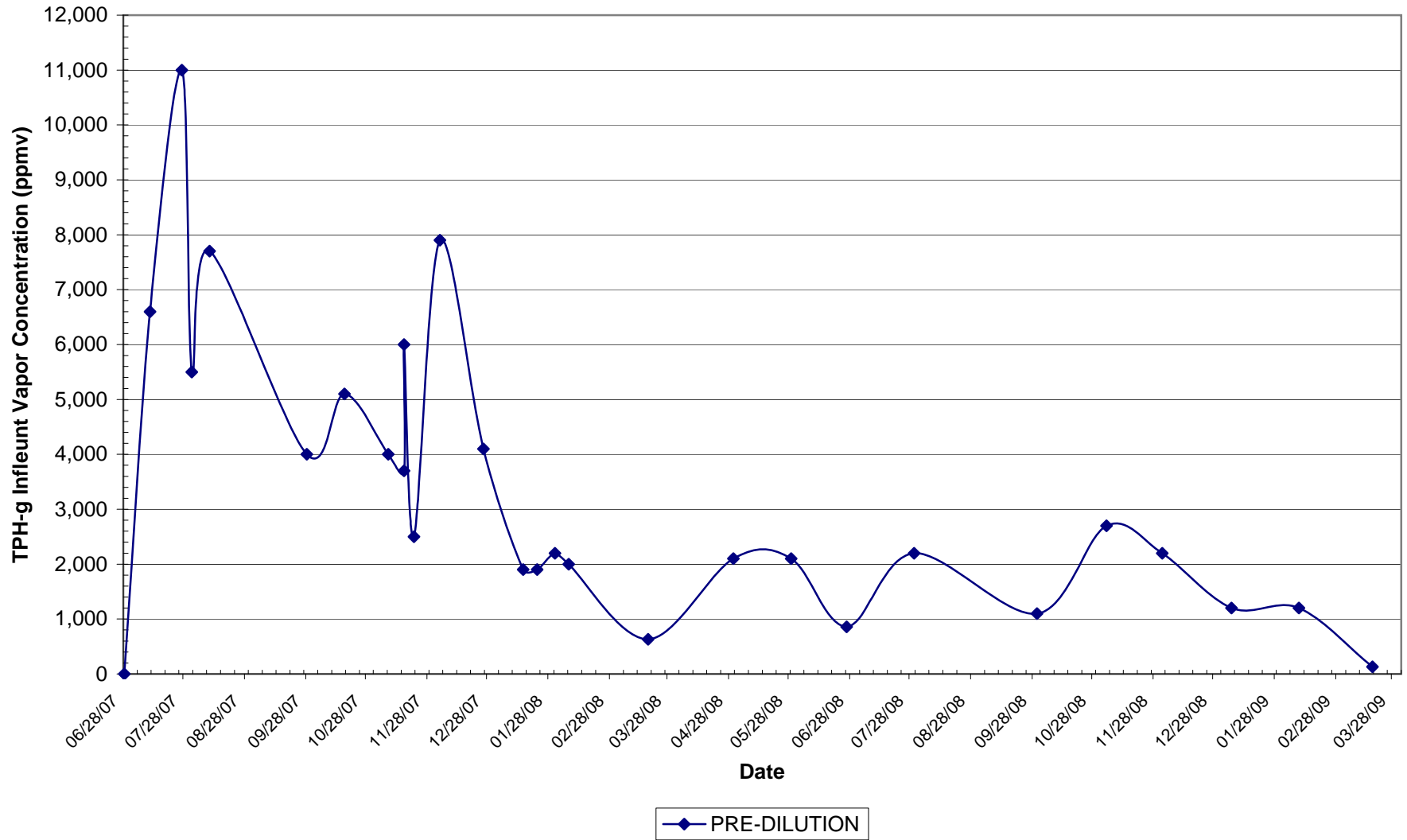
**FIGURE 6: EXTRACTION WELL INFLUENT CONCENTRATIONS OVER TIME**

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



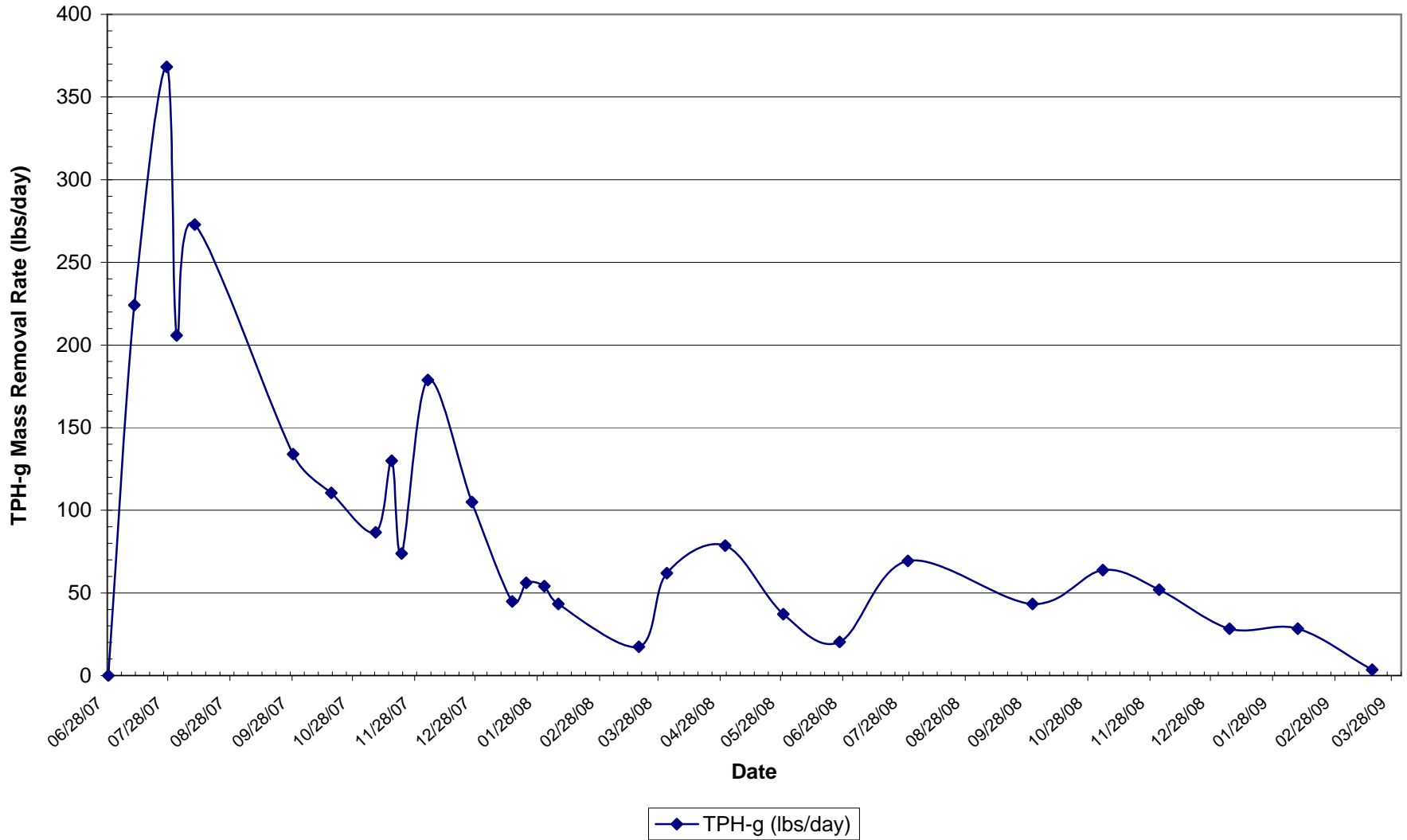
**FIGURE 7: COMBINED SYSTEM INFLUENT CONCENTRATIONS OVER TIME**

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



**FIGURE 8: HYDROCARBON MASS REMOVAL RATES BASED ON LAB DATA**

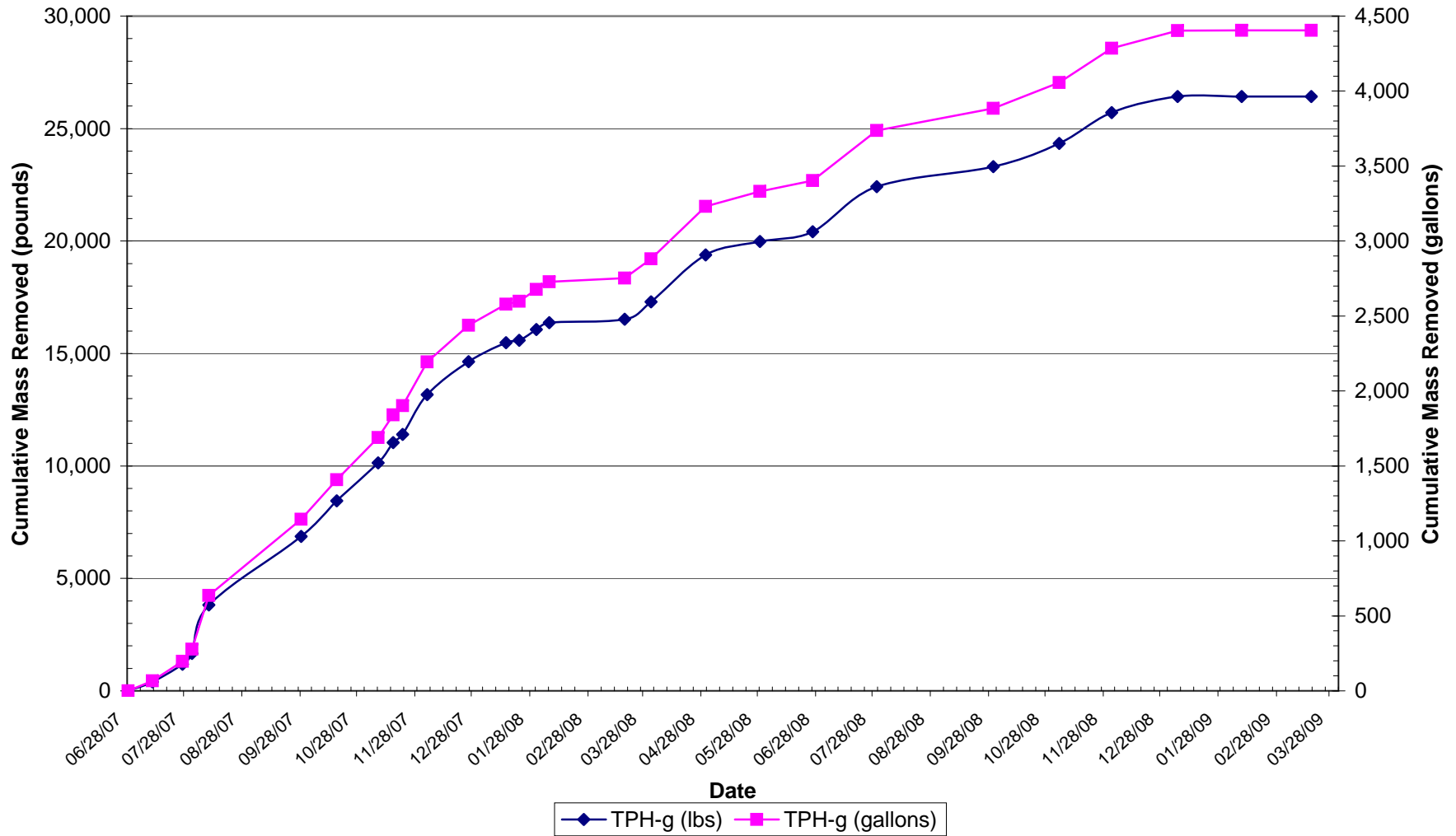
Vic's Auto, 245 8th Street, Oakland, California





**FIGURE 9: CUMULATIVE HYDROCARBON MASS REMOVED BASED ON LAB DATA**

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



## **TABLES**

**TABLE 1: GROUNDWATER ELEVATION DATA**

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

Well ID (screen interval)	Date Collected	TOC Well <sup>1,2</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	-	-
<b>02/05/09</b>	<b>32.55</b>	<b>16.89</b>	<b>15.66</b>	-	-	
<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	

**TABLE 1: GROUNDWATER ELEVATION DATA**

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

Well ID (screen interval)	Date Collected	TOC Well <sup>1,2</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> <b>cont.</b>	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	-	-
	<b>02/05/09</b>	<b>33.24</b>	<b>17.98</b>	<b>15.26</b>	-	-
<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	-	-	
<b>02/05/09</b>	<b>34.25</b>	<b>19.02</b>	<b>15.23</b>	-	-	
<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	-	-	

**TABLE 1: GROUNDWATER ELEVATION DATA**

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

Well ID (screen interval)	Date Collected	TOC Well <sup>1,2</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> <b>cont.</b>	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	-	-
<b>02/05/09</b>	<b>34.42</b>	<b>19.72</b>	<b>14.70</b>	-	-	
<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	-	-	
<b>02/05/09</b>	<b>33.33</b>	<b>17.42</b>	<b>15.91</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	-	-

**TABLE 1: GROUNDWATER ELEVATION DATA**

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

Well ID (screen interval)	Date Collected	TOC Well <sup>1,2</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-6</b> cont.	08/05/08	32.82	16.48	16.34	-	-
	11/07/08	32.82	17.33	15.49	-	-
	<b>02/05/09</b>	<b>32.82</b>	<b>16.53</b>	<b>16.29</b>	-	-
<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	-	-
<b>02/05/09</b>	<b>33.07</b>	<b>17.26</b>	<b>15.81</b>	-	-	
<b>MW-8</b> (12-22)	05/15/08	<b>33.00</b>	16.47	<b>16.53</b>	-	-
	08/05/08	<b>33.00</b>	16.88	<b>16.12</b>	-	-
	11/07/08	<b>33.00</b>	17.28	<b>15.72</b>	-	-
	<b>02/05/09</b>	<b>33.00</b>	<b>16.78</b>	<b>16.22</b>	-	-
<b>MW-9</b> (12-22)	05/15/08	<b>32.00</b>	15.16	<b>16.84</b>	-	-
	08/05/08	<b>32.00</b>	15.38	<b>16.62</b>	-	-
	11/07/08	<b>32.00</b>	15.84	<b>16.16</b>	-	-
	<b>02/05/09</b>	<b>32.00</b>	<b>15.38</b>	<b>16.62</b>	-	-
<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	-	-	-
	<b>02/05/09</b>	<b>31.17</b>	<b>nm</b>	<b>nm</b>	-	-

**TABLE 1: GROUNDWATER ELEVATION DATA**

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

Well ID (screen interval)	Date Collected	TOC Well <sup>1,2</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-11 (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	nm	-	-
02/05/09	31.78	nm	nm	-	-	
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	32.02	18.65	13.37	-	-
	02/14/08	32.02	16.50	15.52	-	-
	05/15/08	32.02	17.34	14.68	-	-
	08/05/08	32.02	17.61	14.41	-	-
	11/07/08	32.02	nm	nm	-	-
02/05/09	32.02	nm	nm	-	-	
MW-13 (12-22)	05/15/08	32.00	14.87	17.13	-	-
	08/05/08	32.00	15.10	16.90	-	-
	11/07/08	32.00	15.61	16.39	-	-
	02/05/09	32.00	15.09	16.91	-	-

**NOTES:**

- not applicable

ft = feet

ft amsl = feet above mean sea level

nm = not measured

LNAPL = light non-aqueous phase liquid (i.e., free product)

Red = Assumed elevation, awaiting final survey pending installation of proposed monitoring wells MW-14, MW-15, and MW-16

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

2) Groundwater 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 &gt;0.10 ft, the groundwater elevations are assumed to be affected by the LNAPL

5)

**TABLE 2: GROUNDWATER FLOW SUMMARY**

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

Episode #	Date	Average Groundwater Elevation <sup>1</sup> (ft amsl)	Change from Previous Episode (ft)	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	15.81	-0.43	-
29*	08/05/08	15.54	-0.27	-
30*	11/07/08	15.22	-0.32	-
<b>31*</b>	<b>02/05/09</b>	<b>15.86</b>	<b>0.64</b>	-

**NOTES:**

- not applicable

ft = feet

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



**TABLE 3: GROUNDWATER SAMPLE ANALYTICAL DATA**

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	-
	11/09/04	0.24	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	-
	05/09/05	0.12	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	-
	11/09/05	0.01	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	-
	05/04/06	0.01	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	-
	11/08/06	0.01	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	-
	05/29/07	0.05	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	110,00	<1,000	730	22,000	1,700	8,200	-	
11/07/08	0.00	15,000	290	460	1,400	84	2,700	-	
	<b>02/05/09</b>	<b>0.00</b>	<b>42,000</b>	<b>&lt;1,000</b>	<b>1,100</b>	<b>8,500</b>	<b>880</b>	<b>4,500</b>	

**TABLE 3: GROUNDWATER SAMPLE ANALYTICAL DATA**

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	-	
<b>02/05/09</b>	<b>0.00</b>	<b>1,000</b>	<b>82</b>	<b>130</b>	<b>50</b>	<b>15</b>	<b>120</b>	<b>-</b>	

**TABLE 3: GROUNDWATER SAMPLE ANALYTICAL DATA**

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	-	
<b>02/05/09</b>	<b>0.00</b>	<b>&lt;50</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>1.7</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	

**TABLE 3: GROUNDWATER SAMPLE ANALYTICAL DATA**

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	-	
<b>02/05/09</b>	<b>0.00</b>	<b>140</b>	<b>&lt;5.0</b>	<b>&lt;5.0</b>	<b>0.87</b>	<b>19</b>	<b>3.9</b>	<b>29</b>	-

**TABLE 3: GROUNDWATER SAMPLE ANALYTICAL DATA**

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	-
	<b>02/05/09</b>	<b>0.00</b>	<b>2,800</b>	<b>&lt;0.5*</b>	<b>49</b>	<b>120</b>	<b>22</b>	<b>570</b>	-
<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	-
		<b>02/05/09</b>	<b>0.00</b>	<b>92,000</b>	<b>&lt;50*</b>	<b>1,100</b>	<b>8,600</b>	<b>2,800</b>	<b>14,000</b>

**TABLE 3: GROUNDWATER SAMPLE ANALYTICAL DATA**

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	-
	<b>02/05/09</b>	<b>0.00</b>	<b>7,800</b>	<b>26*</b>	<b>1,100</b>	<b>810</b>	<b>190</b>	<b>690</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	2.90	26.0	6.1	86	-
		<b>02/05/09</b>	<b>0.00</b>	<b>&lt;50</b>	<b>&lt;5.0</b>	<b>0.98</b>	<b>1.3</b>	<b>&lt;0.5</b>	<b>&lt;0.5</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	-
		<b>02/05/09</b>	<b>0.00</b>	<b>32,000</b>	<b>360*</b>	<b>11,000</b>	<b>310</b>	<b>1,600</b>	<b>2,700</b>



**TABLE 3: GROUNDWATER SAMPLE ANALYTICAL DATA**

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>	-	-	-	-	-	-	-	-
<b>02/05/09</b>	-	-	-	-	-	-	-	-	-
<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	-
	<b>02/05/09</b>	<b>0.00</b>	<b>&lt;50</b>	<b>14</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	-

**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

4)

5)





**TABLE 4: SOIL GAS SAMPLE ANALYTICAL DATA**

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

Well ID	Date Collected	Sample Depth (ft bgs)	TPH-g (µg/m3)	MTBE (µg/m3)	Benzene (µg/m3)	Toluene (µg/m3)	Ethylbenzene (µg/m3)	Xylenes (µg/m3)	Ethanol (µg/m3)	PCE (µg/m3)	2-propanol (µg/m3)
GP-3-5	08/04/06	5	<240	<4.2	<3.7	<4.4	<5.0	<5.0	<8.8	<7.9	<11
GP-3-5	11/08/06	5	930	<4.4	<3.9	<4.6	<5.2	<5.2	<9.1	<8.2	<12
GP-3-5	03/06/07*	5	-	-	-	-	-	-	-	-	-
GP-3-5	05/17/07	5	582	<4.0	<3.5	<4.1	<4.8	<4.8	17	<7.5	<11
GP-3-5D <sub>f</sub>	05/17/07	5	582	<4.0	<3.5	<4.1	<4.8	<4.8	<8.3	16	<11
GP-3-5	12/12/07	5	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-3-5	02/14/08	5	<1800	<48	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-3-5	05/08/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-3-5	08/15/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<10,000
<b>GP-3-5<sup>1,2</sup></b>	<b>11/07/08</b>	<b>5</b>	-	-	-	-	-	-	-	-	-
GP-3-10	08/04/06	10	564	<4.2	<3.7	<4.4	<5.0	<5.0	<8.8	<7.9	<11
GP-3-10	11/08/06	10	1,800	<4.0	<3.6	<4.2	<4.9	<4.9	<8.4	<7.6	<11
GP-3-10	03/06/07*	10	-	-	-	-	-	-	-	-	-
GP-3-10	05/17/07	10	1,538	<4.1	<3.6	<4.3	<5.0	<5.0	18	<7.8	12
GP-3-10	12/12/07	10	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	-
GP-3-10	02/14/08	10	<1800	<48	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-3-10	05/08/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-3-10	08/15/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<10,000
<b>GP-3-10<sup>1,2</sup></b>	<b>11/07/08</b>	<b>10</b>	-	-	-	-	-	-	-	-	-
GP-4-5	08/04/06	5	705	<4.4	5.4	<4.6	<5.4	<5.4	<9.3	<8.4	<12
GP-4-5D <sub>1</sub>	08/04/06	5	599	-	-	-	-	-	-	-	-
GP-4-5	11/08/06	5	540	<4	<3.5	<4.1	<4.8	<4.8	<8.3	<7.5	<11
GP-4-5D <sub>f</sub>	11/08/06	5	610	<7.7	<6.8	<8.0	<9.2	<9.2	<16	<14	<21
GP-4-5	03/06/07*	5	-	-	-	-	-	-	-	-	-
GP-4-5	05/17/07	5	873	<4	<3.6	<4.2	<4.9	<4.9	15	<7.6	<11
GP-4-5	12/12/07	5	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-4-5D <sub>f</sub>	12/12/07	5	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-4-5	02/14/08	5	<1800	<48	<6.5	<7.7	<8.8	<27	<96	<14	<10,000
GP-4-5	05/08/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-4-5	08/15/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<10,000
<b>GP-4-5<sup>1,2</sup></b>	<b>11/07/08</b>	<b>5</b>	-	-	-	-	-	-	-	-	-
GP-4-10	08/04/06	10	564	<4.1	6.1	17	5.7	16	12	<7.8	<11
GP-4-10D <sub>f</sub>	08/05/06	10	529	<3.8	4.2	18	<4.6	17	18	<7.2	<10
GP-4-10	11/08/06	10	900	<4.0	<3.5	4.1	<4.8	5.2	<8.3	<7.5	<11
GP-4-10D <sub>1</sub>	11/08/06	10	880	<1.8	<1.6	<1.9	<2.2	<2.2	<3.8	<3.4	<4.9
GP-4-10	03/06/07*	10	-	-	-	-	-	-	-	-	-
GP-4-10	05/17/07^	10	-	-	-	-	-	-	-	-	-
GP-4-10	12/12/07	10	1,600	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-4-10	02/14/08	10	-	-	-	-	-	-	-	-	-
GP-4-10	05/08/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-4-10	08/15/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<10,000
<b>GP-4-10<sup>1,2</sup></b>	<b>11/07/08</b>	<b>10</b>	-	-	-	-	-	-	-	-	-
<b>ESLs</b>			<b>26,000</b>	<b>9,400</b>	<b>85</b>	<b>63,000</b>	<b>420,000</b>	<b>150,000</b>	<b>1.9E+07</b>	<b>410</b>	<b>-</b>
<b>CHHSLs</b>			<b>-</b>	<b>4,000</b>	<b>36.2</b>	<b>135,000</b>	<b>pp</b>	<b>315,000</b>	<b>-</b>	<b>180</b>	<b>-</b>

**TABLE 4: SOIL GAS SAMPLE ANALYTICAL DATA**

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

Well ID	Date Collected	Sample Depth (ft bgs)	TPH-g ( $\mu\text{g}/\text{m}^3$ )	MTBE ( $\mu\text{g}/\text{m}^3$ )	Benzene ( $\mu\text{g}/\text{m}^3$ )	Toluene ( $\mu\text{g}/\text{m}^3$ )	Ethyl-benzene ( $\mu\text{g}/\text{m}^3$ )	Xylenes ( $\mu\text{g}/\text{m}^3$ )	Ethanol ( $\mu\text{g}/\text{m}^3$ )	PCE ( $\mu\text{g}/\text{m}^3$ )	2-propanol ( $\mu\text{g}/\text{m}^3$ )
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**NOTES:**

- not sampled/analyzed

2-propanol (i.e., isopropyl alcohol) tracer/leak check compound

ft bgs = feet below ground surface

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

TPH-g = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary-butyl ether

PCE = tetrachloroethene

ESLs = Environmental Screening Levels - for residential land use

CHHSLs = California Human Health Screening Levels

pp = CHHSL postponed

\* = Sampling not possible due to seasonal wet soil conditions

^ = No sample analysis due to presence of free moisture in sample tubing

D<sub>f</sub> = after the probe/sample ID indicates a duplicate sample collected in the fieldD<sub>l</sub> = after the probe/sample ID indicates a duplicate sample prepared and analyzed by the lab

TPH-g by modified EPA Method TO-3

BTEX, MTBE, Ethanol, PCE, 2-propanol by modified EPA Method TO-15

1) On August 21, 2008, GP-3 and GP-4 were decommissioned during the installation of the HVDPE conveyance piping laterals

2) Per concurrence from ACHCSA in a letter dated October 3, 2008, quarterly soil gas sampling has been temporarily suspended during operation of the HVDPE system

3)

4)

5)

**TABLE 5: HVDPE VAPOR INLET SAMPLE 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)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (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		100%	100%	21	0	0.0	20.9	0.0	0.0	380	ND<14	26	58	5.7	46
	11/16/07	4	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		100%	OFF	18	160	0.0	19.7	0.3	660	ND<14	5.8	23	2.7	28	
	02/07/08		OFF	OFF	21.5	0	0.0	20.9	0.0	-	-	-	-	-	-	
	03/18/08		100%	100%	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	20.9	0.1	520	3.3	13	38	6.7	53	
	05/29/08		OFF	OFF	19.5	-	-	-	-	-	-	-	-	-	-	
	06/26/08	OFF	OFF	23	-	-	-	-	-	-	-	-	-	-		
	07/30/08	7	OFF	OFF	17	310	0	18.3	1.1	-	-	-	-	-	-	
	09/30/08		OFF	100%	16.5	5	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	
	<b>01/06/09</b>	<b>100%</b>	<b>100%</b>	<b>12</b>	<b>55</b>	<b>0</b>	<b>20.9</b>	<b>0.0</b>	<b>35</b>	<b>ND&lt;0.68</b>	<b>3.6</b>	<b>5.6</b>	<b>0.22</b>	<b>1.8</b>		
	<b>02/09/09</b>	<b>100%</b>	<b>100%</b>	<b>12</b>	<b>15</b>	<b>0</b>	<b>20.9</b>	<b>0.0</b>	<b>36</b>	<b>ND&lt;0.68</b>	<b>4.7</b>	<b>6.7</b>	<b>0.35</b>	<b>3.1</b>		
<b>03/18/09</b>	<b>100%</b>	<b>100%</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>20.9</b>	<b>0.3</b>	<b>120</b>	<b>ND&lt;1.0</b>	<b>1.8</b>	<b>9.6</b>	<b>0.69</b>	<b>4.2</b>			
MW-2S	08/10/07	1	100%	100%	21	-	-	-	-	11,000	ND<110	280	770	81	360	
	09/28/07		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		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	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	
	<b>01/06/09</b>		<b>100%</b>	<b>100%</b>	<b>11</b>	<b>1,950</b>	<b>0.5</b>	<b>17.7</b>	<b>1.6</b>	<b>3,400</b>	<b>ND&lt;30</b>	<b>69</b>	<b>150</b>	<b>13</b>	<b>95</b>	
	<b>02/09/09</b>		<b>100%</b>	<b>100%</b>	<b>12</b>	<b>900</b>	<b>0</b>	<b>16.4</b>	<b>1.4</b>	<b>1,100</b>	<b>ND&lt;10</b>	<b>25</b>	<b>53</b>	<b>4.9</b>	<b>49</b>	
<b>03/18/09</b>	<b>100%</b>		<b>100%</b>	<b>10</b>	<b>30</b>	<b>0</b>	<b>20.9</b>	<b>0</b>	<b>130</b>	<b>ND&lt;0.68</b>	<b>1.1</b>	<b>5.6</b>	<b>0.43</b>	<b>2.6</b>		

**TABLE 5: HVDPE VAPOR INLET SAMPLE 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)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	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		OFF	OFF	18	200	0.0	20.9	0.0	140	ND<0.68	0.45	3.7	1.5	14
	01/22/08		100%	100%	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		100%	100%	14.5	0	xx	19.9	0.3	580	ND<2.7	3	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		OFF	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
MW-6S	08/10/07		100%	100%	21	-	-	-	-	5,800	ND<30	69	280	24	140
	09/28/07	1	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%	50%	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		50%	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%	100%	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	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		OFF	100%	16.5	570	0.0	17.4	2.0	640	ND<14	7.7	42	3.7	31
	11/04/07		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

**TABLE 5: HVDPE VAPOR INLET SAMPLE 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)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)	
MW-7S	08/10/07	1			21	-	-	-	-	19,000	ND<450	620	590	27	100	
	09/28/07		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	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		100%	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%	100%	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	110	
	07/30/08		100%	100%	17	2,750	0.5	18.3	1.7	-	-	-	-	-	-	
	09/30/08		OFF	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	
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		100%	100%	17	1,050	0.0	20.3	0.8	1,600	ND<14	16	50	9.5	95	
	09/30/08		100%	0%	16.5	640	0.0	20.9	0.4	690	ND<4.0	10	29	5.1	53	
	11/04/08		0%	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	

**TABLE 5: HVDPE VAPOR INLET SAMPLE 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)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)	
MW-11S	11/21/07	7	100%	100%	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		100%	100%	17	980	0.0	20.9	0.3	1,600	ND<30	22	50	13	100	
	09/30/08		100%	0%	16.5	510	0.0	20.9	0.2	490	ND<10	11	22	3.8	40	
	11/04/08		0%	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	
	<b>01/06/09</b>		<b>100%</b>	<b>100%</b>	<b>11</b>	<b>790</b>	<b>0.0</b>	<b>18.9</b>	<b>0.6</b>	<b>1,200</b>	<b>ND&lt;20</b>	<b>29</b>	<b>53</b>	<b>5.7</b>	<b>56</b>	
	<b>02/09/09</b>		<b>100%</b>	<b>100%</b>	<b>12</b>	<b>380</b>	<b>0.0</b>	<b>17.6</b>	<b>0.8</b>	<b>500</b>	<b>ND&lt;6.0</b>	<b>14</b>	<b>18</b>	<b>2.3</b>	<b>28</b>	
	<b>03/18/09</b>		<b>100%</b>	<b>100%</b>	<b>10</b>	<b>280</b>	<b>0.0</b>	<b>17.3</b>	<b>1.2</b>	<b>400</b>	<b>ND&lt;3.0</b>	<b>48</b>	<b>18</b>	<b>3.4</b>	<b>20</b>	
MW-12S	11/21/07	7	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		100%	100%	17	240	0.0	20.9	0.3	450	ND<5.0	4.5	20	3.8	32	
	09/30/08		100%	0%	16.5	190	0.0	20.9	0.2	230	ND<5.0	3.9	12	2.2	28	
	11/04/08		0%	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	
	<b>01/06/09</b>		<b>100%</b>	<b>100%</b>	<b>11</b>	<b>380</b>	<b>0.0</b>	<b>20.3</b>	<b>0.4</b>	<b>490</b>	<b>ND&lt;6.8</b>	<b>9.1</b>	<b>18</b>	<b>2.2</b>	<b>37</b>	
	<b>02/09/09</b>		<b>100%</b>	<b>100%</b>	<b>12</b>	<b>70</b>	<b>0.0</b>	<b>20.1</b>	<b>0.3</b>	<b>110</b>	<b>ND&lt;5.0</b>	<b>4.2</b>	<b>4.0</b>	<b>0.58</b>	<b>8.1</b>	
	<b>03/18/09</b>		<b>100%</b>	<b>100%</b>	<b>10</b>	<b>25</b>	<b>0.0</b>	<b>20.9</b>	<b>0.2</b>	<b>98</b>	<b>ND&lt;5.0</b>	<b>7.6</b>	<b>4.2</b>	<b>0.53</b>	<b>2.5</b>	

**TABLE 5: HVDPE VAPOR INLET SAMPLE 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)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	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
	<b>01/06/09</b>		<b>100%</b>	<b>100%</b>	-	<b>0</b>	<b>0.0</b>	<b>20.9</b>	<b>0.1</b>	<b>150</b>	<b>ND&lt;1.5</b>	<b>1.9</b>	<b>6.9</b>	<b>1.1</b>	<b>22</b>
	<b>02/09/09</b>		<b>100%</b>	<b>100%</b>	-	<b>15</b>	<b>0.0</b>	<b>20.9</b>	<b>0.0</b>	<b>18</b>	<b>ND&lt;0.68</b>	<b>0.28</b>	<b>0.57</b>	<b>0.078</b>	<b>1.5</b>
	<b>03/18/09</b>		<b>100%</b>	<b>100%</b>	-	<b>0</b>	<b>0.0</b>	<b>20.9</b>	<b>0.0</b>	<b>ND&lt;7.0</b>	<b>ND&lt;0.68</b>	<b>ND&lt;0.077</b>	<b>0.085</b>	<b>ND&lt;0.057</b>	<b>0.15</b>



**TABLE 5: HVDPE VAPOR INLET SAMPLE 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)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
<b>PRED</b>	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	
<b>01/06/09</b>		-	-	<b>11</b>	<b>1,300</b>	<b>0.0</b>	<b>18.4</b>	<b>1.2</b>	<b>1,200</b>	<b>ND&lt;80</b>	<b>21</b>	<b>58</b>	<b>5.7</b>	<b>78</b>	
<b>02/09/09</b>		-	-	<b>12</b>	<b>880</b>	<b>0.0</b>	<b>15.6</b>	<b>1.5</b>	<b>1,200</b>	<b>ND&lt;10</b>	<b>17</b>	<b>31</b>	<b>3.1</b>	<b>46</b>	
<b>03/18/09</b>		-	-	<b>10</b>	<b>60</b>	<b>0.0</b>	<b>20.8</b>	<b>0.4</b>	<b>130</b>	<b>ND&lt;0.68</b>	<b>5.2</b>	<b>11</b>	<b>1.2</b>	<b>7.1</b>	



**TABLE 5: HVDPE VAPOR INLET SAMPLE 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)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)		
<b>STACK</b>	06/28/07	7	-	-	-	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	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	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	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	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	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	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	ND<0.057	ND<0.057
	07/30/08		-	-	-	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	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	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	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	ND<0.057	ND<0.057		
<b>DL</b>						<b>5.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>7.0</b>	<b>0.68</b>	<b>0.077</b>	<b>0.065</b>	<b>0.057</b>	<b>0.057</b>		

**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

xx = methane sensor damaged; pending replacement  
 TVH = total volatile hydrocarbons (calibrated w/ hexane)  
 CH4 = methane by infrared detection (0 to 100% by volume)  
 O2 = oxygen by electrochemical detection (0-40% by volume)  
 CO2 = carbon dioxide by infrared detection (0 to 20% by volume)  
 TVH, CH4, O2, and CO2 measured RKI Eagle gas detector

**DL = detection limit for dilution factor of 1**  
 TPH-g by EPA Method 8015C  
 BTEX & MTBE by EPA Method 8021B

- 1) Individual well water separator trap used for the 1st time.
- 2) Vacuum leak detected at wellhead due to broken wellhead seal.
- 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) Sample was lost in transit or at the laboratory.
- 9)
- 10)

**TABLE 6: GROUNDWATER TREATMENT SYSTEM SAMPLE ANALYTICAL DATA**

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

Sample ID	Sample Date	Notes	TOG (mg/L)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
<b>INF</b>	06/26/07	1	-	20,000	ND<1,500	1,400	2,300	350	3,000
	06/27/07		-	25,000	1,300	2,300	3,400	490	3,100
	06/28/07		-	28,000	1,500	2,300	4,800	540	3,300
	07/12/07		-	8,300	150	660	1,500	120	1,300
	08/22/07	2	-	16,000	130	610	2,000	300	2,400
	10/17/07	3,4	-	25,000	ND<250	990	3,000	380	3,600
	11/07/07		-	21,000	ND<500	730	2,600	300	4,800
	12/12/07	5	-	75,000	ND<250	1,200	9,900	1,700	12,000
	01/08/08		-	12,000	320	260	1,100	170	2,900
	03/18/08		-	4,100	480	150	240	52	520
	04/01/08		-	2,400	60	37	140	20	390
	04/30/08		-	8,600	170	150	630	160	2,200
	05/29/08		-	13,000	310	140	470	170	1,800
	06/26/08		-	7,600	260	130	360	82	1,100
	07/30/08		-	9,400	220	160	510	60	1,100
	09/30/08		-	6,100	270	240	370	49	780
	11/04/08		-	9,400	380	320	800	110	1,800
	12/02/08		-	8,300	150	140	460	60	1,700
	<b>01/06/09</b>			<b>7,800</b>	<b>ND&lt;250</b>	<b>160</b>	<b>460</b>	<b>58</b>	<b>1,600</b>
	<b>02/09/09</b>			<b>11,000</b>	<b>320</b>	<b>250</b>	<b>660</b>	<b>84</b>	<b>1,700</b>
<b>03/18/09</b>	7		<b>2,000</b>	<b>-</b>	<b>96</b>	<b>180</b>	<b>21</b>	<b>220</b>	
<b>POST-AS</b>	06/26/07	1	-	1,000	92	19	34	6.8	48
	06/27/07		-	420	45	7.8	13	2.1	22
	06/28/07		-	6,400	570	610	890	59	750
	07/12/07		-	-	-	-	-	-	-
	08/22/07	2	-	5,300	100	610	2,000	300	2,400
	10/17/07	3,4	-	84	12	0.90	2.6	ND<0.5	7
	11/07/07		-	120	41	0.71	1.9	ND<0.5	12
	12/12/07	5	-	65,000	ND<250	210	3,400	1,300	11,000
	01/08/08		-	130	55	0.85	2.8	ND<0.5	12
	03/18/08		-	120	190	2.5	3.5	0.77	7.2
	04/01/08		-	140	ND<5.0	5.6	0.60	ND<0.5	1.7
	04/30/08		-	ND<50	11	0.56	ND<0.5	ND<0.5	1.1
	05/29/08		-	100	20	ND<0.5	ND<0.5	ND<0.5	6.7
	06/26/08		-	70	27	ND<0.5	1.1	ND<0.5	6.3
	07/30/08		-	130	16	1.1	3.3	0.73	10
	09/30/08		-	94	15	0.85	1.6	ND<0.5	5
	11/04/08		-	ND<50	27	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/02/08		-	ND<50	6.3	ND<0.5	ND<0.5	ND<0.5	1.5
	<b>01/06/09</b>			<b>ND&lt;50</b>	<b>28</b>	<b>ND&lt;0.5</b>	<b>ND&lt;0.5</b>	<b>ND&lt;0.5</b>	<b>0.77</b>
	<b>02/09/09</b>			<b>250</b>	<b>37</b>	<b>3.1</b>	<b>8.7</b>	<b>1.3</b>	<b>28</b>
<b>03/18/09</b>	7		<b>120</b>	<b>-</b>	<b>2.4</b>	<b>4.8</b>	<b>0.81</b>	<b>6.9</b>	
<b>POST-C1</b>	06/26/07	1	-	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	08/22/07	2	-	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/17/07	3,4	-	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5

**TABLE 6: GROUNDWATER TREATMENT SYSTEM SAMPLE ANALYTICAL DATA**

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

Sample ID	Sample Date	Notes	TOG (mg/L)	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
<b>EFF</b>	06/26/07	1	ND<5.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	08/22/07	2	-	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/17/07	3,4	-	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/07/07		-	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/07	5	-	ND<50	17	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/08/08		-	ND<50	17	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/18/08	6	ND<5.0	ND<50	50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	04/01/08		-	-	-	-	-	-	-
	04/30/08		ND<5.0	ND<50	30	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	05/29/08		-	ND<50	27	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/26/08		-	ND<50	37	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	07/30/08		-	ND<50	30	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	09/23/08		ND<5.0	-	-	-	-	-	-
	09/30/08		-	ND<50	18	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/04/08		-	ND<50	25	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/02/08		-	ND<50	17	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/06/09		-	ND<50	32	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	02/09/09		ND<5.0	ND<50	9.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/18/09	7	-	ND<50	-	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	<b>DL</b>	-	-	<b>5.0</b>	<b>50</b>	<b>5.0</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>

**NOTES:**

- not sampled/analyzed

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

mg/L = milligrams per liter or parts per million (ppm)

TOG = total oil and grease hydrocarbon

TPH-g = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary-butyl ether

**DL = detection limit for dilution factor of 1**

TOG by EPA Method 1664 HEM-SGT

TPH-g by EPA Method 8015C

BTEX & MTBE by EPA Method 8021B

- 1) System startup and first discharge to sanitary sewer
- 2) Bag filter (LCO8) pre-filter for sediment removal installed and started up on 08/17/07
- 3) 1,000-pound (PV-1000) carbon absorber (up to 75 psig) installed on 10/5/07 and started up on 10/9/07
- 4) 200-pound (ASC-200) carbon absorber (i.e., C-2) taken offline permanently on 10/25/07
- 5) On November 20, 2007, extraction wells MW-10, MW-11, and MW-12 were brought online
- 6) Metal analysis no longer required per email from EBMUD, dated January 31, 2008
- 7) On February 27, 2009, the carbon in the PV1000 carbon absorber was changed out by Siemens Water Technologies
- 8)
- 9)
- 10)

**TABLE 7: SOIL GAS FIELD SCREENING DATA SUMMARY (TVH, CH4, O2, & CO2)**

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

Soil Gas Probe ID	Date	Notes	Vacuum Influence (in-H2O)	Purge Vacuum (in-H2O)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
GP-1-5'	05/17/07	4	0.00	-	0.11	0.0	18.0	2.2
	06/12/07		0.00	-	0.0	0.0	18.6	2.4
	08/01/07		0.40	-	0.0	0.0	20.9	0.0
	08/10/07		0.35	-	0.0	0.0	20.9	0.0
	10/05/07		0.00	-	0.0	0.0	20.9	0.3
	11/07/07		0.24	1.50	0.0	0.0	20.9	0.0
	11/21/07		0.84	1.50	0.0	0.0	20.9	0.0
	03/28/08		<0.10	>50	0.0	xx	20.9	0.0
	04/30/08	5	0.00	<1.00	0.0	0.0	20.9	0.1
	08/15/08		0.00	1.50	0.0	0.0	20.9	0.0
	11/11/08		0.20	1.10	0.0	0.0	20.9	0.0
	<b>02/09/09</b>	8	<b>0.00</b>	<b>1.00</b>	<b>0.0</b>	<b>0.0</b>	<b>19.7</b>	<b>0.8</b>
	<b>03/10/09</b>		<b>0.00</b>	<b>1.80</b>	<b>0.0</b>	<b>0.0</b>	<b>19.3</b>	<b>1.3</b>
GP-1-10'	05/17/07	4	0.00	-	-	-	-	-
	06/12/07		0.00	-	0.0	0.0	18.7	2.2
	08/01/07		0.44	-	0.0	0.0	20.9	0.0
	08/10/07		0.38	-	0.0	0.0	20.9	0.0
	10/05/07		0.00	-	0.0	0.0	20.9	0.3
	11/07/07		0.27	2.00	0.0	0.0	20.9	0.0
	11/21/07		0.59	1.50	0.0	0.0	20.9	0.0
	03/28/08		1	-	-	-	-	-
	04/30/08	5	0.14	<1.00	0.0	0.0	20.9	0.1
	08/15/08		0.00	1.00	0.0	0.0	18.5	0.1
	11/11/08		0.19	1.20	0.0	0.0	20.9	0.0
	<b>02/09/09</b>	8	<b>0.00</b>	<b>1.20</b>	<b>10</b>	<b>0.0</b>	<b>19.8</b>	<b>0.7</b>
	<b>03/10/09</b>		<b>0.39</b>	<b>9.00</b>	<b>0.0</b>	<b>0.0</b>	<b>19.5</b>	<b>1.0</b>
GP-2-5'	05/17/07	4	0.00	-	0.14	0.0	19.0	1.5
	06/12/07		0.00	-	0.0	0.0	19.0	1.7
	08/01/07		0.00	-	0.0	0.0	20.9	0.3
	08/10/07		0.04	-	0.0	0.0	20.9	0.2
	10/05/07		0.00	-	0.0	0.0	20.9	0.1
	11/07/07		0.08	4.00	0.0	0.0	20.9	0.0
	11/21/07		0.04	1.50	0.0	0.0	20.9	0.0
	03/28/08		1	-	-	-	-	-
	04/30/08	5	0.01	2.00	0.0	0.0	20.9	0.0
	08/15/08		0.00	3.00	0.0	0.0	20.9	0.0
	11/11/08		0.07	1.80	0.0	0.0	20.9	0.0
	<b>02/09/09</b>	8	<b>0.00</b>	<b>2.20</b>	<b>0.0</b>	<b>0.0</b>	<b>20.7</b>	<b>0.2</b>
	<b>03/10/09</b>		1	-	-	-	-	-

**TABLE 7: SOIL GAS FIELD SCREENING DATA SUMMARY (TVH, CH4, O2, & CO2)**

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

Soil Gas Probe ID	Date	Notes	Vacuum Influence (in-H2O)	Purge Vacuum (in-H2O)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
GP-2-10'	05/17/07	4	0.00	-	0.18	0.0	18.0	1.5
	06/12/07	2	0.00	-	-	-	-	-
	08/01/07		0.08	-	0.0	0.0	20.8	0.5
	08/10/07		0.00	-	0.0	0.0	20.9	0.2
	10/05/07		0.00	-	0.0	0.0	20.9	0.1
	11/07/07		<0.10	24.0	0.0	0.0	20.9	0.0
	11/21/07		1.70	35.0	0.0		20.9	0.0
	03/28/08	1	-	-	-	-	-	-
	04/30/08	5	3.50	2.00	0.0	0.0	20.9	0.0
	08/15/08		0.00	3.00	0.0	0.0	20.9	0.0
	11/11/08		1.80	2.00	0.0	0.0	20.9	0.0
	02/09/09	8,1	-	-	-	-	-	-
	03/10/09	1	-	-	-	-	-	-
GP-3-5'	05/17/07	4	0.00	-	0.14	0.0	20.0	0.48
	06/12/07		0.00	-	0.0	0.0	20.9	0.4
	08/10/07		0.01	-	0.0	0.0	20.9	0.3
	10/05/07		0.00	-	0.0	0.0	20.9	0.2
	11/07/07		<0.10	1.00	0.0	0.0	20.9	0.2
	11/21/07		0.05	1.00	0.0	0.0	20.9	0.0
	03/28/08		<0.10	43.0	0.0	xx	20.5	0.1
	04/30/08	5	0.02	<1.00	0.0	0.0	20.9	0.1
	08/15/08		0.00	1.00	0.0	0.0	20.9	0.0
	11/11/08	6,7	-	-	-	-	-	-
GP-3-10'	05/17/07	4	0.00	-	0.37	0.0	2.4	3.4
	06/12/07		0.00	-	0.0	0.0	10.5	1.8
	08/10/07		0.16	-	0.0	0.0	16.8	2.2
	10/05/07		0.00	-	0.0	0.0	20.8	1.2
	11/07/07		0.30	55.0	0.0	0.0	20.9	0.5
	11/21/07		5.20	47.0	0.0	0.0	20.9	0.2
	03/28/08	3	1.00	>150	0.0	xx	20.0	0.0
	04/30/08	5	9.00	110	0.0	0.0	20.9	0.1
	08/15/08		0.00	50.0	-	-	20.9	0.0
	11/11/08	6,7	-	-	-	-	-	-

**TABLE 7: SOIL GAS FIELD SCREENING DATA SUMMARY (TVH, CH4, O2, & CO2)**

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

Soil Gas Probe ID	Date	Notes	Vacuum Influence (in-H2O)	Purge Vacuum (in-H2O)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
<b>GP-4-5'</b>	05/17/07	4	0.00	-	0.21	0.0	20.0	0.7
	06/12/07		0.00	-	0.0	0.0	20.8	0.6
	08/10/07		0.02	-	0.0	0.0	20.9	0.4
	10/05/07		0.00	-	0.0	0.0	20.9	0.5
	11/07/07		<0.10	0.85	0.0	0.0	20.9	0.3
	11/21/07		0.00	0.50	0.0	0.0	20.9	0.0
	03/28/08		<0.10	47.0	0.0	xx	20.0	0.0
	04/30/08	5	0.02	<1.00	0.0	0.0	20.9	0.2
	08/15/08		0.00	1.00	-	-	20.9	0.0
	11/11/08	6.7	-	-	-	-	-	-
	<b>GP-4-10'</b>	05/17/07	4	0.00	-	-	-	-
06/12/07		2		0.00	-	-	-	-
08/10/07				0.08	-	0.0	0.0	20.4
10/05/07		2,3	0.00	-	0.0	0.0	20.9	0.5
11/07/07			<0.1	80.0	0.0	0.0	20.9	0.3
11/21/07			<0.1	>50.0	0.0	0.0	20.9	0.0
03/28/08			<0.1	>150	0.0	xx	20.5	0.0
04/30/08		1.5	0.20	>150	-	-	-	-
08/15/08			0.00	>50.0	-	-	19.0	0.1
11/11/08		6.7	-	-	-	-	-	-
<b>DL</b>		-	-	<b>varies</b>	<b>varies</b>	<b>5.0</b>	<b>0.1</b>	<b>0.1</b>



**TABLE 7: SOIL GAS FIELD SCREENING DATA SUMMARY (TVH, CH4, O2, & CO2)**

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

Soil Gas Probe ID	Date	Notes	Vacuum Influence (in-H2O)	Purge Vacuum (in-H2O)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
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**NOTES:**

- not sampled/analyzed

in-H2O = inches of water

ppmv = parts per million by volume

% = percent concentration by volume

xx = methane sensor damaged; pending replacement

**DL = detection limit for dilution factor of 1**

TVH = total volatile hydrocarbons (calibrated w/ hexane)

CH4 = methane

O2 = oxygen

CO2 = carbon dioxide

TVH, CH4, O2, and CO2 measured w/ RKI Eagle gas detector

- 1) Soil gas sample collection not possible due to wet or saturated soil conditions
- 2) Moisture present within the sample tubing
- 3) High purge vacuum may indicate wet or saturated soil conditions
- 4) TPH-g by modified EPA Method TO-3 GC/FID and CH4, O2, and CO2 by modified method ASTM D-1946 GC/FID or GC/TCD
- 5) Soil gas probe screened for TVH, CH4, O2, and CO2 approximaltey one week prior to sampling for vapor intrusion evaluation
- 6) Nested soil gas probes GP-3 and GP-4 were abandoned on August 21, 2008 during the HVDPE conveyance lateral installation
- 7) GP-4 and possibly GP-3 will be re-installed once the construction activities at 708 Alice Street are completed
- 8) HVDPE system was shutdownwn on January 6, 2009, approximatey one (1) month before screening GP-1 & GP-2
- 9)
- 10)

**TABLE 8: WELLHEAD VACUUM & DROP TUBE DEPTH DATA SUMMARY**

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

Date	MW-1			MW-2			MW-5			MW-6			MW-7		
	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)
06/26/07	1.5	8.0	15.0	6.0	9.0	15.0	-	OFF	-	5.5	10.0	15.0	6.5	10.0	15.0
06/27/07	2.0	7.0	15.0	5.5	9.0	15.0	-	OFF	-	5.0	9.5	15.0	5.0	9.5	15.0
06/28/07	1.5	8.0	15.0	5.0	10.0	15.0	-	OFF	-	5.0	9.0	15.0	6.0	10.0	15.0
07/12/07	2.0	8.0	15.0	6.0	9.0	15.0	10.0	12.0	15.0	5.0	10.0	15.0	6.0	10.0	15.0
08/01/07	1.5	7.0	15.0	5.5	10.0	15.0	-	OFF	-	5.0	9.5	15.0	5.5	11.0	15.0
08/10/07	5.0	10.0	17.0	9.5	16.0	17.0	-	OFF	-	10.0	12.5	17.0	9.0	15.5	17.0
09/11/07	5.5	17.0	16.0	5.5	16.5	16.0	-	OFF	-	9.0	10.0	19.5	8.0	12.0	19.5
09/28/07	3.0	7.5	24.0	8.0	17.0	20.0	2.5	8.0	20.0	16.0	17.0	20.0	9.0	15.0	20.0
10/01/07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/21/07	3.0	10.0	25.0	11.0	15.0	21.0	n/a	OFF	-	12.0	12.0	20.0	OBSTRUCTED		
12/26/07	-	OFF	-	OBSTRUCTED			n/a	OFF	-	18.0	13.5	20.0	11.5	15.5	20.0
01/15/08	-	OFF	-	11.0	14.0	21.0	n/a	OFF	-	16.5	11.5	20.0	12.0	14.0	20.0
02/07/08	5.0	9.5	25.0	10.0	13.0	20.0	n/a	OFF	-	15.5	14.0	19.0	15.5	21.0	20.0
03/18/08	9.0	10.0	25.0	5.5	11.5	19.0	n/a	9.5	21.0	8.0	9.5	20.0	8.5	12.0	21.0
04/24/08	7.0	7.0	25.0	3.0	7.0	19.0	-	7.0	21.0	5.0	5.0	21.0	4.0	7.0	21.0
05/29/08	0.0	0.0	25.0	0.0	0.0	19.0	n/a	0.0	21.0	0.0	0.0	21.0	0.0	0.0	21.0
06/26/08	0.0	0.0	25.0	0.0	0.0	20.0	n/a	0.0	22.0	0.0	0.0	21.0	0.0	0.0	21.0
07/30/08	OFF	OFF	25.0	OFF	OFF	20.0	OFF	OFF	22.0	5.0	15.0	21.0	4.5	15.0	21.0
09/30/08	OFF	OFF	25.0	OFF	OFF	20.0	n/a	8.0	22.0	OFF	OFF	21.0	OFF	OFF	21.0
11/04/08	3.0	8.0	25.0	3.0	8.0	20.0	n/a	8.0	22.0	5.0	10.0	21.0	5.0	10.0	21.0
12/02/08	2.5	8.0	25.0	5.0	9.0	20.0	n/a	12.0	22.0	7.0	10.0	21.0	6.0	11.0	21.0
<b>01/06/09</b>	<b>3.0</b>	<b>9.0</b>	<b>25.0</b>	<b>5.0</b>	<b>10.0</b>	<b>20.0</b>	<b>n/a</b>	<b>11.0</b>	<b>22.0</b>	<b>8.0</b>	<b>9.0</b>	<b>21.0</b>	<b>6.0</b>	<b>10.0</b>	<b>21.0</b>
<b>02/09/09</b>	<b>2.5</b>	<b>10.0</b>	<b>25.0</b>	<b>5.0</b>	<b>11.0</b>	<b>20.0</b>	<b>n/a</b>	<b>12.0</b>	<b>22.0</b>	<b>7.0</b>	<b>10.0</b>	<b>21.0</b>	<b>6.0</b>	<b>11.0</b>	<b>21.0</b>
<b>03/18/09</b>	<b>2.5</b>	<b>9.0</b>	<b>25.0</b>	<b>5.0</b>	<b>9.0</b>	<b>20.0</b>	<b>n/a</b>	<b>8.0</b>	<b>22.0</b>	<b>7.0</b>	<b>9.0</b>	<b>21.0</b>	<b>6.0</b>	<b>9.0</b>	<b>21.0</b>

**NOTES:**

in-Hg = inches of mercury (gauge pressure)

ft toc = depth in feet as measured from the top of the well casing

n/a = casing vacuum gauges not installed at this well

**TABLE 8: WELLHEAD VACUUM & DROP TUBE DEPTH DATA SUMMARY**

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

Date	MW-10			MW-11			MW-12								
	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)	Casing Vacuum (in-Hg)	Stinger Vacuum (in-Hg)	Stinger Depth (ft toc)
06/28/07	-	-	-	-	-	-	-	-	-						
07/12/07	-	-	-	-	-	-	-	-	-						
08/01/07	-	-	-	-	-	-	-	-	-						
08/10/07	-	-	-	-	-	-	-	-	-						
09/11/07	-	-	-	-	-	-	-	-	-						
09/28/07	-	-	-	-	-	-	-	-	-						
10/01/07	-	-	-	-	-	-	-	-	-						
11/21/07	n/a	13.0	18.0	n/a	11.0	19.0	n/a	14.0	19.0						
12/26/07	n/a	11.0	18.0	n/a	10.5	19.0	n/a	14.5	19.0						
01/15/08	n/a	10.0	18.0	n/a	9.0	19.0	n/a	12.0	19.0						
02/01/08	n/a	9.0	18.0	n/a	10.0	19.0	n/a	15.0	19.0						
03/18/08	n/a	7.5	18.0	n/a	9.0	19.0	n/a	9.0	20.5						
04/24/08	n/a	0.0	18.0	n/a	0.0	19.0	n/a	4.0	19.0						
05/29/08	n/a	11.0	20.0	n/a	14.0	20.0	n/a	13.0	20.0						
06/26/08	n/a	12.0	20.0	n/a	15.0	20.0	n/a	14.0	20.0						
07/30/08	n/a	10.0	20.0	n/a	13.0	20.0	n/a	12.0	20.0						
09/30/08	n/a	15.0	22.0	n/a	15.0	22.0	n/a	15.0	22.0						
11/04/08	n/a	10.0	22.0	n/a	15.0	22.0	n/a	15.0	22.0						
12/02/08	n/a	10.0	22.0	n/a	11.0	22.0	n/a	11.0	22.0						
<b>01/06/09</b>	<b>n/a</b>	<b>10.0</b>	<b>22.0</b>	<b>n/a</b>	<b>11.0</b>	<b>22.0</b>	<b>n/a</b>	<b>11.0</b>	<b>22.0</b>						
<b>02/09/09</b>	<b>n/a</b>	<b>10.0</b>	<b>22.0</b>	<b>n/a</b>	<b>11.0</b>	<b>22.0</b>	<b>n/a</b>	<b>12.0</b>	<b>22.0</b>						
<b>3/18/09`</b>	<b>n/a</b>	<b>9.0</b>	<b>22.0</b>	<b>n/a</b>	<b>9.0</b>	<b>22.0</b>	<b>n/a</b>	<b>9.0</b>	<b>22.0</b>						

**NOTES:**

in-Hg = inches of mercury (gauge pressure)

ft toc = dpeth in feet as measured from the top of the well casing

n/a = casing vacuum gauges not installed at this well

**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	1176	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	1488	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
<b>01/06/09</b>		<b>35</b>	<b>840</b>	<b>8,298</b>	<b>25</b>	<b>601</b>	<b>72%</b>	<b>60</b>	<b>11</b>	<b>1,200</b>	<b>59</b>	<b>1,200</b>	<b>28</b>	<b>26,425</b>	<b>4,404</b>
<b>02/09/09</b>		<b>34</b>	<b>816</b>	<b>8,300</b>	<b>0.1</b>	<b>2</b>	<b>0%</b>	<b>60</b>	<b>12</b>	<b>1,200</b>	<b>59</b>	<b>1,200</b>	<b>28</b>	<b>26,427</b>	<b>4,405</b>
<b>03/18/09</b>		<b>37</b>	<b>888</b>	<b>8,320</b>	<b>0.8</b>	<b>20</b>	<b>2%</b>	<b>60</b>	<b>10</b>	<b>1,400</b>	<b>69</b>	<b>130</b>	<b>4</b>	<b>26,430</b>	<b>4,405</b>
<b>AVG</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>25%</b>	<b>60</b>	<b>11</b>	<b>1,267</b>	<b>62</b>	<b>843</b>	<b>20</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

2) Propane delivery missed; system shutdown on 08/06/07

3) Propane delivery missed; system shutdown on 08/21/07

4) System down between 09/11 and 09/24/08 due to electrical problems

5) System expanded; MW-10, MW-11 and MW-12 extraction added online

6) Propane delivery missed; system shutdown on 01/02/08

7) Propane delivery missed; system shutdown on 01/22/08

8) System shutdown most of February to evaluate free product recovery

9) Catalyst module installed and started up in March

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)\*(11b/454g)

Negligible change in air density, constant concentration and average molecular weight

1 mole occupies 22.4 Liters at STP

STP is 21°C and 1 atm

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

1 day = 1440 minutes

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

1 lb = 454 grams

1 gallon gas ~ 6 pounds

AVG = average values in red for the current reporting period

**TABLE 10: THERMAL/CATALYTIC OXIDIZER 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 (%)	Preheat Temp (°F)	Exhaust Temp (°F)	Total Velocity (fpm)	Total Flow (scfm)	POSTD TPH-g (ppmv)	STACK TPH-g (ppmv)	Abatement Efficiency (%)	TPH-g Destruction Rate (lbs/day)	Total TPH-g Destroyed (pounds)	Total TPH-g Destroyed (gallons)	Total TPH-g Destroyed (btu)
06/28/07	1 Startup	-	-	10	0.4	10	-	1,430	1,427	2,150	106	3,800	3.5	99.91%	161	65	11	1,233,826
07/11/07		13	312	53	2	43	14%	1,478	1,392	2,625	129	1,400	3.5	99.75%	72	195	32	3,701,491
07/27/07		16	384	103	2	51	13%	1,428	1,386	2,600	128	3,400	3.5	99.90%	174	562	94	10,692,358
08/01/07		5	120	160	2	57	47%	1,425	1,377	2,800	137	2,500	3.5	99.86%	138	890	148	16,916,123
08/10/07	2,3	9	216	350	8	189	88%	1,411	1,341	2,000	98	5,300	3.5	99.93%	209	2,535	422	48,204,535
09/28/07	4	49	1176	896	23	546	46%	1,471	1,438	3,000	147	4,800	3.5	99.93%	284	8,984	1,497	170,844,523
10/17/07		19	456	1,239	14	343	75%	1,409	1,365	2,400	118	1,800	3.5	99.81%	85	10,201	1,700	193,992,681
11/08/07		22	528	1,709	20	470	89%	1,412	1,342	2,000	98	2,000	21	98.95%	79	11,742	1,957	223,297,250
11/16/07		8	192	1,874	7	166	86%	1,408	1,347	2,000	98	3,600	3.5	99.90%	142	12,721	2,120	241,905,549
11/21/07	5	5	120	1,994	5	120	100%	1,412	1,308	2,400	118	5,500	3.5	99.94%	260	14,022	2,337	266,642,477
12/04/07		13	312	2,231	10	236	76%	1,416	1,312	2,050	101	1,300	3.5	99.73%	52	14,538	2,423	276,461,730
12/26/07		22	528	2,566	14	335	63%	1,408	1,352	2,200	108	1,700	3.5	99.79%	74	15,566	2,594	296,020,076
01/15/08		20	480	3,016	19	451	94%	1,411	1,357	2,100	103	620	3.5	99.44%	26	16,048	2,675	305,174,194
01/22/08	6,7	7	168	3,064	2	48	29%	1,407	1,348	2,400	118	1,100	3.5	99.68%	52	16,152	2,692	307,153,643
01/31/08		9	216	3,276	9	212	98%	1,348	1,267	2,150	106	770	3.5	99.55%	33	16,440	2,740	312,628,082
02/07/08		7	168	3,443	7	167	99%	1,409	1,333	2,000	98	690	3.5	99.49%	27	16,628	2,771	316,215,556
03/18/08	8,9	40	960	3,653	9	210	22%	705	794	2,300	113	310	3.5	98.87%	14	16,751	2,792	318,555,075
04/01/08		14	336	3,952	12	299	89%	703	751	3,100	152	500	3.5	99.30%	31	17,131	2,855	325,777,446
04/30/08		29	696	4,591	27	639	92%	709	792	2,700	133	700	3.5	99.50%	37	18,122	3,020	344,619,107
05/29/08		29	696	4,978	16	387	56%	703	769	1,800	88	500	3.5	99.30%	18	18,408	3,068	350,052,986
06/26/08		28	672	5,489	21	511	76%	802	841	2,500	123	620	3.5	99.44%	31	19,057	3,176	362,409,874
07/30/08	10	34	816	6,184	29	695	85%	705	797	2,800	137	-	3.5	-	-	-	-	-
09/30/08		62	1488	6,673	20	489	33%	759	855	3,200	157	-	3.5	-	-	-	-	-
11/04/08		35	840	7,062	16	389	46%	702	832	2,600	128	-	3.5	-	-	-	-	-
12/02/08		28	672	7,697	26	635	94%	704	812	2,100	103	-	52	-	-	-	-	-
<b>01/06/09</b>		<b>35</b>	<b>840</b>	<b>8,298</b>	<b>25</b>	<b>601</b>	<b>72%</b>	<b>704</b>	<b>817</b>	<b>3,100</b>	<b>152</b>	-	<b>26</b>	-	-	-	-	-
<b>02/09/09</b>		<b>34</b>	<b>816</b>	<b>8,300</b>	<b>0</b>	<b>2</b>	<b>0%</b>	<b>701</b>	<b>819</b>	<b>3,100</b>	<b>152</b>	-	<b>3.5</b>	-	-	-	-	-
<b>03/18/09</b>		<b>37</b>	<b>888</b>	<b>8,320</b>	<b>1</b>	<b>20</b>	<b>2%</b>	<b>706</b>	<b>780</b>	<b>3,000</b>	<b>147</b>	-	<b>3.5</b>	-	-	-	-	-
<b>AVG</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>25%</b>	<b>704</b>	<b>805</b>	<b>3,067</b>	<b>151</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**NOTES:**

ppmv = parts per million by volume

TPH-g = total petroleum hydrocarbons as gasoline

TPH-g by EPA Method 8015C

hrs = hours

- not analyzed/applicable

fpm = feet per minute

scfm = standard cubic feet per minute

btu = british thermal units

Flow = Velocity x Cross Sectional Area of the Pipe

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

Total Flow = Total Velocity \* 0.0491

POSTD = TPH-g influent concentration (after dilution)

DL = detection limit

1/2 the DL was used for abatement efficiency calculations

DL for TPH-g by EPA Method 8015C = 7.0 ppmv

1) System installed and started up on June 26, 2007

2) Propane delivery missed; system shutdown on 08/06/07

3) Propane delivery missed; system shutdown on 08/21/07

4) System down between 09/11 and 09/24/08 due to electrical problems

5) System expanded; MW-10, MW-11 and MW-12 extraction added online

6) Propane delivery missed; system shutdown on 01/02/08

7) Propane delivery missed; system shutdown on 01/22/08

8) System shutdown most of February to evaluate free product recovery

9) Catalyst module installed and started up in March

10) Sampling POSTD was discontinued starting in the Third Quarter, 2008 monitoring and reporting period

**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)

Negligible change in air density, constant concentration and average molecular weight

1 mole occupies 22.4 Liters at STP

STP is 21°C and 1 atm

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

1 day = 1440 minutes

1 ft<sup>3</sup> = 28.32 liters

1 lb = 454 grams

1 gallon gas ~ 6 pounds

1 gallon gas ~ 114,100 btu

AVG = average values in red for the current reporting period

**TABLE 11: AIR STRIPPER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter Reading	Actual Runtime (days)	Blower VFD (Hz)	Back Pressure (in-H2O)	Outlet Velocity (fpm)	Outlet Flow (scfm)	Effluent TPH-g Conc. (ppmv)	Influent TPH-g Conc. (µg/L)	Effluent TPH-g Conc. (µg/L)	Removal Efficiency (%)
06/26/07	1	0	-	45	25	2,600	128	-	20,000	1,000	95.0%
06/27/08		5	0.20	45	25	2,600	128	-	25,000	420	98.3%
06/28/07		10	0.20	25	10	1,300	64	-	28,000	6,400	77.1%
07/03/07		-	-	40	20	2,300	113	-	-	-	-
07/11/07		-	-	40	20	2,300	113	-	-	-	-
07/11/07		-	-	20	5	900	44	-	-	-	-
07/12/07		70	3	20	5	900	44	-	8,300	-	-
07/12/07		70	0	15	4	600	29	-	8,300	-	-
07/27/07		-	-	20	6	900	44	-	-	-	-
08/01/07		-	-	20	6	900	44	-	-	-	-
08/10/07		-	-	10	2	200	10	-	-	-	-
08/07/07		-	-	15	3	600	29	-	-	-	-
08/21/07		-	-	20	18	900	44	-	-	-	-
08/22/07		530	19	15	5	600	29	-	16,000	5,300	66.9%
09/28/07		-	-	25	16	1,300	64	-	-	-	-
10/17/07		1,239	30	25	15	1,300	64	130	25,000	84	99.7%
10/23/07		-	-	25	15	1,300	64	-	-	-	-
10/25/07		-	-	20	15	900	44	-	-	-	-
11/07/07		1,709	20	20	16	900	44	-	21,000	120	99.4%
11/08/07		-	-	20	16	900	44	19	-	-	-
11/16/07		-	-	20	16	900	44	-	-	-	-
11/20/07		-	-	20	18	900	44	-	-	-	-
11/21/07		-	-	20	18.5	900	44	-	-	-	-
11/27/07		-	-	20	20	900	44	-	-	-	-
12/04/07		-	-	20	19	900	44	-	-	-	-
12/12/07	3	2,366	27	20	18	900	44	-	75,000	65,000	13.3%
12/14/07		-	-	20	18	900	44	-	-	-	-
12/25/07		-	-	20	20	900	44	-	-	-	-
12/26/07		-	-	20	20	900	44	-	-	-	-
01/08/08		2,815	19	20	19.5	900	44	-	12,000	130	98.9%
01/15/08		-	-	20	19.0	900	44	1,100	-	-	-
01/24/08		-	-	20	19.0	900	44	-	-	-	-
01/31/08		-	-	20	18.5	900	44	-	-	-	-
01/31/08		-	-	20	12.5	900	44	-	-	-	-
02/07/08		-	-	20	15	900	44	31	-	-	-
02/12/08		-	-	20	15	900	44	-	-	-	-
03/18/08		3,653	35	20	15	900	44	31	4,100	120	97.1%
03/28/08		-	-	20	16	900	44	-	-	-	-
04/01/08		3,953	12	20	15	900	44	-	2,400	140	94.2%
04/30/08		4,591	27	20	15	900	44	37	8,600	25	99.7%
05/29/08		4,978	16	20	17.5	900	44	ND<7.0	13,000	100	99.2%
06/26/08		5,489	21	20	20	1,300	64	44	7,600	70	99.1%
07/30/08		6,184	29	30	17.5	1,200	59	41	9,400	130	98.6%
09/30/08		6,673	20	30	19	1,200	59	-	6,100	94	98.5%
11/04/08	4	7,062	16	30	16	1,200	59	21	9,400	ND<50	99.7%
12/02/08	5	7,697	26	30	17	1,200	59	10	8,300	ND<50	99.7%

**TABLE 11: AIR STRIPPER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter Reading	Actual Runtime (days)	Blower VFD (Hz)	Back Pressure (in-H2O)	Outlet Velocity (fpm)	Outlet Flow (scfm)	Effluent TPH-g Conc. (ppmv)	Influent TPH-g Conc. (µg/L)	Effluent TPH-g Conc. (µg/L)	Removal Efficiency (%)
01/06/09		8,298	25	30	18	1,200	59	150	7,800	ND<50	99.7%
02/09/09		8,300	0	30	17	1,200	59	18	11,000	250	97.7%
03/18/09		8,320	1	30	17	1,200	59	ND<7.0	2,000	120	94.0%
<b>AVG</b>	-	-	-	<b>30</b>	<b>17</b>	<b>1200</b>	<b>59</b>	-	<b>6,933</b>	<b>185</b>	<b>97.1%</b>

**NOTES:**

Hz = hertz (used to control flow rate)

in-H2O = inches of water

scfm = standard cubic feet per minute

ppmv = parts per million by volume

µg/L = micrograms per Liter of water

AVG = average values in red for the current reporting period

- |   |     |
|---|-----|
| 1) System started up and first discharge to the sanitary sewer  | 6)  |
| 2) Air stripper cleaned due to high backpressure                | 7)  |
| 3) Slug of free product may have been processed by air stripper | 8)  |
| 4) First time air stripper effluent was non-detect for TPH-g    | 9)  |
| 5) Second time air stripper effluent was non-detect for TPH-g   | 10) |



**TABLE 12: ACTIVATED CARBON ABSORBER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter Reading	Actual Runtime (days)	Flow Totalizer (gallons)	Gallons Pumped/Treated	Average Flow Rate (gpd)	Average Flow Rate (gph)	Average Flow Rate (gpm)	Bag filter *Inlet Pressure (psig)	Bag filter *Outlet Pressure (psig)	GAC-1 ** Inlet Pressure (psig)	GAC-2 **Inlet Pressure (psig)	Bag filter Changed? (Y/N)	GAC Back-washed? (Y/N)	GAC Changed? (Y/N)	TPH-g Influent Conc. (µg/L)	TPH-g Effluent Conc. (µg/L)	Removal Efficiency (%)	Mass Removal Rate (lbs/day)	Total Mass Removed (lbs)	Total Mass Removed (gallons)
06/26/07	1	0	-	0	-	-	-	-	-	-	1.5	<1.0	-	N	N	1,000	25	97.50%	-	-	-
06/27/07		5	0.2	780	780	3,868	161	2.69	-	-	1.5	<1.0	-	N	N	420	25	94.05%	0.0127	0.0026	0.00
06/28/07		10	0.2	1,300	520	2,579	107	1.79	-	-	1.5	<1.0	-	N	N	6,400	25	99.61%	0.1369	0.0302	0.01
07/03/07		13	0.2	1,800	500	3,166	132	2.20	-	-	1.5	<1.0	-	N	N	-	-	-	-	-	-
07/09/07		25	0.5	4,310	2,510	5,171	215	3.59	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
07/10/07		28	0.1	5,000	690	5,224	218	3.63	-	-	3	<1.0	-	N	N	-	-	-	-	-	-
07/11/07		53	1.0	7,280	2,280	2,240	93	1.56	-	-	3	<1.0	-	N	N	-	-	-	-	-	-
07/12/07		70	0.7	7,400	120	162	7	0.11	-	-	5	<1.0	-	Y	N	-	-	-	-	-	-
07/27/07		103	1.4	8,580	1,180	860	35.8	0.60	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
07/30/07		121	0.7	9,200	620	844	35	0.59	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
08/01/07		160	1.6	13,400	4,200	2,560	107	1.78	-	-	5	<1.0	-	Y	N	-	-	-	-	-	-
08/07/07		279	4.9	14,470	1,070	217	9.0	0.15	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
08/17/07	2	445	6.9	25,000	10,530	1,522	63.4	1.06	2	2.5	2.5	<1.0	Y	N	N	-	-	-	-	-	-
08/21/07		506	2.6	33,000	8,000	3,135	131	2.18	7	2.5	2.5	<1.0	Y	N	N	-	-	-	-	-	-
08/22/07		530	1.0	34,110	1,110	46	0.77	2	2	2.5	2.5	<1.0	N	N	N	5,300	25	99.53%	0.0488	1.47	0.25
08/23/07		554	1.0	36,710	2,600	2,590	108	1.80	2	2.5	2.5	<1.0	N	N	N	-	-	-	-	-	-
08/27/07		648	3.9	45,800	9,090	2,311	96	1.60	10	>7	>7	-	Y	Y	Y	-	-	-	-	-	-
08/31/07		744	4.0	50,820	5,020	1,255	52	0.87	2	2.5	2.5	<1.0	N	N	N	-	-	-	-	-	-
09/05/07		862	4.9	57,100	6,280	1,277	53	0.89	10	2.5	2.5	<1.0	Y	N	N	-	-	-	-	-	-
09/24/07		896	1.4	65,360	8,260	6,004	250	4.17	10	2.5	2.5	<1.0	Y	N	N	-	-	-	-	-	-
10/01/07		1,088	8.0	99,000	33,640	4,205	175	2.92	15	>10	>10	2	Y	N	Y	-	-	-	-	-	-
10/17/07	3	1,239	6.3	140,710	41,710	6,609	275	4.59	11	4	4	2	N	N	N	84	25	70.24%	0.0032	1.52	0.25
10/23/07		1,384	6.0	173,260	32,550	5,389	225	3.74	24	7.5	7.5	2.5	N	N	N	-	-	-	-	-	-
10/25/07	4	1,395	0.5	175,600	2,340	4,918	205	3.42	>30 / 7.5	8 / 8	8 / 8	>5 / >5	Y	N	N	-	-	-	-	-	-
11/07/07		1,709	13	223,380	47,780	3,661	153	2.54	14	14.5	14.5	OFFLINE	Y	N	N	120	25	79.17%	0.0029	1.59	0.26
11/08/07		1,730	0.9	227,190	3,810	4,354	181	3.02	16	16.5	16.5	OFFLINE	N	N	N	-	-	-	-	-	-
11/13/07		1,809	3.3	244,360	17,170	5,220	217.5	3.62	14	14.5	15	OFFLINE	N	N	N	-	-	-	-	-	-
11/16/07		1,874	2.7	259,600	15,240	5,566	232	3.87	17	17.5	18	OFFLINE	N	N	N	-	-	-	-	-	-
11/20/07	5	1,969	3.9	279,190	19,590	4,983	208	3.46	19	19.5	20	OFFLINE	N	N	N	-	-	-	-	-	-
11/21/07		1,993	1.0	287,450	8,260	8,260	344	5.74	19	19.5	20	OFFLINE	N	N	N	-	-	-	-	-	-
11/27/07		2,107	4.7	320,320	32,870	6,921	288	4.81	20.5	21.5	21.5	OFFLINE	Y	N	N	-	-	-	-	-	-
11/29/07		2,131	1.0	328,040	7,720	7,504	313	5.21	18 / 4.5	18.5 / 5.5	19 / 6.0	OFFLINE	Y	Y	N	-	-	-	-	-	-
12/04/07		2,230	4.1	355,820	27,780	6,763	282	4.70	17 / 7	17.5 / 7.5	17.5 / 7.5	OFFLINE	Y	Y	N	-	-	-	-	-	-
12/12/07		2,366	5.7	391,500	35,680	6,296	262	4.37	20 / 5	10 / 4.5	10 / 4.5	OFFLINE	Y	Y	N	65,000	25	99.96%	3.4067	92.55	15.42
12/14/07		2,379	0.6	395,260	3,760	6,670	278	4.63	11	4.0	4.5	OFFLINE	N	N	N	-	-	-	-	-	-
12/26/07		2,545	6.9	440,900	45,640	6,603	275	4.59	13	13.5	14	OFFLINE	N	N	N	-	-	-	-	-	-

**TABLE 12: ACTIVATED CARBON ABSORBER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter Reading	Actual Runtime (days)	Flow Totalizer (gallons)	Gallons Pumped/Treated	Average Flow Rate (gpd)	Average Flow Rate (gph)	Average Flow Rate (gpm)	Bag filter *Inlet Pressure (psig)	Bag filter *Outlet Pressure (psig)	GAC-1 ** Inlet Pressure (psig)	GAC-2 **Inlet Pressure (psig)	Bag filter Changed? (Y/N)	GAC Back-washed? (Y/N)	GAC Changed? (Y/N)	TPH-g Influent Conc. (µg/L)	TPH-g Effluent Conc. (µg/L)	Removal Efficiency (%)	Mass Removal Rate (lbs/day)	Total Mass Removed (lbs)	Total Mass Removed (gallons)
01/08/08		2,815	11.2	512,760	71,860	6,398	267	4.44	18.5	19	19	OFFLINE	OFFLINE	N	N	130	25	80.77%	0.0056	92.66	15.44
01/15/08		3,016	8.4	541,920	29,160	3,472	145	2.41	19	20	20	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
01/22/08		3,064	2.0	550,780	8,860	4,424	184	3.07	16.5 / 4	17 / 4	17 / 4	OFFLINE	OFFLINE	Y	N	-	-	-	-	-	-
01/31/08		3,276	8.8	608,890	58,110	6,580	274	4.57	16 / 8	16.5 / 8.5	16.5 / 8.5	OFFLINE	OFFLINE	Y	N	-	-	-	-	-	-
02/07/08		3,443	6.9	657,140	48,250	6,950	290	4.83	19	19.5	19.5	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
02/12/08		3,559	4.8	685,990	28,850	5,957	248	4.14	25.5	26	26	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
03/18/08		3,653	3.9	715,480	29,490	7,523	313	5.22	16.5	17	17	OFFLINE	OFFLINE	Y	N	120	25	79.17%	0.0060	92.82	15.47
03/28/08		3,851	8.2	760,730	45,250	5,499	229	3.82	4	4.5	4.5	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
04/01/08		3,953	4.3	771,940	11,210	2,637	110	1.83	9.5	10	10	OFFLINE	OFFLINE	N	N	2,400	25	98.96%	0.0522	94.52	15.75
04/30/08		4,591	26.6	858,530	86,590	3,254	136	2.26	17	17.5	17.5	OFFLINE	OFFLINE	N	N	8,600	25	99.71%	0.2324	103.03	17.17
05/29/08		4,978	16.1	931,605	73,075	4,532	189	3.15	23	23.5	23.5	OFFLINE	OFFLINE	N	N	13,000	25	99.81%	0.4896	110.93	18.49
06/26/08		5,489	21.3	1,039,610	108,005	5,075	211	3.52	25	26	26	OFFLINE	OFFLINE	N	N	7,600	25	99.67%	0.3201	117.74	19.62
07/30/08		6,184	28.9	1,061,870	22,260	769	32	0.53	26	26.5	26.5	OFFLINE	OFFLINE	N	N	9,400	25	99.73%	0.0601	119.48	19.91
09/30/08		6,673	20.4	1,111,770	49,900	2,449	102	1.70	23	24.5	24.5	OFFLINE	OFFLINE	N	N	6,100	25	99.59%	0.1239	122.00	20.33
11/04/08		7,062	16.2	1,181,610	69,840	4,305	179	2.99	22	22.5	22.5	OFFLINE	OFFLINE	N	N	9,400	25	99.73%	0.3360	127.45	21.24
12/02/08		7,697	26.5	1,281,070	99,460	3,759	157	2.61	28	28.5	28.5	OFFLINE	OFFLINE	N	N	8,300	25	99.70%	0.2590	134.31	22.38
01/06/09		<b>8,298</b>	<b>25.0</b>	<b>1,381,550</b>	<b>100,480</b>	<b>4,013</b>	<b>167</b>	<b>2.79</b>	<b>&gt;30</b>	<b>&gt;30</b>	<b>&gt;30</b>	OFFLINE	OFFLINE	N	N	<b>7,800</b>	<b>25</b>	<b>99.68%</b>	<b>0.2598</b>	<b>140.81</b>	<b>23.47</b>
02/09/09		<b>8,300</b>	<b>0.1</b>	<b>1,381,550</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	-	-	-	OFFLINE	OFFLINE	N	N	<b>11,000</b>	<b>25</b>	<b>99.77%</b>	<b>0.0000</b>	<b>140.81</b>	<b>23.47</b>
03/18/09	6	<b>8,320</b>	<b>0.8</b>	<b>1,385,760</b>	<b>4,210</b>	<b>5,002</b>	<b>208</b>	<b>3.47</b>	<b>5</b>	<b>5</b>	<b>5</b>	OFFLINE	OFFLINE	N	N	<b>2,000</b>	<b>25</b>	<b>98.75%</b>	<b>0.0823</b>	<b>140.88</b>	<b>23.48</b>
<b>AVG</b>	-	-	-	-	-	<b>3,005</b>	<b>125</b>	<b>2.09</b>	-	-	-	-	-	-	-	<b>6,933</b>	<b>25</b>	<b>99.40%</b>	<b>0.1140</b>	-	-

**NOTES:**

gpd = gallons per day  
 gph = gallons per hour  
 gpm = gallons per minute  
 psig = pounds per square inch  
 µg/L = micrograms per Liter of water (ppb)  
 lbs/day = pounds per day  
 GAC = granular activated carbon  
 Conc. = concentration  
 TPH-g = Total Petroleum Hydrocarbons as Gasoline  
 TPH-g by EPA Method 8015C

Minimum EBMUD wastewater discharge permit reporting requirements are:  
 - monthly flow totalizer readings  
 - volume of groundwater treated during this reporting period  
 - total volume of groundwater treated to date  
 - description of any operations/ changes during this reporting period

Mass Removal Rate (lbs/day) = (1 gal/min)\*(1,000µg/L - 25µg/L)\*(3.785L/gallon)\*(1440/min/day)\*(2.2lbs/10<sup>9</sup>µg)  
 Total Mass Removed (lbs) = (1 gallon)\*(1,000µg/L - 25µg/L)\*(3.785L/gallon)\*(2.2lbs/10<sup>9</sup>µg)  
 1 gallon of gas = ~ 6 pounds  
 1/2 the DL was used for removal efficiency and mass removal calculations  
 DL for TPH-g by modified EPA Method 8015C = 50 µg/L  
**AVG = average values in red for the current reporting period**

\*Bag filter inlet and outlet pressures are recorded before and after the bag filter is changed using the following convention: (pressure before / pressure after)  
 \*\*GAC inlet and outlet pressures are recorded before and after the vessel is backwashed using the following convention: (pressure before / pressure after)

- System startup and first discharge to sanitary sewer
- Bag filter (LCO8) pre-filter for sediment removal installed and started up on 08/17/07
- 1,000-pound (PV-1000) carbon absorber (up to 75 psig) installed on 10/5/07 and started up on 10/9/07
- 200-pound (ASC-200) carbon absorber (i.e., C-2) taken offline permanently on 10/25/07
- Extraction wells MW-10, MW-11, and MW-12 brought online 11/20/07

- On February 27, 2009, the carbon in the PV1000 carbon absorber was changed out by Siemens Water Technologies
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**TABLE 13: HVDPE PROCESS MONITORING SCHEDULE**

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

Field Point Name	Sample Port Description/Location	TPH-g (SW8015Cm)	BTEX & MTBE (SW8021B)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
MW-1S	Sample Port at DPE Manifold	M	M	M	M	M	M
MW-2S	Sample Port at DPE Manifold	M	M	M	M	M	M
MW-5S	Sample Port at DPE Manifold	M	M	M	M	M	M
MW-6S	Sample Port at DPE Manifold	M	M	M	M	M	M
MW-7S	Sample Port at DPE Manifold	M	M	M	M	M	M
MW-10S	Sample Port at DPE Manifold	M	M	M	M	M	M
MW-11S	Sample Port at DPE Manifold	M	M	M	M	M	M
MW-12S	Sample Port at DPE Manifold	M	M	M	M	M	M
PRED	Influent Vapor Sample Port	M	M	M	M	M	M
POSTD	Oxidizer Inlet Sample Port	M	M	M	M	M	M
AS	Stripper Outlet Vapor Sample Port	M	M	M	M	M	M
STACK	Stack Gas Discharge Sample Port	M	M	M	M	M	M
GP-1-5'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
GP-1-10'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
GP-2-5'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
GP-2-10'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
GP-3-5'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
GP-3-10'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
GP-4-5'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
GP-4-10'	Permanent Soil Gas Probe	-	-	Q	Q	Q	Q
INF	Influent Water Sample Port	M	M	-	-	-	-
POST-AS	Water Sample Port After Stripper	M	M	-	-	-	-
POST-C1	Water Sample Port After C-1	M	M	-	-	-	-
EFF	Effluent Water Sample Port	M	M	-	-	-	-

**NOTES:**

W = weekly

BW = bi-weekly

M = monthly

A = annual

SA = semi-annual

AN = as needed

SP = sample port

HC = total volatile hydrocarbon

ppmv = parts per million by volume

% = percent concentration by volume

TVH = total volatile hydrocarbons (calibrated w/ hexane)

CH4 = methane

O2 = oxygen

CO2 = carbon dioxide

TVH, CH4, O2, and CO2 measured w/ RKI Eagle gas detector

\*Additional water analysis for Total Oil and Grease Hydrocarbon by Method HEM-1664SGT required every 6 months by EBMUD permit

\*\*POSTD and STACK required every month by BAAQMD permit

\*\*\*Soil gas sampling for vapor intrusion evaluation is conducted quarterly with routine groundwater monitoring events

**APPENDIX A**

**MONITORING WELL FIELD SAMPLING FORMS**

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-1**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	32.55		
Depth of Well	28.00		
Depth to Water (from top of casing)	16.89		
Depth to Free Product (from top of casing)	Not detected		
Water Elevation (feet above msl)	15.66		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>21.6</b>		
Actual Volume Purged (gallons)	22.0		
Appearance of Purge Water	Clears after 1 gallon		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				DO	PH	ORP (meV)	Comments
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity				
9:25	1	19.67	824	0.2	6.16	-165.3	Black
	2	19.77	811	0.14	6.22	-170.0	Clear
	3	19.80	801	0.12	6.28	-175.8	Clear
	4	19.81	778	0.11	6.31	-177.6	Clear
	5	19.81	758	0.11	6.33	-178.4	Clear
	10	19.90	621	1.27	6.39	-144.8	Clear
	15	19.92	546	1.65	6.35	-110.7	Clear
	20	19.92	533	1.68	6.32	-105.3	Clear
	22	19.91	526	1.71	6.32	-102.7	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Strong petroleum odors noted.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-2**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	33.24		
Depth of Well	28.00		
Depth to Water (from top of casing)	17.98		
Water Elevation (feet above msl)	15.26		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>4.4</b>		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Clears quickly		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
12:54	1	18.81	754	0.31	6.06	-144.2	Black
	2	18.89	650	0.18	6.09	-133.3	Clear
	3	18.96	608	0.15	6.10	-117.3	Clear
	4	18.98	590	0.14	6.09	-110.0	Clear
	5	18.98	580	0.14	6.06	-102.7	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Moderate petroleum odors noted.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-3**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	34.25		
Depth of Well	25.00		
Depth to Water (from top of casing)	19.02		
Water Elevation (feet above msl)	15.23		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	11.5		
Actual Volume Purged (gallons)	12		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
7:35	1	19.57	498	1.74	6.08	-40.5	Clear
	2	19.67	497	1.67	6.05	-45.8	Clear
	3	19.88	496	1.54	6.04	-54.3	Clear
	4	19.89	496	1.46	6.04	-59.8	Clear
	5	19.70	496	1.40	6.04	-70.1	Clear
	6	19.75	506	1.08	6.05	-93.1	Clear
	7	109.77	514	0.93	6.05	-105.6	Clear
	8	19.79	523	0.85	6.06	-113.6	Clear
	9	19.79	523	0.77	6.05	-120.5	Clear
	10	79.08	522	0.75	6.04	-122.6	Clear
	11.5	19.80	522	0.73	6.04	-124.9	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

No petroleum odors noted.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-4**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	34.42		
Depth of Well	25.00		
Depth to Water (from top of casing)	19.72		
Water Elevation (feet above msl)	14.70		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	10.2		
Actual Volume Purged (gallons)	11.0		
Appearance of Purge Water	Light brown, clears quickly		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
11:32	1	17.80	269	5.90	6.34	-35.1	Light brown
	2	17.87	262	6.91	6.16	-17.2	Clear
	3	17.90	275	7.22	6.06	-8.2	Clear
	4	17.94	262	6.36	6.00	-5.3	Clear
	5	17.95	258	6.11	5.99	-5.2	Clear
	6	17.97	254	5.82	5.96	-4.5	Clear
	7	17.99	257	5.10	5.95	-4.6	Light brown
	8	18.09	256	5.10	5.31	-58.0	Clear
	9	18.00	252	6.40	5.17	-47.7	Clear
	11	17.99	243	6.86	6.08	-42.9	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Slight petroleum odors noted.
Well dry at 7.5 gallons
Recharged at 11:59am



**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-5**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	33.33		
Depth of Well	22.00		
Depth to Water (from top of casing)	17.42		
Water Elevation (feet above msl)	15.91		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>8.9</b>		
Actual Volume Purged (gallons)	9.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
8:22	1	20.23	573	3.42	5.82	-158.3	Dark
	2	20.30	579	2.40	5.94	-165.5	Clear
	3	20.36	548	1.49	6.07	-169.5	Clear
	4	20.21	542	1.51	6.16	-167.2	Clear
8:40	5	20.20	548	0.65	6.01	-140.3	Clear
9:00	6	20.37	445	2.40	6.01	-100.3	Clear
	7	20.42	429	0.79	6.04	-107.8	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Moderate petroleum odors noted.
Dry after 4 gallons.
Recharged, dry again after 7 gallons.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-6**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	32.82		
Depth of Well	22.00		
Depth to Water (from top of casing)	16.53		
Depth to Free Product (from top of casing)	Not detected		
Water Elevation (feet above msl)	16.29		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>10.6</b>		
Actual Volume Purged (gallons)	11.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
10:55	1	19.3	772	0.52	5.72	-99.6	Clear
	2	19.43	771	0.53	5.75	-102.9	Clear
	3	19.50	708	0.69	5.89	-108.3	Clear
	4	19.51	688	0.62	5.87	-108.4	Clear
	5	19.54	661	0.56	5.90	-108.6	Clear
	6	19.60	621	0.55	5.94	-108.2	Clear
	7	19.55	621	1.23	5.97	-104.1	Clear
	8	19.59	607	0.56	5.95	-80.7	Clear
	11	19.65	589	0.4	5.95	-88.4	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Strong petroleum and fetids odors noted.
Well dry after 7 gallons
Recharged at 11:17

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-7**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	33.07		
Depth of Well	22.00		
Depth to Water (from top of casing)	17.26		
Depth to Free Product (from top of casing)	Not detected		
Water Elevation (feet above msl)	15.81		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>10.0</b>		
Actual Volume Purged (gallons)	10.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				DO	PH	ORP (meV)	Comments
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity				
12:12	1	19.40	627	0.78	5.67	-101.3	Clear
	2	19.62	622	0.22	5.77	-112.9	Clear
	3	19.64	654	0.23	5.86	-123.9	Clear
	4	19.64	598	0.47	6.03	-136.9	Clear
12:30	5	19.68	515	0.26	6.11	-110.3	Clear
	6	19.73	557	0.38	6.10	-121.7	Clear
	7	19.72	527	0.31	6.13	-121.7	Clear
12:45	9	19.72	522	0.27	6.11	-102.5	Clear
	10	19.69	500	0.29	6.12	-105.3	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Moderate petroleum odors noted.
Well dry at 4 gallons
Well dry again at 7 gallons

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-8**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	33.00		
Depth of Well	22.00		
Depth to Water (from top of casing)	16.78		
Depth to Free Product (from top of casing)	None		
Water Elevation (feet above msl)	16.22		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>10.1</b>		
Actual Volume Purged (gallons)	10.5		
Appearance of Purge Water	Initially light brown, clears after 1 gallon		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				DO	PH	ORP (meV)	Comments
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity				
7:58	1	18.29	204	6.22	6.64	-27.9	Light brown
	2	18.62	205	4.52	6.50	-42.0	Clear
	3	18.58	208	3.56	6.40	-55.7	Clear
	4	18.53	208	3.2	6.38	-62.9	Clear
	5	18.59	207	2.72	6.36	-71.9	Clear
	6	18.61	208	1.98	6.33	-86.8	Clear
	7	18.66	214	1.56	6.35	-94.4	Clear
	8	18.67	214	1.54	6.36	-94.0	Clear
	9	17.98	212	4.54	6.56	-24.7	Clear
	10.5	18.64	212	3.62	3.44	-55.9	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

No petroleum odors noted.
Well dry at 8 gallons.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-9**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	32.00		
Depth of Well	22.73		
Depth to Water (from top of casing)	15.38		
Depth to Free Product (from top of casing)	None		
Water Elevation (feet above msl)	16.62		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	3.5		
Actual Volume Purged (gallons)	4.0		
Appearance of Purge Water	Initially light grey, clears after 1 gallon		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				DO	PH	ORP (meV)	Comments
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity				
7:18	1	19.5	541	4.86	6.16	-125.3	Light grey
	2	19.63	548	3.56	6.16	-134.6	Clear
	3	19.70	570	2.40	6.14	-142.4	Clear
	4	19.76	602	1.62	6.11	-150.1	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Greenish color with strong petroleum odors noted.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-10**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	31.17		
Depth of Well	22.00		
Depth to Water (from top of casing)	--		
Water Elevation (feet above msl)	--		
Well Volumes Purged	--		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	--		
Actual Volume Purged (gallons)	--		
Appearance of Purge Water	--		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				-			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Well covered - inaccessible. Not sampled or gauged.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-11**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	31.78		
Depth of Well	22.00		
Depth to Water (from top of casing)			
Water Elevation (feet above msl)	--		
Well Volumes Purged	--		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	--		
Actual Volume Purged (gallons)	--		
Appearance of Purge Water	--		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				-			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Well covered - inaccessible. Not sampled or gauged.

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-12**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	32.02		
Depth of Well	22.00		
Depth to Water (from top of casing)			
Water Elevation (feet above msl)	--		
Well Volumes Purged	--		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	--		
Actual Volume Purged (gallons)	--		
Appearance of Purge Water	--		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				-			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

Well covered - inaccessible. Not sampled or gauged.



**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-13**

Project Name:	Vic's Automotive	Date of Sampling:	2/5/2009
Job Number:	116907	Name of Sampler:	A Nieto
Project Address:	245 8th Street, Oakland		

**MONITORING WELL DATA**

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	32.00		
Depth of Well	22.00		
Depth to Water (from top of casing)	15.09		
Water Elevation (feet above msl)	16.91		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>3.3</b>		
Actual Volume Purged (gallons)	4.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
7:10	1	19.27	4.93	2.27	6.20	-57.8	Clear
	2	19.44	485	1.80	6.17	-60.2	Clear
	3	19.56	484	2.04	6.15	-52.3	Clear
	4	19.58	487	1.66	6.19	-55.7	Clear

**COMMENTS (i.e., sample odor, well recharge time & percent, etc.)**

No petroleum odors noted.

## **APPENDIX B**

### **SOIL GAS FIELD SAMPLING FORMS**

**NO SOIL GAS FIELD FORMS**

**QUARTERLY SOIL GAS SAMPLING HAS BEEN  
TEMPORARILY SUSPENDED DURING  
OPERATION OF THE HVDPE SYSTEM**

## **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; Vic's Automotive	Date Sampled: 01/06/09
		Date Received: 01/07/09
	Client Contact: Ricky Bradford	Date Reported: 01/14/09
	Client P.O.:	Date Completed: 01/09/09

**WorkOrder: 0901070**

January 14, 2009

Dear Ricky:

Enclosed within are:

- 1) The results of the **11** analyzed samples from your project: **#116907; Vic's 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.

0901070

**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**

EDF Required?  Yes  No

RUSH  24 HR  48 HR  72 HR  5 DAY

PDF Required?  Yes  No

Report To: Ricky Bradford Bill To: same  
 Company: AEI Consultants  
 2500 Camino Diablo, Suite 200  
 Walnut Creek, CA 94597 E-Mail: rbradford@aeiconsultatns.com  
 Telephone: (925) 944-2899 Fax: (925) 944-2895  
 AEI Project No. 116907 Project Name: Vic's Automotive  
 Project Location: 245 8<sup>th</sup> Street, Oakland, CA 94607  
 Sampler Signature: *John Sigg*

**Analysis Request**

Analysis Request										Other		Comments
TPH-g & MBTEX (SW8021B/8015Cm)	TPH-d (SW8015Cm)	TRPH (E418.1) w/ Silica Gel Clean-up by IRS	Total Petroleum Oil & Grease (5520 E&F/B&F)	*Total Lead (TTLC/E200.8)	*For Lead Use 250 ml HDPE w/ HNO <sub>3</sub> preserv.	CAM 17 Metals	LUFT 5 Metals	HVOCs - 8010 target list (SW8260B)	MTBE (SW8260B)	**Flash Point (SW1010)	**For FP Use 1 Liter Amber unpreserved	
X												Report in both units - ug/L and ppmv
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X
												X

SAMPLE ID	FIELD POINT NAME	SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other				
MW-1S	MW-1S	1-6-09	1210	1	TB				X									
MW-2S	MW-2S		1325	1	TB				X									
MW-5S	MW-5S		1335	1	TB				X									
MW-6S	MW-6S		1345	1	TB				X									
MW-7S	MW-7S		1355	1	TB				X									
MW-10S	MW-10S		1405	1	TB				X									
MW-11S	MW-11S		1415	1	TB				X									
MW-12S	MW-12S		1425	1	TB				X									
PRED	PRED		1435	1	TB				X									
AS	AS		1445	1	TB				X									
STACK	STACK		1455	1	TB				X									

Relinquished By: <i>John Sigg</i>	Date: 1-7-09	Time: 0944	Received By: <i>ENVIRO-TECH SERVICES AA</i>
Relinquished By: <i>ENVIRO-TECH SERVICES AA</i>	Date: 1/07/09	Time: 11:29	Received By: <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>	Date: 1/9/09	Time: 1150	Received By: <i>[Signature]</i>

ICE/PC NO      PRESERVATION APPROPRIATE

GOOD CONDITION ✓      CONTAINERS ✓

HEAD SPACE ABSENT ✓      PERSEVED IN LAB ✓

DECHLORINATED IN LAB ✓

VOAS ✓      O&G ✓      METALS ✓      OTHER ✓

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0901070

ClientCode: AEL

WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Report to:	Ricky Bradford	Email: rbradford@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT: 5 days
	AEI Consultants	cc:		AEI Consultants	Date Received: 01/07/2009
	2500 Camino Diablo, Ste. #200	PO:		2500 Camino Diablo, Ste. #200	Date Printed: 01/07/2009
	Walnut Creek, CA 94597	ProjectNo: #116907; Vic's Automotive		Walnut Creek, CA 94597	
	(925) 283-6000 FAX (925) 944-2895			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	
0901070-001	MW-1S	Air	1/6/2009 12:10	<input type="checkbox"/>	A	A											
0901070-002	MW-2S	Air	1/6/2009 13:25	<input type="checkbox"/>	A												
0901070-004	MW-6S	Air	1/6/2009 13:45	<input type="checkbox"/>	A												
0901070-005	MW-7S	Air	1/6/2009 13:55	<input type="checkbox"/>	A												
0901070-006	MW-10S	Air	1/6/2009 14:05	<input type="checkbox"/>	A												
0901070-007	MW-11S	Air	1/6/2009 14:15	<input type="checkbox"/>	A												
0901070-008	MW-12S	Air	1/6/2009 14:25	<input type="checkbox"/>	A												
0901070-009	PRED	Air	1/6/2009 14:35	<input type="checkbox"/>	A												
0901070-010	AS	Air	1/6/2009 14:45	<input type="checkbox"/>	A												
0901070-011	STACK	Air	1/6/2009 14:55	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTEX AIR	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A contain testgroup.

Prepared by: Maria Venegas

**Comments:**

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: **01/07/09 9:57:42 AM**

Project Name: **#116907; Vic's Automotive**

Checklist completed and reviewed by: **Maria Venegas**

WorkOrder N°: **0901070** Matrix Air

Carrier: EnviroTech

#### 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: NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

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

-----

Client contacted:

Date contacted:

Contacted by:

Comments:





# 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; Vic's Automotive	Date Sampled: 01/06/09
	Client Contact: Ricky Bradford	Date Received: 01/07/09
	Client P.O.:	Date Extracted: 01/07/09-01/08/09
		Date Analyzed 01/07/09-01/08/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0901070

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	130,d1	ND	12	21	0.99	8.0	1	109
002A	MW-2S	A	12,000,d1	ND<110	220	570	56	420	10	97
004A	MW-6S	A	1900,d1	ND<50	13	65	10	140	20	116
005A	MW-7S	A	7300,d1	ND<17	63	160	13	340	6.7	100
006A	MW-10S	A	8000,d1	ND<45	100	240	30	280	6.7	117
007A	MW-11S	A	4400,d1	ND<80	95	200	25	250	2	120
008A	MW-12S	A	1800,d1	ND<25	29	70	9.9	160	10	119
009A	PRED	A	4500,d1	ND<300	67	220	25	340	40	115
010A	AS	A	530,d1	ND<5.0	6.1	26	4.8	95	1	116
011A	STACK	A	94,d1	ND	ND	2.0	0.47	8.5	1	98

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	25	2.5	0.25	0.25	0.25	0.25	0.25	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 in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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



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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; Vic's Automotive	Date Sampled: 01/06/09
	Client Contact: Ricky Bradford	Date Received: 01/07/09
	Client P.O.:	Date Analyzed: 01/07/09-01/08/09
		Date Extracted: 01/07/09-01/08/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0901070

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	35,d1	ND	3.6	5.6	0.22	1.8	1	109
002A	MW-2S	A	3400,d1	ND<30	69	150	13	95	10	97
004A	MW-6S	A	520,d1	ND<14	4.1	17	2.3	32	20	116
005A	MW-7S	A	2000,d1	ND<4.5	19	43	3.0	77	6.7	100
006A	MW-10S	A	2200,d1	ND<15	31	64	6.7	64	6.7	117
007A	MW-11S	A	1200,d1	ND<20	29	53	5.7	56	2	120
008A	MW-12S	A	490,d1	ND<6.8	9.1	18	2.2	37	10	119
009A	PRED	A	1200,d1	ND<80	21	58	5.7	78	40	115
010A	AS	A	150,d1	ND<1.5	1.9	6.9	1.1	22	1	116
011A	STACK	A	26,d1	ND	ND	0.52	0.11	1.9	1	98

ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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



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

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 40679

WorkOrder 0901070

EPA Method SW8021B/8015Cm		Extraction SW5030B							Spiked Sample ID: 0901062-005A			
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	109	109	0	107	113	5.48	70 - 130	20	70 - 130	20
MTBE	ND	10	109	115	5.21	106	103	2.06	70 - 130	20	70 - 130	20
Benzene	ND	10	94.1	98.5	4.53	94.6	92.7	2.00	70 - 130	20	70 - 130	20
Toluene	ND	10	96.3	100	4.25	97.2	95.3	2.06	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	96.5	99.2	2.69	96.1	95.7	0.420	70 - 130	20	70 - 130	20
Xylenes	ND	30	109	112	2.70	110	108	1.70	70 - 130	20	70 - 130	20
%SS:	99	10	101	95	6.25	103	102	0.364	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 40679 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0901070-001A	01/06/09 12:10 PM	01/07/09	01/07/09 7:13 PM	0901070-002A	01/06/09 1:25 PM	01/08/09	01/08/09 2:28 PM
0901070-004A	01/06/09 1:45 PM	01/07/09	01/07/09 6:42 PM	0901070-005A	01/06/09 1:55 PM	01/07/09	01/07/09 3:40 PM
0901070-006A	01/06/09 2:05 PM	01/08/09	01/08/09 3:02 PM	0901070-007A	01/06/09 2:15 PM	01/08/09	01/08/09 3:36 PM
0901070-008A	01/06/09 2:25 PM	01/07/09	01/07/09 9:14 PM	0901070-009A	01/06/09 2:35 PM	01/07/09	01/07/09 6:12 PM
0901070-010A	01/06/09 2:45 PM	01/07/09	01/07/09 9:45 PM	0901070-011A	01/06/09 2:55 PM	01/07/09	01/07/09 11:46 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 = 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.



**McC Campbell Analytical, Inc.**

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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; Vic's Automotive	Date Sampled: 01/06/09
		Date Received: 01/07/09
	Client Contact: Ricky Bradford	Date Reported: 01/12/09
	Client P.O.: #WC081241	Date Completed: 01/09/09

**WorkOrder: 0901078**

January 12, 2009

Dear Ricky:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#116907; Vic's 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.

0901078

**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: same  
 Company: AEI Consultants PO # WC 081241  
 2500 Camino Diablo, Suite 200  
 Walnut Creek, CA 94597 E-Mail: rbradford@aeiconsultatns.com  
 Telephone: (925) 944-2899 Fax: (925) 944-2895  
 AEI Project No. 116907 Project Name: Vic's Automotive  
 Project Location: 245 8<sup>th</sup> Street, Oakland, CA 94607  
 Sampler Signature: John Sigg

SAMPLE ID	FIELD POINT NAME	SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED		Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl			
INF	INF	1-6-09	1300	3	V6A	X					X	X	TPH-g & MBTEX (SW8021B/8015Cm)		
POST-AS	POST-AS		1255	3		X					X	X	TPH-d (SW8015Cm)		
POST-C1	POST-C1					X					X	X	TRPH (E418.1) w/ Silica Gel Clean-up by IRS		
EFF	EFF		1305	3		X					X	X	Total Oil & Grease HC (1664 HEM-SGT)		
													*Dissolved Lead (E200.8)		
													*For Lead Use 250 ml HDPE (HNO <sub>3</sub> preserved)		
													Dissolved (Ferrous) Iron (EPA 200.8)		
													Calcium, Magnesium, Manganese (EPA 200.8)		
													TDS and TSS (SM2540C & D)		
													Heterotrophic Plate Count		
													EBMUD 7 Metals (Cd, Cr, Cu, Pb, Hg, Ni, Zn)		
													CAM 17 Metals (EPA 200.8)		
													PP13 Metals		
													RCRA 8 Metals (Ag, As, Ba, Cd, Cr, Hg, Pb, Se)		
													LUFT 5 Metals (Cd, Cr, Ni, Pb, Zn)		
													HVOCs - 8010 target list (SW8260B)		
													MTBE (SW8260B)		
													**Flash Point (SW1010)		
													**For FP Use 1 Liter Amber (unpreserved)		

Relinquished By: John Sigg Date: 1-7-09 Time: 09:40 Received By: ENVIROTECH SERVICES AA  
 Relinquished By: ENVIRO-TECH SERVICES AA Date: 1/7/09 Time: 11:22 Received By: B. Valle  
 Relinquished By: B. Valle Date: 1/7/09 Time: 11:50 Received By: Me Valle

ICE/r° 5.2°C  
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB   
 PRESERVATION APPROPRIATE CONTAINERS   
 PRESERVED IN LAB   
 VOAS  O&G METALS OTHER

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0901078

ClientCode: AEL

WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Report to: Ricky Bradford AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 (925) 283-6000    FAX (925) 944-2895	Email: rbradford@aeiconsultants.com cc: PO: #WC081241 ProjectNo: #116907; Vic's Automotive	Bill to: Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	Requested TAT: <b>5 days</b>  Date Received: <b>01/07/2009</b> Date Printed: <b>01/07/2009</b>
--	---	---	---

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	
0901078-001	INF	Water	1/6/2009 13:00	<input type="checkbox"/>	A	A											
0901078-002	POST-AS	Water	1/6/2009 12:55	<input type="checkbox"/>	A												
0901078-003	EFF	Water	1/6/2009 13:05	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTEX_W	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

**Comments:**

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: **1/7/09 12:17:44 PM**

Project Name: **#116907; Vic's Automotive**

Checklist completed and reviewed by: **Melissa Valles**

WorkOrder N°: **0901078** Matrix Water

Carrier: Dropped Off @ Envirotech; Picked Up By: B.I.

#### 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: 5.2°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- TTLC 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"

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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; Vic's Automotive	Date Sampled: 01/06/09
	Client Contact: Ricky Bradford	Date Received: 01/07/09
	Client P.O.: #WC081241	Date Extracted: 01/08/09-01/09/09
		Date Analyzed: 01/08/09-01/09/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0901078

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	W	7800,d1	ND<250	160	460	58	1600	50	99
002A	POST-AS	W	ND	28	ND	ND	ND	0.77	1	101
003A	EFF	W	ND	32	ND	ND	ND	ND	1	97

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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





### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 40679

WorkOrder 0901078

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B						Spiked Sample ID: 0901062-005A			
	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>£</sup>	ND	60	109	109	0	107	113	5.48	70 - 130	20	70 - 130	20
MTBE	ND	10	109	115	5.21	106	103	2.06	70 - 130	20	70 - 130	20
Benzene	ND	10	94.1	98.5	4.53	94.6	92.7	2.00	70 - 130	20	70 - 130	20
Toluene	ND	10	96.3	100	4.25	97.2	95.3	2.06	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	96.5	99.2	2.69	96.1	95.7	0.420	70 - 130	20	70 - 130	20
Xylenes	ND	30	109	112	2.70	110	108	1.70	70 - 130	20	70 - 130	20
%SS:	99	10	101	95	6.25	103	102	0.364	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 40679 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0901078-001A	01/06/09 1:00 PM	01/08/09	01/08/09 9:53 PM	0901078-002A	01/06/09 12:55 PM	01/09/09	01/09/09 3:31 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 SW8021B/8015Cm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 40689

WorkOrder 0901078

EPA Method SW8021B/8015Cm		Extraction SW5030B							Spiked Sample ID: 0901084-002A			
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>£</sup>	ND	60	111	104	6.14	111	103	7.24	70 - 130	20	70 - 130	20
MTBE	ND	10	96	92.2	4.04	91.9	92.2	0.325	70 - 130	20	70 - 130	20
Benzene	ND	10	90.7	91	0.367	85.9	85.3	0.631	70 - 130	20	70 - 130	20
Toluene	ND	10	92.8	93.1	0.375	88.1	87.8	0.291	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	93.7	93.5	0.211	89.3	89.4	0.0637	70 - 130	20	70 - 130	20
Xylenes	ND	30	106	105	0.551	101	101	0	70 - 130	20	70 - 130	20
%SS:	97	10	102	105	3.01	102	101	0.767	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 40689 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0901078-003A	01/06/09 1:05 PM	01/08/09	01/08/09 10:54 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.



**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; Vic's Auto (Q1, 2009)	Date Sampled: 02/05/09
	Client Contact: Ricky Bradford	Date Received: 02/05/09
	Client P.O.:	Date Reported: 02/10/09
		Date Completed: 02/10/09

**WorkOrder: 0902147**

February 11, 2009

Dear Ricky:

Enclosed within are:

- 1) The results of the **10** analyzed samples from your project: **#116907; Vic's Auto (Q1, 2009)**,
- 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.

0902147

**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. # WC081323  
 E-Mail: rbradford@aeiconsultatns.com  
 Telephone: (925) 944-2899, ext. 148 Fax: (925) 944-2895  
 Project No: 116907 Project Name: Vic's Auto (Q1, 2009)  
 Project Location: 245 8<sup>th</sup> Street, Oakland, CA 94607  
 Sampler Signature: *[Signature]*

Analysis Request										Other	Comments
TPH-g & MBTEX (SW8015C/8021B) TPH-d (SW8015C)										MTBE Only (SW8260B)	

SAMPLE ID	FIELD POINT NAME	SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other				
MW-1	MW-1	2/5/09	10:15	3	VOA	X					X	X						DPE Well
MW-2	MW-2		1:10	3	VOA	X					X	X						DPE Well
MW-3	MW-3		8:50	3	VOA	X					X	X						
MW-4	MW-4		12:20	3	VOA	X					X	X						
MW-5	MW-5		9:15	3	VOA	X					X	X						DPE Well
MW-6	MW-6		11:45	3	VOA	X					X	X						DPE Well
MW-7	MW-7		1:00	3	VOA	X					X	X						DPE Well
MW-8	MW-8		8:55	3	VOA	X					X	X						
MW-9	MW-9		8:50	3	VOA	X					X	X						
MW-10	MW-10		X	3	VOA	X					X	X						Not Sampled
MW-11	MW-11		X	3	VOA	X					X	X						Not Sampled
MW-12	MW-12		X	3	VOA	X					X	X						Not Sampled
MW-13	MW-13		8:30	3	VOA	X					X	X						

Relinquished By: <i>[Signature]</i>	Date: 2/5/09	Time: 7:00	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/° 4.6°C  
 GOOD CONDITION Yes  
 HEAD SPACE ABSENT Yes  
 DECHLORINATED IN LAB no  
 PRESERVATION APPROPRIATE Yes  
 CONTAINERS Yes  
 PERSERVED IN LAB no  
 VOAS  O&G METALS OTHER

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**McC Campbell Analytical, Inc.**

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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0902147**

**ClientCode: AEL**

WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Report to: Ricky Bradford  
 AEI Consultants  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597  
 (925) 283-6000    FAX (925) 944-2895

Email: rbradford@aeiconsultants.com  
 cc:  
 PO:  
 ProjectNo: #116907; Vic's Auto (Q1, 2009)

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

Requested TAT: **5 days**  
 Date Received: **02/05/2009**  
 Date Printed: **02/09/2009**

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	
0902147-001	MW-1	Water	2/5/2009 10:15	<input type="checkbox"/>	A		A										
0902147-002	MW-2	Water	2/5/2009 13:10	<input type="checkbox"/>	A												
0902147-003	MW-3	Water	2/5/2009 8:50	<input type="checkbox"/>	A												
0902147-004	MW-4	Water	2/5/2009 12:20	<input type="checkbox"/>	A												
0902147-005	MW-5	Water	2/5/2009 9:15	<input type="checkbox"/>	A	B											
0902147-006	MW-6	Water	2/5/2009 11:45	<input type="checkbox"/>	A	B											
0902147-007	MW-7	Water	2/5/2009 13:00	<input type="checkbox"/>	A	B											
0902147-008	MW-8	Water	2/5/2009 8:55	<input type="checkbox"/>	A												
0902147-009	MW-9	Water	2/5/2009 8:40	<input type="checkbox"/>	A	B											
0902147-010	MW-13	Water	2/5/2009 8:30	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTX_W	2	MTBE_W	3	PREF REPORT	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Rosa Venegas**

**Comments:**

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: **2/5/2009 8:27:43 PM**  
Project Name: **#116907; Vic's Auto (Q1, 2009)** Checklist completed and reviewed by: Rosa Venegas  
WorkOrder N°: **0902147** Matrix Water Carrier: Client Drop-In

#### 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: 4.6°C NA   
Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
Sample labels checked for correct preservation? Yes  No   
TTLC 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:



# 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; Vic's Auto (Q1, 2009)	Date Sampled: 02/05/09
	Client Contact: Ricky Bradford	Date Received: 02/05/09
	Client P.O.:	Date Extracted: 02/06/09-02/10/09
		Date Analyzed: 02/06/09-02/10/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Bm

Work Order: 0902147

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	42,000,d1	ND<1000	1100	8500	880	4500	200	100
002A	MW-2	W	1000,d1,b1	82	130	50	15	120	5	103
003A	MW-3	W	ND	ND	1.7	ND	ND	ND	1	96
004A	MW-4	W	140,d1	ND	0.87	19	3.9	29	1	91
005A	MW-5	W	2800,d1	ND<25	49	120	22	570	5	114
006A	MW-6	W	92,000,d1	ND<2500	1100	8600	2800	14,000	500	97
007A	MW-7	W	7800,d1	ND<210	1100	810	190	690	10	110
008A	MW-8	W	ND	ND	0.98	1.3	ND	ND	1	99
009A	MW-9	W	32,000,d1	ND<1500	11,000	310	1600	2700	20	94
010A	MW-13	W	ND	14	ND	ND	ND	ND	1	103

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	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 and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

- b1) aqueous sample that contains greater than ~1 vol. % sediment
- d1) weakly modified or unmodified gasoline is significant



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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; Vic's Auto (Q1, 2009)	Date Sampled: 02/05/09
	Client Contact: Ricky Bradford	Date Received: 02/05/09
	Client P.O.:	Date Extracted: 02/06/09-02/09/09
		Date Analyzed: 02/06/09-02/09/09

### Methyl tert-Butyl Ether\*

Extraction method SW5030B

Analytical methods SW8260B

Work Order: 0902147

Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS
005B	MW-5	W	ND	1	78
006B	MW-6	W	ND<50,a3	100	85
007B	MW-7	W	26	5	84
009B	MW-9	W	360	100	88

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	0.5	µg/L
	S	NA	NA

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

a3) sample diluted due to high organic content / matrix interference.





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

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 41240

WorkOrder: 0902147

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0902130-002A			
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>£</sup>	ND	60	92.2	101	9.51	92	90.2	2.04	70 - 130	20	70 - 130	20
MTBE	ND	10	106	106	0	109	112	2.27	70 - 130	20	70 - 130	20
Benzene	ND	10	83.4	92.6	10.4	105	101	3.21	70 - 130	20	70 - 130	20
Toluene	ND	10	87.2	98.4	12.1	94.8	93.8	1.11	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	98.1	88.6	10.2	105	102	3.13	70 - 130	20	70 - 130	20
Xylenes	ND	30	111	106	3.75	100	97.6	2.44	70 - 130	20	70 - 130	20
%SS:	93	10	103	109	5.06	99	97	1.99	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 41240 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0902147-001A	02/05/09 10:15 AM	02/06/09	02/06/09 7:34 PM	0902147-002A	02/05/09 1:10 PM	02/10/09	02/10/09 2:42 AM
0902147-003A	02/05/09 8:50 AM	02/06/09	02/06/09 10:08 PM	0902147-004A	02/05/09 12:20 PM	02/06/09	02/06/09 10:42 PM
0902147-005A	02/05/09 9:15 AM	02/10/09	02/10/09 3:15 AM	0902147-006A	02/05/09 11:45 AM	02/06/09	02/06/09 9:49 PM
0902147-007A	02/05/09 1:00 PM	02/10/09	02/10/09 4:20 AM	0902147-008A	02/05/09 8:55 AM	02/06/09	02/06/09 11:16 PM
0902147-009A	02/05/09 8:40 AM	02/09/09	02/09/09 11:56 PM	0902147-009A	02/05/09 8:40 AM	02/10/09	02/10/09 3:35 PM
0902147-010A	02/05/09 8:30 AM	02/10/09	02/10/09 12:26 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, or inconsistency in sample containers.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 41242

WorkOrder 0902147

EPA Method SW8260B		Extraction SW5030B							Spiked Sample ID: 0902134-002A			
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
Methyl-t-butyl ether (MTBE)	ND	10	103	101	1.90	91.6	97.4	6.20	70 - 130	30	70 - 130	30
%SS1:	85	25	86	85	0.512	87	85	2.17	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 41242 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0902147-005B	02/05/09 9:15 AM	02/09/09	02/09/09 12:37 PM	0902147-006B	02/05/09 11:45 AM	02/06/09	02/06/09 8:45 PM
0902147-007B	02/05/09 1:00 PM	02/09/09	02/09/09 1:15 PM	0902147-009B	02/05/09 8:40 AM	02/07/09	02/07/09 2:29 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.



**McC Campbell Analytical, Inc.**

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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; Vic's Automotive	Date Sampled: 02/09/09
	Client Contact: Ricky Bradford	Date Received: 02/10/09
	Client P.O.:	Date Reported: 02/13/09
		Date Completed: 02/12/09

**WorkOrder: 0902230**

February 13, 2009

Dear Ricky:

Enclosed within are:

- 1) The results of the **11** analyzed samples from your project: **#116907; Vic's 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.

0902230

**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.#WC08 1324  
 E-Mail: rbradford@aeiconsultatns.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				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other			
MW-1S	MW-1S	2-9-09	1230	1	TB			X									X
MW-2S	MW-2S		1240	1	TB			X									X
MW-5S	MW-5S		1250	1	TB			X									X
MW-6S	MW-6S		1300	1	TB			X									X
MW-7S	MW-7S		1050	1	TB			X									X
MW-10S	MW-10S		1100	1	TB			X									X
MW-11S	MW-11S		1110	1	TB			X									X
MW-12S	MW-12S		1120	1	TB			X									X
POSTD	POSTD		-	-	-	-	-	-									Not Sampled
PRED	PRED		1130	1	TB			X									X
AS	AS		1140	1	TB			X									X
STACK	STACK		1150	1	TB			X									X

Relinquished By: *[Signature]* Date: 2-10-09 Time: 949 Received By: ENVIRO-TECH SERVICES AA  
 Relinquished By: ENVIRO-TECH SR Date: 2/10/09 Time: 1125 Received By: *[Signature]*  
 Relinquished By: *[Signature]* Date: 2/10/09 Time: 1150 Received By: *[Signature]*

ICE/TPH as Gas (602/8020 + 8015CYMTBE)   
 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   
 HVOCs - (8010 target list) by EPA 8260B   
 MTBE Only by EPA 8260B   
 Report in both units - ug/L and ppmv

ICE/TPH *N/A*  
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB   
 PRESERVATION APPROPRIATE   
 CONTAINERS PRESERVED IN LAB   
 VOAS  O&G  METALS  OTHER

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0902230

ClientCode: AEL

WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Report to:	Ricky Bradford	Email: rbradford@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT: 5 days
	AEI Consultants	cc:		AEI Consultants	Date Received: 02/10/2009
	2500 Camino Diablo, Ste. #200	PO:		2500 Camino Diablo, Ste. #200	Date Printed: 02/10/2009
	Walnut Creek, CA 94597	ProjectNo: #116907; Vic's Automotive		Walnut Creek, CA 94597	
	(925) 283-6000 FAX (925) 944-2895			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	
0902230-001	MW-1S	Air	2/9/2009 12:30	<input type="checkbox"/>	A	A											
0902230-002	MW-2S	Air	2/9/2009 12:40	<input type="checkbox"/>	A												
0902230-003	MW-5S	Air	2/9/2009 12:50	<input type="checkbox"/>	A												
0902230-004	MW-6S	Air	2/9/2009 13:00	<input type="checkbox"/>	A												
0902230-005	MW-7S	Air	2/9/2009 10:50	<input type="checkbox"/>	A												
0902230-006	MW-10S	Air	2/9/2009 11:00	<input type="checkbox"/>	A												
0902230-007	MW-11S	Air	2/9/2009 11:10	<input type="checkbox"/>	A												
0902230-008	MW-12S	Air	2/9/2009 11:20	<input type="checkbox"/>	A												
0902230-009	PRED	Air	2/9/2009 11:30	<input type="checkbox"/>	A												
0902230-010	AS	Air	2/9/2009 11:40	<input type="checkbox"/>	A												
0902230-011	STACK	Air	2/9/2009 11:50	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTEX AIR	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A contain testgroup.

Prepared by: Maria Venegas

**Comments:**

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: **02/10/09 9:59:08 AM**  
 Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Maria Venegas**  
 WorkOrder N°: **0902230** Matrix Air Carrier: EnviroTech

#### 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: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
 Sample labels checked for correct preservation? Yes  No   
 TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
 Samples Received on Ice? Yes  No

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

-----

Client contacted: Date contacted: Contacted by:

Comments:



# 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; Vic's Automotive	Date Sampled: 02/09/09
	Client Contact: Ricky Bradford	Date Received: 02/10/09
	Client P.O.:	Date Extracted: 02/10/09-02/11/09
		Date Analyzed 02/10/09-02/11/09

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0902230

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	130,d1	ND	15	26	1.6	14	1	95
002A	MW-2S	A	4100,d1	ND<35	82	200	21	220	4	88
003A	MW-5S	A	980,d1	ND<17	7.8	29	3.9	100	6.7	119
004A	MW-6S	A	220,d1	ND	4.7	13	2.2	36	1	105
005A	MW-7S	A	3900,d1	ND<45	63	81	7.7	150	4	106
006A	MW-10S	A	1400,d1	ND<10	18	45	4.8	94	4	113
007A	MW-11S	A	1800,d1	ND<25	45	70	9.9	120	1	91
008A	MW-12S	A	380,d1	ND<10	14	15	2.6	36	1	121
009A	PRED	A	4100,d1	ND<30	56	120	14	200	4	106
010A	AS	A	63,d1	ND	0.91	2.2	0.35	6.6	1	102
011A	STACK	A	ND	ND	ND	ND	ND	ND	1	96

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	25	2.5	0.25	0.25	0.25	0.25	0.25	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 in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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



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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; Vic's Automotive	Date Sampled: 02/09/09
	Client Contact: Ricky Bradford	Date Received: 02/10/09
	Client P.O.:	Date Extracted: 02/10/09-02/11/09
		Date Analyzed: 02/10/09-02/11/09

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0902230

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	36,d1	ND	4.7	6.7	0.35	3.1	1	95
002A	MW-2S	A	1100,d1	ND<10	25	53	4.9	49	4	88
003A	MW-5S	A	270,d1	ND<4.5	2.4	7.5	0.90	23	6.7	119
004A	MW-6S	A	60,d1	ND	1.4	3.4	0.49	8.2	1	105
005A	MW-7S	A	1100,d1	ND<10	19	21	1.8	34	4	106
006A	MW-10S	A	400,d1	ND<2.7	5.6	12	1.1	21	4	113
007A	MW-11S	A	500,d1	ND<6.0	14	18	2.3	28	1	91
008A	MW-12S	A	110,d1	ND<5.0	4.2	4.0	0.58	8.1	1	121
009A	PRED	A	1200,d1	ND<10	17	31	3.1	46	4	106
010A	AS	A	18,d1	ND	0.28	0.57	0.078	1.5	1	102
011A	STACK	A	ND	ND	ND	ND	ND	ND	1	96

ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit for DF=1; ND means not detected at or above the reporting limit	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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





### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 41298

WorkOrder: 0902230

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0902222-001D			
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>£</sup>	ND	60	101	99.4	1.23	85.2	93.9	9.67	70 - 130	20	70 - 130	20
MTBE	ND	10	97	94.6	2.59	87.3	84.9	2.77	70 - 130	20	70 - 130	20
Benzene	ND	10	87.8	93.7	6.48	90	109	18.7	70 - 130	20	70 - 130	20
Toluene	ND	10	92.1	97.1	5.32	89	95.3	6.82	70 - 130	20	70 - 130	30
Ethylbenzene	ND	10	91.8	97.6	6.10	91.6	110	18.6	70 - 130	20	70 - 130	20
Xylenes	ND	30	104	111	5.65	87.2	105	19.0	70 - 130	20	70 - 130	20
%SS:	99	10	102	102	0	102	111	8.58	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 41298 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0902230-001A	02/09/09 12:30 PM	02/11/09	02/11/09 4:22 AM	0902230-001A	02/09/09 12:30 PM	02/11/09	02/11/09 4:22 AM
0902230-002A	02/09/09 12:40 PM	02/11/09	02/11/09 4:55 AM	0902230-002A	02/09/09 12:40 PM	02/11/09	02/11/09 4:55 AM
0902230-003A	02/09/09 12:50 PM	02/10/09	02/10/09 6:22 PM	0902230-003A	02/09/09 12:50 PM	02/10/09	02/10/09 6:22 PM
0902230-004A	02/09/09 1:00 PM	02/10/09	02/10/09 11:23 PM	0902230-004A	02/09/09 1:00 PM	02/10/09	02/10/09 11:23 PM
0902230-005A	02/09/09 10:50 AM	02/11/09	02/11/09 10:36 PM	0902230-005A	02/09/09 10:50 AM	02/11/09	02/11/09 10:36 PM
0902230-006A	02/09/09 11:00 AM	02/11/09	02/11/09 12:30 AM	0902230-006A	02/09/09 11:00 AM	02/11/09	02/11/09 12:30 AM
0902230-007A	02/09/09 11:10 AM	02/11/09	02/11/09 1:03 AM	0902230-007A	02/09/09 11:10 AM	02/11/09	02/11/09 1:03 AM
0902230-008A	02/09/09 11:20 AM	02/11/09	02/11/09 1:36 AM	0902230-008A	02/09/09 11:20 AM	02/11/09	02/11/09 1:36 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 = 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/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 41305

WorkOrder: 0902230

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0902235-002A			
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>£</sup>	ND	60	89.2	84.6	5.36	86.1	90.5	5.04	70 - 130	20	70 - 130	20
MTBE	ND	10	77.9	76.5	1.80	80.5	84	4.32	70 - 130	20	70 - 130	20
Benzene	ND	10	90	90.9	1.02	85.9	89.5	4.09	70 - 130	20	70 - 130	20
Toluene	ND	10	90.5	91.3	0.809	86.8	90.2	3.79	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	94.9	96.1	1.29	90.7	93.9	3.51	70 - 130	20	70 - 130	20
Xylenes	ND	30	105	105	0	100	104	3.40	70 - 130	20	70 - 130	20
%SS:	95	10	90	95	5.61	90	91	1.57	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 41305 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0902230-009A	02/09/09 11:30 AM	02/11/09	02/11/09 11:09 PM	0902230-009A	02/09/09 11:30 AM	02/11/09	02/11/09 11:09 PM
0902230-010A	02/09/09 11:40 AM	02/11/09	02/11/09 11:42 PM	0902230-010A	02/09/09 11:40 AM	02/11/09	02/11/09 11:42 PM
0902230-011A	02/09/09 11:50 AM	02/11/09	02/11/09 3:49 AM	0902230-011A	02/09/09 11:50 AM	02/11/09	02/11/09 3:49 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 = 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.



**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; Vic's Automotive	Date Sampled: 02/09/09
	Client Contact: Ricky Bradford	Date Received: 02/10/09
	Client P.O.:	Date Reported: 02/13/09
		Date Completed: 02/13/09

**WorkOrder: 0902231**

February 13, 2009

Dear Ricky:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#116907; Vic's 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.

0902231

**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.#WC081325  
 E-Mail: rbradford@aeiconsultatns.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: *John Sigg*

**Analysis Request**

**Other**

**Comments**

SAMPLE ID	FIELD POINT NAME	SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other				
+ INF	INF	2-9-09	1200	3	3VOA	X					X	X						
+ POST-AS	POST-AS	↓	1220	3	3VOA	X					X	X						
+ EFF	EFF	↓	1210	3	3VOA	X					X	X			X			

BTEX & TPH as Gas (602/8020+ 8015C)/MTBE

\*\*Total Oil & Grease HC (1664 HEM-SGT)

\*\*For TOG HC Use (1) 1 Liter Ambers (w/ HCl)

Flow Totalizer Reading

Relinquished By: *John Sigg* Date: 2-10-09 Time: 949 Received By: ENVIRO-TECH SERVICES *AK*  
 Relinquished By: ENVIRO-TECH *SIG* Date: 2/10/09 Time: 1125 Received By: *Ben [Signature]*  
 Relinquished By: *Ben [Signature]* Date: 2/10/09 Time: 1150 Received By: *[Signature]*

ICE/t° **3.8**  
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB   
 PRESERVATION APPROPRIATE   
 CONTAINERS   
 \*PERSERVED IN LAB   
 VOAS  O&G  METALS  OTHER

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0902231**

**ClientCode: AEL**

WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

<b>Report to:</b>	Ricky Bradford	Email: rbradford@aeiconsultants.com	<b>Bill to:</b>	Denise Mockel	<b>Requested TAT:</b>	<b>5 days</b>
	AEI Consultants	cc:		AEI Consultants	<b>Date Received:</b>	<b>02/10/2009</b>
	2500 Camino Diablo, Ste. #200	PO:		2500 Camino Diablo, Ste. #200	<b>Date Printed:</b>	<b>02/10/2009</b>
	Walnut Creek, CA 94597	ProjectNo: #116907; Vic's Automotive		Walnut Creek, CA 94597		
	(925) 283-6000    FAX (925) 944-2895			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
0902231-001	INF	Water	2/9/2009 12:00	<input type="checkbox"/>		A	A									
0902231-002	POST-AS	Water	2/9/2009 12:20	<input type="checkbox"/>		A										
0902231-003	EFF	Water	2/9/2009 12:10	<input type="checkbox"/>	B	A										

**Test Legend:**

1	1664A_SG_W	2	G-MBTEX_W	3	PREFD REPORT	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Maria Venegas**

**Comments:**

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: **02/10/09 10:06:03 AM**  
Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Maria Venegas**  
WorkOrder N°: **0902231** Matrix Water Carrier: EnviroTech

#### 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: 3.8°C NA   
Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
Sample labels checked for correct preservation? Yes  No   
TTLC 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:



# 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; Vic's Automotive	Date Sampled: 02/09/09
	Client Contact: Ricky Bradford	Date Received: 02/10/09
	Client P.O.:	Date Extracted: 02/10/09
		Date Analyzed: 02/11/09

### Hexane Extractable Material with Silica Gel Clean Up\*

Extraction method: E1664A

Analytical methods: E1664A

Work Order: 0902231

Lab ID	Client ID	Matrix	HEMSGT	DF	% SS
0902231-003B	EFF	W	ND	1	N/A

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

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

DF = dilution factor (may be raised to dilute target analyte or matrix interference).

# surrogate diluted out of range or not applicable to this sample.



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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 02/09/09
	Client Contact: Ricky Bradford	Date Received: 02/10/09
	Client P.O.:	Date Extracted: 02/12/09
		Date Analyzed 02/12/09

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0902231

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	W	11,000,d1	320	250	660	84	1700	10	96
002A	POST-AS	W	250,d1	37	3.1	8.7	1.3	28	1	95
003A	EFF	W	ND	9.9	ND	ND	ND	ND	1	94

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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





**QC SUMMARY REPORT FOR E1664A**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 41220

WorkOrder: 0902231

EPA Method E1664A		Extraction E1664A							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
HEMSGT	N/A	20.83	N/A	N/A	N/A	106	109	3.02	N/A	N/A	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 41220 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0902231-003B	02/09/09 12:10 PM	02/10/09	02/11/09 4:52 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 therefore unable to comply with method.  
 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.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 41305

WorkOrder: 0902231

Analyte	EPA Method SW8021B/8015Bm		Extraction SW5030B						Spiked Sample ID: 0902235-002A			
	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>£</sup>	ND	60	89.2	84.6	5.36	86.1	90.5	5.04	70 - 130	20	70 - 130	20
MTBE	ND	10	77.9	76.5	1.80	80.5	84	4.32	70 - 130	20	70 - 130	20
Benzene	ND	10	90	90.9	1.02	85.9	89.5	4.09	70 - 130	20	70 - 130	20
Toluene	ND	10	90.5	91.3	0.809	86.8	90.2	3.79	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	94.9	96.1	1.29	90.7	93.9	3.51	70 - 130	20	70 - 130	20
Xylenes	ND	30	105	105	0	100	104	3.40	70 - 130	20	70 - 130	20
%SS:	95	10	90	95	5.61	90	91	1.57	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 41305 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0902231-001A	02/09/09 12:00 PM	02/12/09	02/12/09 6:58 PM	0902231-002A	02/09/09 12:20 PM	02/12/09	02/12/09 9:59 PM
0902231-003A	02/09/09 12:10 PM	02/12/09	02/12/09 10:21 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.



**McC Campbell Analytical, Inc.**

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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; Vic's Automotive	Date Sampled: 03/18/09
	Client Contact: Ricky Bradford	Date Received: 03/18/09
	Client P.O.: #WC081399	Date Reported: 03/24/09
		Date Completed: 03/20/09

**WorkOrder: 0903467**

March 24, 2009

Dear Ricky:

Enclosed within are:

- 1) The results of the **11** analyzed samples from your project: **#116907; Vic's 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.

0903467

**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**      5 DAY  
 RUSH 24 HR 48 HR 72 HR  
 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.#WC081399  
 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]*

SAMPLE ID		FIELD POINT NAME		SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments												
Date	Time	Water	Soil	Air	Sludge			Other	Ice	HCl	HNO <sub>3</sub>	Other	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	HVOCs - (8010 target list) by EPA 8260B	MTBE Only by EPA 8260B	Report in both units - ug/L and ppmv	
MW-1S	MW-1S	3-18-09	0800	1	TB		X				X																				X
MW-2S	MW-2S		0810	1	TB		X				X																				X
MW-5S	MW-5S		0820	1	TB		X				X																				X
MW-6S	MW-6S		0830	1	TB		X				X																				X
MW-7S	MW-7S		0840	1	TB		X				X																				X
MW-10S	MW-10S		0850	1	TB		X				X																				X
MW-11S	MW-11S		0900	1	TB		X				X																				X
MW-12S	MW-12S		0910	1	TB		X				X																				X
POSTD	POSTD																														Not Sampled
PRED	PRED		0920	1	TB		X				X																				X
AS	AS		0930	1	TB		X				X																				X
STACK	STACK		0940	1	TB		X				X																				X

Relinquished By: *[Signature]* Date: 3-18-09 Time: 1551 Received By: *[Signature]*  
 Relinquished By: Date: Time: Received By:  
 Relinquished By: Date: Time: Received By:

ICE/r° N/A  
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB   
 PRESERVATION APPROPRIATE   
 CONTAINERS   
 PRESERVED IN LAB   
 VOAS O&G METALS OTHER

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0903467

ClientCode: AEL

WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Report to:	Ricky Bradford	Email: rbradford@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT: 5 days
	AEI Consultants	cc:		AEI Consultants	Date Received: 03/18/2009
	2500 Camino Diablo, Ste. #200	PO: #WC081399		2500 Camino Diablo, Ste. #200	Date Printed: 03/18/2009
	Walnut Creek, CA 94597	ProjectNo: #116907; Vic's Automotive		Walnut Creek, CA 94597	
	(925) 283-6000 FAX (925) 944-2895			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	
0903467-001	MW-1S	Air	3/18/2009 8:00	<input type="checkbox"/>	A	A											
0903467-002	MW-2S	Air	3/18/2009 8:10	<input type="checkbox"/>	A												
0903467-003	MW-5S	Air	3/18/2009 8:20	<input type="checkbox"/>	A												
0903467-004	MW-6S	Air	3/18/2009 8:30	<input type="checkbox"/>	A												
0903467-005	MW-7S	Air	3/18/2009 8:40	<input type="checkbox"/>	A												
0903467-006	MW-10S	Air	3/18/2009 8:50	<input type="checkbox"/>	A												
0903467-007	MW-11S	Air	3/18/2009 9:00	<input type="checkbox"/>	A												
0903467-008	MW-12S	Air	3/18/2009 9:10	<input type="checkbox"/>	A												
0903467-009	PRED	Air	3/18/2009 9:20	<input type="checkbox"/>	A												
0903467-010	AS	Air	3/18/2009 9:30	<input type="checkbox"/>	A												
0903467-011	STACK	Air	3/18/2009 9:40	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTEX AIR	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 011A contain testgroup.

Prepared by: Maria Venegas

**Comments:**

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: **03/18/09 4:36:23 PM**

Project Name: **#116907; Vic's Automotive**

Checklist completed and reviewed by: **Maria Venegas**

WorkOrder N°: **0903467** Matrix Air

Carrier: Client Drop-In

#### 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: NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

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

-----

Client contacted:

Date contacted:

Contacted by:

Comments:



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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 03/18/09
	Client Contact: Ricky Bradford	Date Received: 03/18/09
	Client P.O.: #WC081399	Date Extracted: 03/18/09-03/19/09
		Date Analyzed: 03/18/09-03/19/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Bm

Work Order: 0903467

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	420,d1	ND<5.0	5.7	37	3.1	18	1	114
002A	MW-2S	A	480,d1	ND	3.5	21	1.9	11	1	116
003A	MW-5S	A	350,d1	ND<5.0	6.7	23	3.3	27	1	119
004A	MW-6S	A	220,d1	ND<10	4.4	6.4	1.7	18	1	98
005A	MW-7S	A	2500,d1	ND<50	89	86	8.6	74	20	118
006A	MW-10S	A	800,d1	ND<45	29	29	6.3	46	2	102
007A	MW-11S	A	1400,d1	ND<110	160	68	15	89	4	109
008A	MW-12S	A	350,d1	ND<25	25	16	2.3	11	2	96
009A	PRED	A	450,d1	ND	17	40	5.1	31	1	114
010A	AS	A	ND	ND	ND	0.33	ND	0.65	1	90
011A	STACK	A	ND	ND	ND	ND	ND	ND	1	94

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	25	2.5	0.25	0.25	0.25	0.25	0.25	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 in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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



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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 03/18/09
	Client Contact: Ricky Bradford	Date Received: 03/18/09
	Client P.O.: #WC081399	Date Extracted: 03/18/09-03/19/09
		Date Analyzed: 03/18/09-03/19/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Bm

Work Order: 0903467

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	120,d1	ND<1.0	1.8	9.6	0.69	4.2	1	114
002A	MW-2S	A	130,d1	ND	1.1	5.6	0.43	2.6	1	116
003A	MW-5S	A	99,d1	ND<2.0	2.1	6.0	0.76	6.2	1	119
004A	MW-6S	A	61,d1	ND<3.0	1.3	1.7	0.38	4.0	1	98
005A	MW-7S	A	690,d1	ND<14	28	22	1.9	17	20	118
006A	MW-10S	A	220,d1	ND<10	8.9	7.7	1.4	10	2	102
007A	MW-11S	A	400,d1	ND<3.0	48	18	3.4	20	4	109
008A	MW-12S	A	98,d1	ND<5.0	7.6	4.2	0.53	2.5	2	96
009A	PRED	A	130,d1	ND	5.2	11	1.2	7.1	1	114
010A	AS	A	ND	ND	ND	0.085	ND	0.15	1	90
011A	STACK	A	ND	ND	ND	ND	ND	ND	1	94

ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit for DF=1; ND means not detected at or above the reporting limit	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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





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

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 42138

WorkOrder: 0903467

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0903472-001A			
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>£</sup>	ND	60	97.3	95.1	2.29	95.3	88.4	7.46	70 - 130	20	70 - 130	20
MTBE	ND	10	81.1	75.3	7.42	112	96.4	15.4	70 - 130	20	70 - 130	20
Benzene	ND	10	87.9	86.3	1.90	104	105	0.846	70 - 130	20	70 - 130	20
Toluene	ND	10	87.4	86.1	1.46	91	94.5	3.75	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	87.8	86.4	1.58	102	104	1.38	70 - 130	20	70 - 130	20
Xylenes	ND	30	100	98.5	1.59	98.3	102	3.97	70 - 130	20	70 - 130	20
%SS:	95	10	92	92	0	101	102	0.571	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 42138 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0903467-001A	03/18/09 8:00 AM	03/19/09	03/19/09 7:24 PM	0903467-002A	03/18/09 8:10 AM	03/19/09	03/19/09 1:33 AM
0903467-003A	03/18/09 8:20 AM	03/19/09	03/19/09 9:06 PM	0903467-004A	03/18/09 8:30 AM	03/19/09	03/19/09 8:32 PM
0903467-005A	03/18/09 8:40 AM	03/19/09	03/19/09 2:07 AM	0903467-006A	03/18/09 8:50 AM	03/19/09	03/19/09 9:40 PM
0903467-007A	03/18/09 9:00 AM	03/19/09	03/19/09 11:54 AM	0903467-008A	03/18/09 9:10 AM	03/19/09	03/19/09 7:58 PM
0903467-009A	03/18/09 9:20 AM	03/19/09	03/19/09 10:13 PM	0903467-010A	03/18/09 9:30 AM	03/18/09	03/18/09 9:35 PM
0903467-011A	03/18/09 9:40 AM	03/18/09	03/18/09 9:01 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 / %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 = 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.



**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; Vic's Automotive	Date Sampled: 03/18/09
	Client Contact: Ricky Bradford	Date Received: 03/18/09
	Client P.O.:	Date Reported: 03/24/09
		Date Completed: 03/24/09

**WorkOrder: 0903474**

March 24, 2009

Dear Ricky:

Enclosed within are:

- 1) The results of the 3 analyzed samples from your project: **#116907; Vic's 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.

0903474

**McCAMPBELL ANALYTICAL INC.**  
1538 Willow Pass Road, Pittsburg, CA 94565

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

Telephone: (925) 252-9262 Fax: (925) 252-9269  
Report To: Ricky Bradford Bill To: AEI Consultants  
Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597  
P.O.#WC081399  
E-Mail: rbradford@aeiconsultatns.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
<p>BTEX &amp; TPH as Gas (602/8020+ 8015C) Only  <i>NO MTBE!</i>                      **Total Oil &amp; Grease HC (1664 HEM-SGT)                      **For TOG HC Use (1) 1 Liter Ambers (w/ HCl)</p>											

+ (+) (+)

SAMPLE ID	FIELD POINT NAME	SAMPLING		# of Containers	Type Containers	MATRIX					METHOD PRESERVED			
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other
INF	INF	3-18-09	1015	3	3VOA	X					X	X		X
POST-AS	POST-AS	3-18-09	1045	3	3VOA	X					X	X		X
EFF	EFF	3-18-09	1100	3	3VOA	X					X	X		X

Relinquished By: *[Signature]* Date: 3-18-09 Time: 1610 Received By: *[Signature]*  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/t° 4056.8 °C  
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB  PRESERVED IN LAB   
 VOAS  O&G  METALS  OTHER

Flow Totalizer Reading

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0903474

ClientCode: AEL

WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Report to: Ricky Bradford AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 (925) 283-6000    FAX (925) 944-2895	Email:    rbradford@aeiconsultants.com cc: PO: ProjectNo: #116907; Vic's Automotive	Bill to: Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	Requested TAT: <b>5 days</b>  Date Received: <b>03/18/2009</b> Date Printed: <b>03/18/2009</b>
--	--	---	---

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	
0903474-001	INF	Water	3/18/2009 10:15	<input type="checkbox"/>	A	A											
0903474-002	POST-AS	Water	3/18/2009 10:45	<input type="checkbox"/>	A												
0903474-003	EFF	Water	3/18/2009 11:00	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTEX_W	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Samantha Arbuckle**

**Comments:**

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: **3/18/09 7:36:11 PM**  
 Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Samantha Arbuckle**  
 WorkOrder N°: **0903474** Matrix Water Carrier: Client Drop-In

#### 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: 6.8°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
 Sample labels checked for correct preservation? Yes  No   
 TTLC 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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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 03/18/09
	Client Contact: Ricky Bradford	Date Received: 03/18/09
	Client P.O.:	Date Extracted: 03/20/09-03/21/09
		Date Analyzed: 03/20/09-03/21/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Bm

Work Order: 0903474

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	W	2000,d1	---	96	180	21	220	3.3	96
002A	POST-AS	W	120,d1	---	2.4	4.8	0.81	6.9	1	97
003A	EFF	W	ND	---	ND	ND	ND	ND	1	93

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	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 and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+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



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

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42142

WorkOrder: 0903474

Analyte	EPA Method: SW8021B/8015Bm		Extraction: SW5030B						Spiked Sample ID: 0903489-001A			
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
TPH(btex) <sup>£</sup>	ND	60	118	104	11.8	101	104	2.86	70 - 130	20	70 - 130	20
MTBE	ND	10	96.5	96.3	0.235	80.8	87.3	7.80	70 - 130	20	70 - 130	20
Benzene	ND	10	97	95.8	1.21	96.2	94.2	2.12	70 - 130	20	70 - 130	20
Toluene	ND	10	101	98.3	2.82	95.9	93.9	2.16	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	102	99.6	2.64	100	98	2.07	70 - 130	20	70 - 130	20
Xylenes	ND	30	116	113	2.30	111	109	2.22	70 - 130	20	70 - 130	20
%SS:	96	10	102	101	0.793	95	92	3.33	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 42142 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0903474-001A	03/18/09 10:15 AM	03/21/09	03/21/09 1:28 AM	0903474-002A	03/18/09 10:45 AM	03/20/09	03/20/09 10:28 PM
0903474-003A	03/18/09 11:00 AM	03/20/09	03/20/09 3:26 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.