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April 30, 2008

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

**RECEIVED**

2:01 pm, Jun 10, 2008

Alameda County  
Environmental Health

**Subject: Site Monitoring Report (First Quarter, 2008)**  
245 8<sup>th</sup> Street  
Oakland, California 94607  
Project No. 116907  
ACHCSA RO#0000202

Dear Mr. Wickham:

Enclosed is the recently completed Site Monitoring Report (First Quarter, 2008) prepared for the above-reference property.

As required, electronic copies have been uploaded to the State Water Resources Control Board's GeoTracker information system and the Alameda County Health Care Services Agency ftp site for review.

Should you have any questions or comments, or need any additional information, you may reach me or Peter McIntyre at (925) 944-2899.

Sincerely,  
**AEI Consultants**

Richard J. Bradford  
Project Engineer

RB/rb

Enclosure (1)

cc: Mr. Victor Lum, Vic's Automotive, 245 8<sup>th</sup> Street, Oakland, California 94607

April 30, 2008

**QUATERLY SITE MONITORING REPORT  
(First Quarter, 2008)**

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

Project No. 116907  
ACHCSA RO#00000202

Prepared For:

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

Prepared By:

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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 and soil gas monitoring for the First Quarter, 2008 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 2008.

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 and monitoring of MW-2 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 (i.e., MW-5, MW-6, MW-7, MW-10, MW-11, and MW-12) onsite and offsite. 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 startup 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 conveyance piping was installed from locations stubbed up near in the alley way behind to 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 finally installed. The results will be incorporated into to the next quarterly Site Monitoring Report.

### **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  $10^{-3}$  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. HVDPE involved from adaptation of vacuum-enhanced groundwater recovery (VER) frequently used in the construction industry for the dewatering and remediation of contaminated soils. 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 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 System / Process Description**

Light non-aqueous phase liquid (LNAPL), soil gas and groundwater are simultaneously extracted through a single 1-inch 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 was constructed out of schedule 80 PVC. Recovered LNAPL, soil gas, and groundwater are separated by a knock-out tank. LNAPL

and other gasoline fuel hydrocarbons dissolved in the groundwater are volatilized under high vacuum (i.e., >20 in-Hg) and an oil-water separator not used. A progressive cavity pump transfers the groundwater from the knock-out tank to the top of the low-profile 4-tray air stripper. 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 1,000-pound activated carbon absorber, where its further treated and polished prior to discharge to the onsite sanitary sewer lateral under a wastewater discharge permit from the East Bay Municipal Utilities District (EBMUD). The soil gas and off-gas from the air stripper is sent 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 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 for the individual extraction wells, which are the well identification following by an “S” are: MW-1S, MW-2S, MW-5S, MW-6S, MW-7S, MW-10S, MW-11S, and MW-12S. These sample ports are labeled and located along a common SCH80 PVC 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 stripper 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 for monitoring subsurface 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 February 11, 2008, two days prior to groundwater monitoring event. On February 13, 2008, the water levels were measured and groundwater samples were collected from monitoring wells MW-1 through MW-7 and MW-10 through MW-12. 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. An oil-water interface meter was used to measure thickness of LNAPL in MW-1, MW-2, MW-6, MW-7, MW-10, MW-11, and MW-12. 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 polyethylene bailers.

Temperature, turbidity, 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 PVC bailers into 40-millileter (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 (Department of Health Services Certification #1644).

The ten (10) groundwater samples were submitted for chemical analysis for TPH-g by EPA Method 8015C and MBTEX by EPA Method 8021B. As requested, monitoring well MW-6 was tested for halogenated volatile organic compounds (HVOCs) by the EPA Method 8260B (i.e., 8010 Basic Target List).

### **5.2 Quarterly Soil Gas Monitoring for Vapor Intrusion Evaluation**

Soil gas sampling for vapor intrusion evaluation, including purging, leak testing, sampling, and sample analyses was performed in accordance with the most current "Advisory – Active Soil Gas Investigations" (ASGI), dated January 28, 2003.

On February 14, 2008, soil gas samples were collected from four (4) nested gas probes GP-1 through GP-4 at two depths of approximately 5 and 10 feet bgs. However, due to excessive soil moisture conditions, soil gas sample collection from GP-4-10' was not possible during this event. The soil gas probe locations are shown on Figure 2.

Prior to sampling, the soil gas probes were purged of three (3) volumes of dead air using a 30 to 60 milliliter (ml) plastic syringe connected to the purging/sampling manifold using a 3-way stopcock valve and small section of 3/16-inch diameter silicone tubing. Low to no-flow conditions were immediately detected in GP-4-10' using the syringe purging method. Purging prior to sampling helped to ensure that a sufficient volume of ambient air was removed from the sampling point and that samples collected were representative of subsurface conditions. The purge volume was calculated by summing the volume of the sample tubing and annular space around the probe tip. One purge volume for the 5 and 10-foot probes are 16.1 and 27.6 milliliters (mL), respectively. Three default purge volumes for the 5 and 10-foot probes are 48.3 and 82.8 mL, respectively.

After the probes were adequately purged, soil gas samples were collected into 1-Liter laboratory-evacuated Summa canisters and labeled with unique identification. The purging and sampling manifold, supplied by McCampbell Analytical, Inc., was equipped with a critical orifice flow regulator and down-hole pressure (i.e., vacuum) gauge. The critical orifice device was designed maintain a sampling flow rate of between approximately 100 to 200 milliliters per minute (mL/min) as recommended by the ASGI. However, please note that the actual flow rate varies depending upon the down-hole pressure (i.e., vacuum). The soil gas sampling manifold was placed inline between the soil gas probe and Summa™ canister and used for both purging and sample collection. A new laboratory-certified clean sampling manifold was used at each sampling point. A field duplicate was not collected and a trip blank was not used during this sampling event. The presence of free moisture or water was encountered in GP-2-10', but sample collection was still possible.

The sampling manifolds and all valves and connections downstream of the Summa canisters were leak tested and confirmed to hold a vacuum for at least 5-minutes. Places where ambient air could enter the sampling train, including all Swagelok valves and connections and the permanent bentonite seals around the soil gas probes, were also leak checked with a tracer compound. A 12-inch plastic leak test dome was placed over the sampling probe at the surface. A rag moistened with isopropyl alcohol (i.e., 2-propanol) was placed under the dome as a tracer compound. Cotton strips moistened with isopropyl alcohol were also placed around the Swagelok® valves and fittings. To avoid possible cross contamination, the isopropyl alcohol leak check compound was stored separately from other sampling tools in a zipper locking bag. This tracer compound is not known or suspected to be present in gasoline or anywhere in the subsurface onsite.

A total of seven (7) soil gas samples were collected and transported under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (DHS No. 1644) on the day of collection. The soil gas samples were analyzed for TPH-g by modified EPA Method TO-3 and for select volatile organic compounds (VOCs), including BTEX, MTBE, and tetrachloroethene (PCE) by modified EPA Method TO-15 along with the 2-propanol leak check compound. The detection limit for 2-propanol was at least 10 µg/L (i.e., 10,000 µg/m<sup>3</sup>). Laboratory procedures included appropriate quality assurance and quality control protocols, including method blanks and use of surrogates during sample analyses.

## 5.3 HVDPE System Process Monitoring

### 5.3.1 Routine Monitoring and Data Collection

An AEI project engineer monitored the system using 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/or O&M Field Log 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 calculate 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.

### 5.3.2 Influent/Effluent Vapor Monitoring

Influent and effluent vapor samples were collected on January 22, 2008 and on March 18, 2008. No vapor samples were collected in February of 2008, because the system was shutdown for about 1 month to evaluate LNAPL recovery in MW-1, MW-6, and MW-7.

The extraction well and other process sample ports were continuously purged and sampled with a 1/16 horsepower (0.5 cfm) vacuum pump, a peristaltic pump, or an equivalent 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 Hincee, 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 Eagle 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 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.

### ***5.3.3 Influent/Effluent Water Monitoring***

Influent and effluent water samples were collected on January 8, 2008 and March 18, 2008. No water samples were collected in February of 2008, because the system was shutdown to evaluate LNAPL recovery in MW-1, MW-6, and MW-7.

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.

A total of three (3) water samples were collected and transported in a pre-chilled cooler on a mixture of water and ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services 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.

Additionally, as required by EBMUD semi-annually, an effluent sample (i.e., Sample ID “EFF”) was collected and analyzed for Total Oil and Grease Hydrocarbon by EPA Method 1664 HEM-SGT with silica gel cleanup. Based on the results of the water sample data collected since startup, testing for metals was discontinued by EBMUD wastewater control representative in an email dated January 31, 2008.

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

The soil gas probes 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 on March 28, 2008.

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 purged and sampled with a 1/16 horsepower (0.5 cfm) vacuum sampling pump, a peristaltic pump, or equivalent 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 Eagle 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. Vapor samples were not collected into 1-liter tedlar bags for laboratory analysis.

## **5.4 HVDPE System Operations & Maintenance**

### **5.4.1 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.
- Changed dirty separator filters on both liquid ring pumps at approximately 750,000 gallons of groundwater processed through the system. These filters will be changed quarterly or as needed based on the quality of the influent process water.
- Checked the main blower, dilution air, and air stripper blower inlet filters. No air filters required changing or were changed this quarter.
- On January 31, 2008, cleaned dirty air stripper trays fouled and clogged with iron and sulfur bacteria biomass. The air stripper trays will be cleaned approximately every 6 months or as needed based on the backpressure on the air stripper trays.

- Checked the operation of the cooling fans on the rotary phase converter, the down-draft fan on the roof, and the adjustable fan on the side of the equipment enclosure. All fans were working properly.

#### **5.4.2 Non-Routine Maintenance**

Non-routine maintenance performed during this quarter included:

- The system shutdown twice in January because propane deliveries were missed on December 28, 2007 and January 18, 2008. The system was restarted after deliveries on January 1, 2008 and January 22, 2008.
- Because LNAPL had not been detected in the last two quarters and the system had been operating for about 6 months, a LNAPL rebound/recovery test was performed from February 19 to March 5, 2008. Dept to water and LNAPL thickness measurements were collected weekly for 3 weeks.

#### **5.4.3 System Modifications**

System modifications completed during this quarter included:

- On March 5, 2008, a catalyst module was installed to reduce auxiliary fuel consumption.
- On March 13, 2008, the BAAQMD was notified of the startup as required.
- On March 14, 2008, the oxidizer was started up in catalytic mode after a broken exhaust thermocouple was replaced.
- On March 18, 2008, influent and effluent vapor samples were collected as required by the BAAQMD. A compliance report, dated April 18, 2008, which included an estimation of the benzene emissions rate and the POC abatement efficiency, was submitted to the BAAQMD.

## **6.0 SUMMARY OF RESULTS**

### **6.1 Apparent LNAPL Thickness and Groundwater Elevations**

The following is a summary of the apparent LNAPL thickness and groundwater elevations for this monitoring episode:

- No measurable thickness of LNAPL was encountered in any of the monitoring wells; however, sheen was noted in the samples from wells MW-1, MW-6 and MW-11.

- Groundwater elevations for this monitoring event ranged from 15.50 (MW-11) to 17.28 (MW-6) feet above mean sea level (msl).
- The water levels have been influenced by the operation by HVDPE system.
- The historical normal groundwater flow direction is predominantly to the south.

The historic and current groundwater elevation data is summarized in Table 1 with the current data shown on Figure 5. 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 following is a summary of the dissolved phase fuel hydrocarbon data for this monitoring episode:

- As requested, monitoring well MW-6 was tested for halogenated volatile organic compounds (HVOCs) by the EPA Method 8260B (i.e., 8010 Basic Target List); however, no HVOCs were detected at or above the laboratory reporting limit of 5.0 µg/L.
- The highest concentrations of TPH-g, BTEX, and MTBE were detected in MW-1, MW-6, MW-7, MW-11, and MW-12.
- The highest concentrations of MTBE were detected in MW-11 (4,200 µg/L) and MW-12 (3,000µg/L).
- Lower, but significant concentrations of TPH-g were detected in MW-2 (5,500 µg/L), MW-5 (8,200 µg/L), MW-7 (9,200 µg/L), and MW-10 (4,700 µg/L).
- Very low to almost none-detectable concentrations of TPH-g, BTEX, and MTBE were detected in MW-4
- TPH-g, BTEX, and MTBE were not detected in MW-3 at or above the laboratory reporting limits.
- Dissolved concentrations of fuel hydrocarbons in the groundwater have been reduced onsite and offsite by the HVDPE remediation system operating.

A summary of the current and historic groundwater analytical data is presented in Table 3 with current data shown on Figure 3. 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 Soil Gas Concentrations for Vapor Intrusion

The following is a summary of the soil gas concentrations for the evaluation of vapor intrusion potential for this monitoring episode:

- TPH-g was not detected at or above the laboratory reporting limit of 1,800  $\mu\text{g}/\text{m}^3$  in all samples analyzed.
- Benzene was not detected at or above the laboratory reporting limit of 6.5  $\mu\text{g}/\text{m}^3$  in all samples analyzed.
- PCE was or was not detected at or above the laboratory reporting limit of 14  $\mu\text{g}/\text{m}^3$  in all samples analyzed.

A summary of the historic and current soil gas sample analytical data for the evaluation of vapor intrusion potential is presented in Table 4 with current data shown on Figure 6. Refer to Appendix B for the soil gas field sampling forms. The laboratory analytical report with chain of custody and quality assurance/quality control documentation is included in Appendix C.

### 6.4 HVDPE System Process Monitoring

#### 6.4.1 Influent/Effluent Vapor Concentrations

The following is a summary of the vapor influent/effluent concentrations of for this reporting period:

- The highest concentrations of TPH-g were detected in MW-2S (3,000 ppmv), MW-6S (1,900 ppmv), MW-7S (3,900 ppmv), MW-10S (4,700 ppmv), MW-11S (3,000 ppmv), MW-12S (1,100 ppmv), and AS (1,100 ppmv).
- Lower, but significant concentrations of TPH-g were detected in MW-1S (660 ppmv) and MW-5 (760 ppmv).
- The pre-dilution (PRED) influent concentrations of TPH-g ranged from 630 to 2,200 ppmv.
- The post-dilution (POSTD) influent concentrations of TPH-g ranged from 310 to 1,700 ppmv.
- TPH-g, BTEX, and MTBE were not detected in the STACK at or above the laboratory reporting limits.

A summary of the historic and current vapor influent/effluent sample analytical data is presented in Table 5. A summary of the historic and current TVH, CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub> field screening 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.

#### **6.4.2 Influent/Effluent Water Concentrations**

The following is a summary of the water influent and effluent concentrations of TPH-g and benzene for this reporting period:

- The concentrations of TPH-g and benzene detected in the combined water influent (i.e., Sample ID “INF”) ranged from 4,100 to 12,000 µg/L and 150 to 260 µg/L, respectively.
- The concentrations of TPH-g and benzene detected in the water effluent from the air stripper (i.e., Sample ID “POST-AS”) ranged from 120 to 130 µg/L and 0.85 to 2.5 µg/L, respectively.
- The average air stripper removal efficiency during this quarter was approximately 98%
- TPH-g and BTEX were not detected in the effluent (i.e., Sample ID “EFF”) at or above the laboratory reporting limits.
- MTBE, which has a high solubility and is difficult to adsorb, was detected in the effluent at concentrations ranging from 17 to 50 µg/L. MTBE is not regulated by EBMUD wastewater discharge permit.

A summary of the historic and current water influent/effluent sample analytical data is presented in Table 7. The laboratory analytical report with chain of custody and quality assurance/quality control documentation is included in Appendix C.

#### **6.4.3 Well Vapor and Water Flow Rates**

The total well influent vapor velocity ranged from approximately 1,100 to 1,500 feet per minute (fpm) and the total well influent flow rates ranged from 54 to 74 standard cubic feet per minute (scfm). Average groundwater extraction rates ranged from 260 to 752 gallons per day or 0.18 to 0.52 gallons per minute (gpm). Approximately 310,983 gallons of groundwater was recovered and treated between December 26, 2007 and March 28, 2008. A total of 760,073 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 Table 10. The laboratory analytical report with chain of custody and quality assurance/quality control documentation is included in Appendix C.

#### **6.4.4 Mass Removal Rates**

Short-term and long-term vapor phase and dissolved phase mass removal rates were calculated using TPH-g concentrations based on lab data and the actual system runtime between sampling dates.

Vapor phase mass removal rates ranged from approximately 17 to 56 pounds per day, which is approximately equivalent to 3 to 8 gallons of gasoline per day. Approximately 1,887 pounds or 315 gallons of gasoline in the vapor phase was recovered and treated between December 26, 2007 and March 18, 2008. Approximately 16,500 pounds or 2,750 gallons of vapor phase gasoline have been removed since startup in June of 2007.

Dissolved phase mass removal rates ranged from approximately 0.0056 to 0.0060 pounds of gasoline per day. Approximately 0.21 pounds or 0.035 gallons of gasoline in the dissolved phase was recovered and treated between January 8, 2008 and April 1, 2008. Approximately 93 pounds or 16 gallons of dissolved phase gasoline has been removed since startup.

A summary of the historic and current vapor phase mass removal rates are presented in Tables 10 and 11 and shown on Figure 9. The dissolve phase mass removal rates are presented in Table 13. A cumulative vapor phase mass removal graph is shown on Figure 10.

#### **6.4.5 Soil Gas Concentrations and Vacuum Influence**

The following is a summary of the soil gas data collected on March 28, 2008:

- Soil gas samples could not be collected from GP-1-10', GP-2-5', and GP-2-10' because saturated soil conditions were encountered and water was present within the sample tubing during purging. Furthermore, the higher than normal down-hole pressure (i.e., purge vacuum) of greater than 150 inches of water in GP-3-10' and GP-4-10' also indicated wet to nearly saturated soil conditions. The normal purge vacuum for these probes is below 50 inches of water, which is not unusual for this quarter.
- No total volatile hydrocarbons (TVH) were detected in the soil gas probes at concentrations at or greater than 1 ppmv.
- The concentrations of oxygen and carbon dioxide detected in GP-1-5', GP-3-5', and GP-4-5' were 20.9 and 0.0%, 20.5 and 0.1%, and 20.0 and 0.4%, respectively. Nearly ambient concentrations of oxygen indicate the HVDPE is fully oxygenating the soil in the vadose zone, which can support and enhance aerobic biodegradation of hydrocarbons in the subsurface.
- Significant vacuum influence (i.e., greater than 0.1 inches of water – Hinchee, R.E., et al., 1996 and others) was measured in GP-3-10' at approximately 1.0 inches of water and is likely due to its close proximity to extraction well MW-10.

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 CONCLUSIONS & RECOMMENDATIONS

This report presents the findings of the First Quarter, 2008 Site Monitoring Report, which includes the results of groundwater and soil monitoring and HVPDE system operations and maintenance and process monitoring data. The results of this quarterly groundwater and soil gas monitoring episode are generally consistent with previous episodes. LNAPL has not been detected since HVPDE began operation in June of 2007, although elevated dissolved phase concentrations remain onsite and offsite. As requested in a technical letter, dated December 27, 2007, monitoring well MW-6 was tested for HVOCs by the EPA Method 8260B (i.e., 8010 Basic Target List); however, no HVOCs were detected at or above the laboratory reporting limit of 5.0 µg/L.

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

- The Second Quarter, 2008 groundwater and soil gas monitoring event is scheduled for May of 2008. Soil gas samples will be collected if soils are sufficiently dry for sample collection. The recently installed monitoring wells MW-8, MW-9, and MW-13 will be samples for the first time. Groundwater samples collected from these wells will be analyzed for TPH-g by EPA Method 8015C and MBTEX by EPA Method 8021B.
- A discussion of the well installation and the results of first sampling event for wells MW-8, MW-9, and MW-13 will be discussed in the Second Quarter, 2008 Site Monitoring Report.
- Continue operation of the HVPDE system, including weekly system checks and monthly O&M and process monitoring, evaluate the system performance, and conduct air and water discharge compliance sampling and reporting as required by permit.
- Installation of the catalyst module will reduced the overall auxiliary fuel consumption over the next 6 to 12 months of operation and is currently a more cost-effective treatment option as compared with granular activated carbon adsorption.
- Focus on groundwater recovery from MW-10, MW-11, and MW-12, because the property owner may request that these wells are removed and properly abandoned if property development begins.
- Because the separator filters were extremely dirty and the separator reservoirs have never been cleaned, the separator reservoirs on both pumps will be drained and flushed with clean water during the next quarter.

## 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, CA, 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.

Helley, E.J. and Graymer, R.W., 1997. "Quaternary Geology of Alameda County, and parts of Contra Costa, Santa Clara, San Mateo, San Francisco, Stanislaus, and San Joaquin counties, California: A Digital Database", U.S. Geological Survey, Open-File Report 97-97, includes 1 geologic map, 1 map explanation sheet, and 9 page discussion booklet.

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.

Miller, R.N., et al., 1995. "Test Plan and Technical Protocol for a Field Treatability Test for POL Free Product Recovery – Evaluating the Feasibility of Traditional and Bioslurping Technologies", prepared for the United States Air Force Center for Environmental Excellence by the Battelle, Columbus, Ohio.

Norfleet Consultants, 1998. "Groundwater Study and Water Supply History of the East Bay Plain, Alameda and Contra Costa Counties, California", prepared for the Friends of the San Francisco Estuary, P.O. Box 791, Oakland, California, and dated June 15, 1998.

Place, M.C., Coonfare, C.T., Chen, A., Hoeppel, 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.

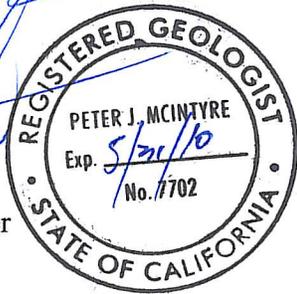
Should you have any questions or comments, or need any additional information, please contact Mr. Bradford or Mr. McIntyre at (925) 944-2899.

Sincerely,

**AEI Consultants**

  
Richard J. Bradford  
Project Engineer

  
Peter J. McIntyre, PG  
Senior Project Manager



  
Russell Bartlett  
Staff Scientist

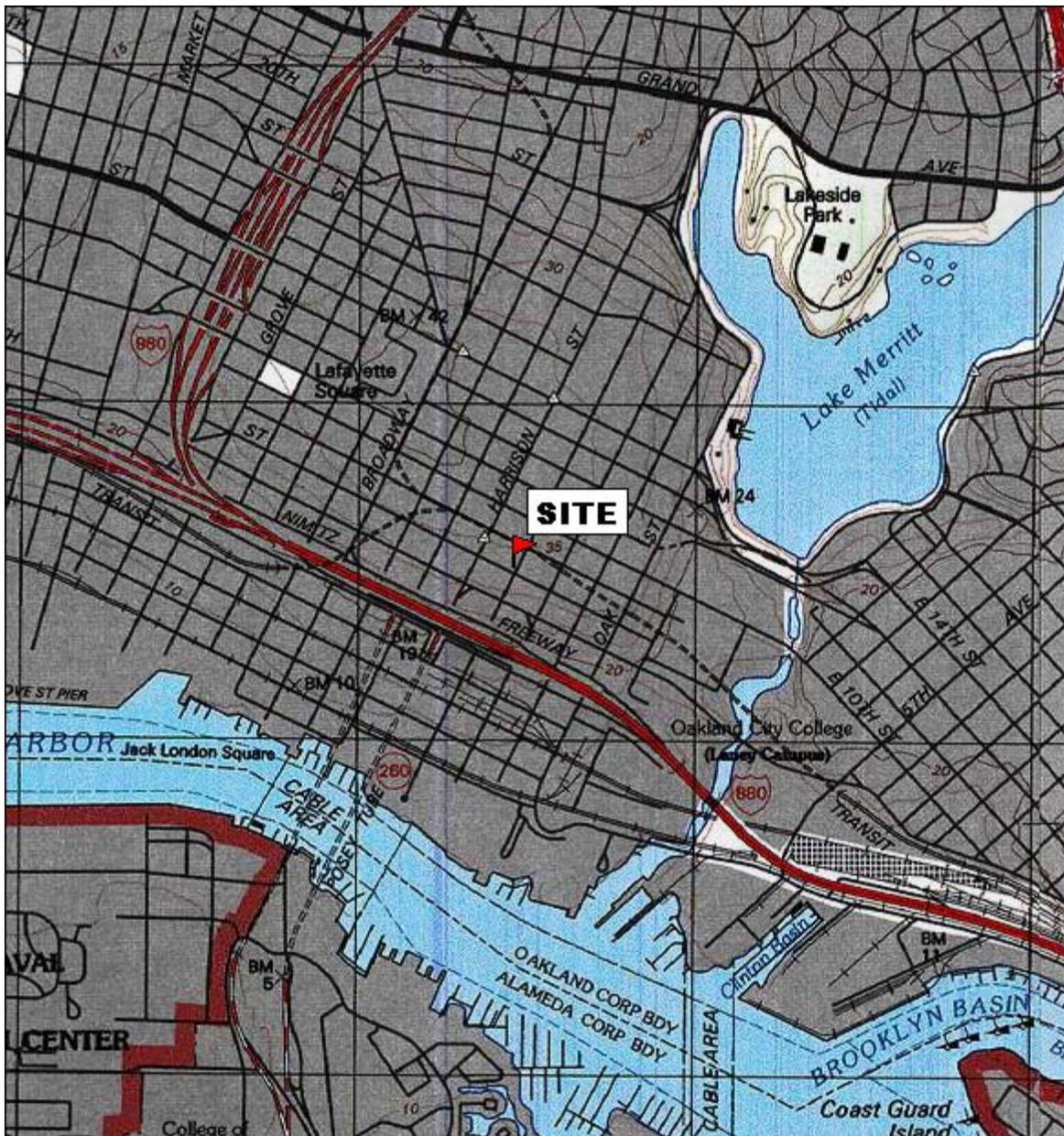
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## **FIGURES**



TN★ MN  
15¼°



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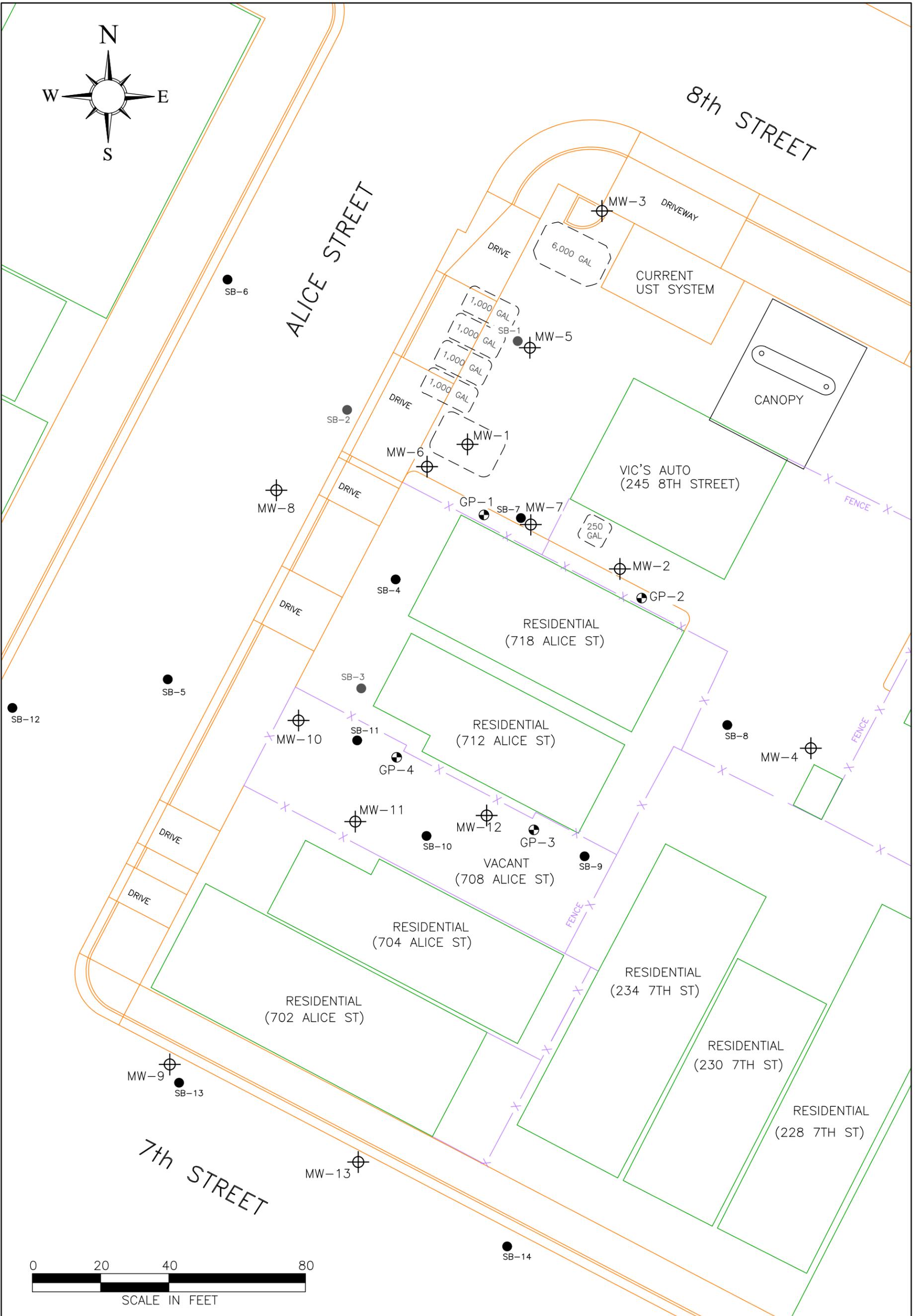
## AEI CONSULTANTS

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

DRAFTED BY RJB 10-01-07  
 REVISED BY RJB 04-25-08

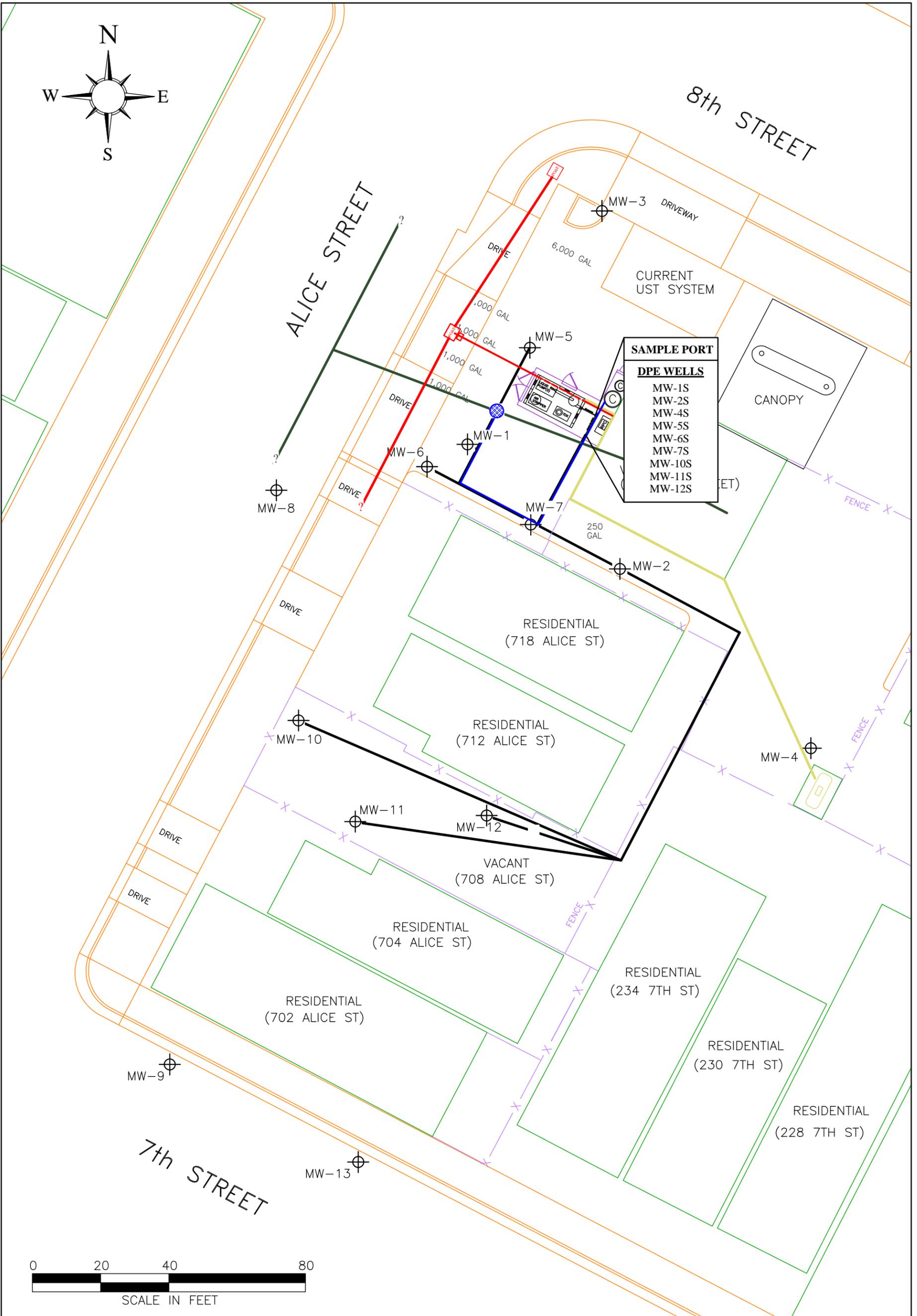


**AEI CONSULTANTS**  
 2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**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
- ⊕ MONITORING STRUCTURE
- HVHPE CONVEYANCE PIPING (~18 - 24" BGS)
- WATER DISCHARGE (~24" BGS)
- SANITARY SEWER (~36 - 48" BGS)
- TEMPORARY POWER SERVICE (~24" BGS)
- PROPANE LINE (~18 - 24" BGS)

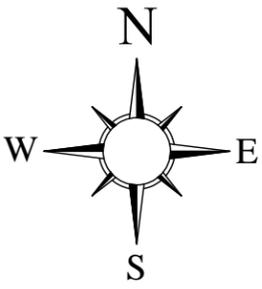
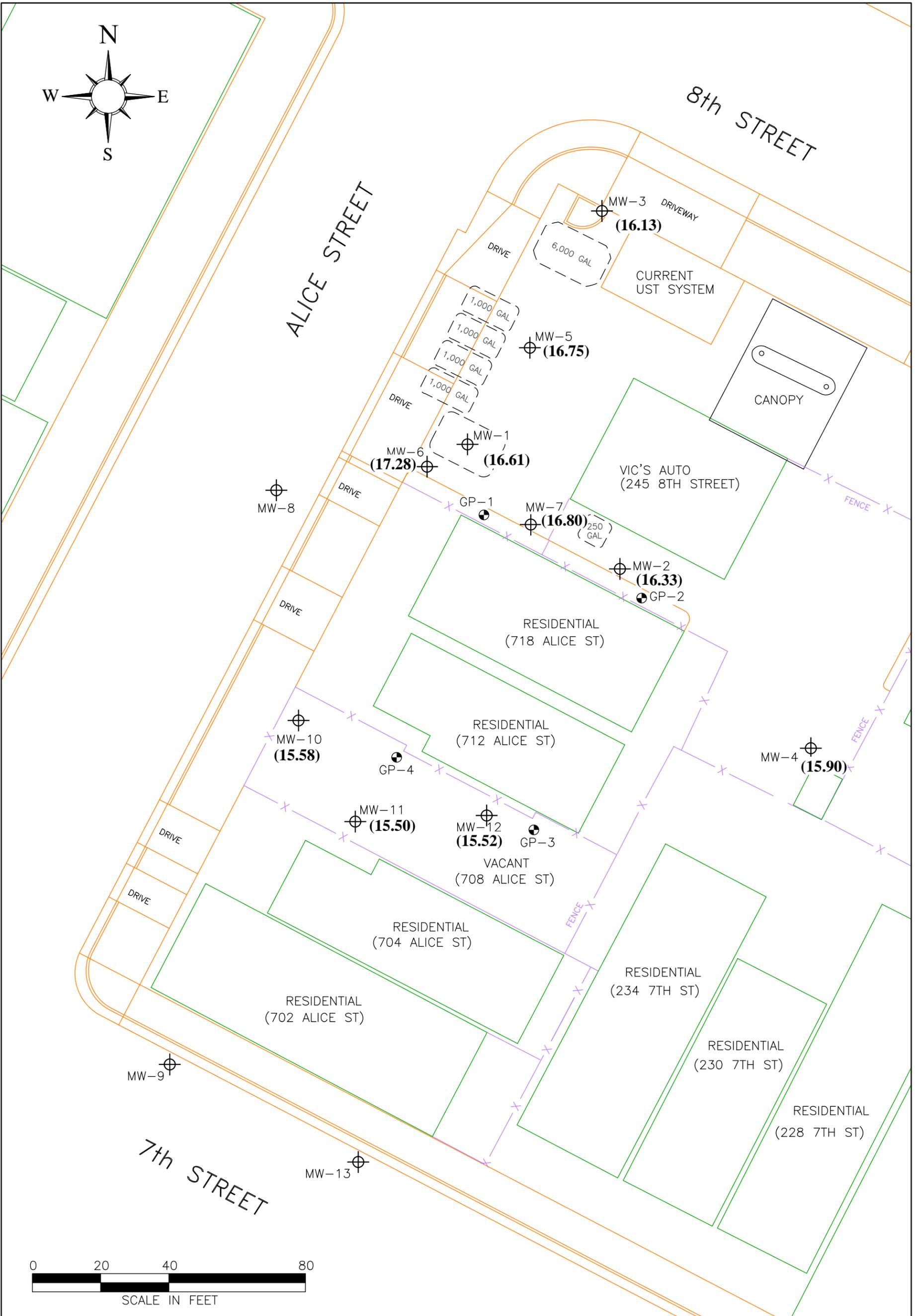
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**SYSTEME LAYOUT PLAN**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 3**  
 PROJECT NO. 116907



**LEGEND**

- ⊕ MONITORING WELL
- SOIL BORING (8/9/96)
- SOIL BORING (04/02 & 03/03)
- ⊕ SOIL GAS PROBE

MW-1 = feet above mean sea level  
**(15.00)**

Contour Interval = n/a  
Contours plotted with Surfer V.7.0

DRAFTED BY RJB 10-01-07  
REVISED BY RJB 04-25-08



System was shutdown 2 days prior to monitoring

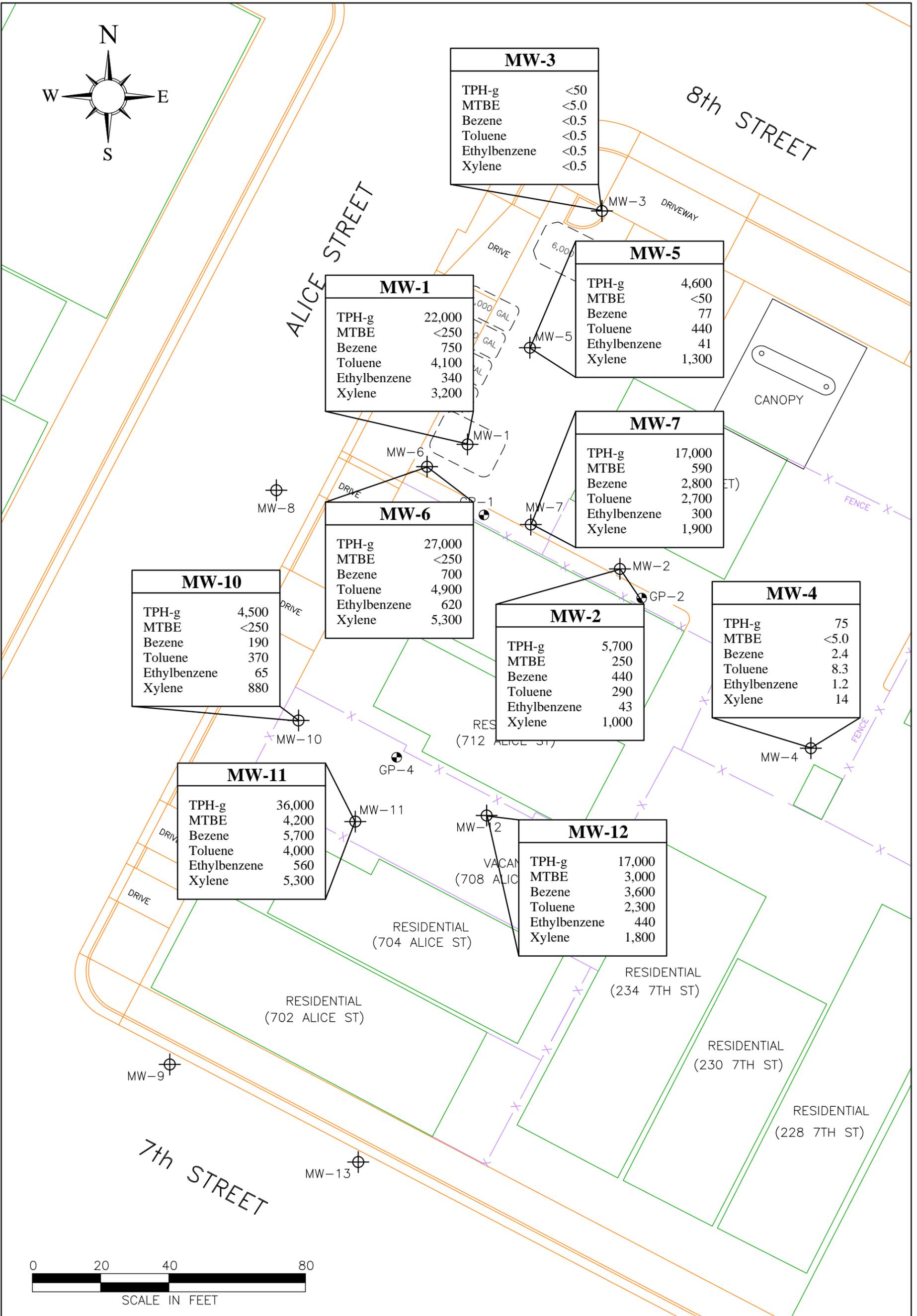
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2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**GROUNDWATER ELEVATION DATA (02/13/08)**

245 8TH STREET  
OAKLAND, CALIFORNIA

**FIGURE 4**  
PROJECT NO. 116907



MW-3	
TPH-g	<50
MTBE	<5.0
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
Xylene	<0.5

MW-1	
TPH-g	22,000
MTBE	<250
Benzene	750
Toluene	4,100
Ethylbenzene	340
Xylene	3,200

MW-5	
TPH-g	4,600
MTBE	<50
Benzene	77
Toluene	440
Ethylbenzene	41
Xylene	1,300

MW-7	
TPH-g	17,000
MTBE	590
Benzene	2,800
Toluene	2,700
Ethylbenzene	300
Xylene	1,900

MW-6	
TPH-g	27,000
MTBE	<250
Benzene	700
Toluene	4,900
Ethylbenzene	620
Xylene	5,300

MW-10	
TPH-g	4,500
MTBE	<250
Benzene	190
Toluene	370
Ethylbenzene	65
Xylene	880

MW-2	
TPH-g	5,700
MTBE	250
Benzene	440
Toluene	290
Ethylbenzene	43
Xylene	1,000

MW-4	
TPH-g	75
MTBE	<5.0
Benzene	2.4
Toluene	8.3
Ethylbenzene	1.2
Xylene	14

MW-11	
TPH-g	36,000
MTBE	4,200
Benzene	5,700
Toluene	4,000
Ethylbenzene	560
Xylene	5,300

MW-12	
TPH-g	17,000
MTBE	3,000
Benzene	3,600
Toluene	2,300
Ethylbenzene	440
Xylene	1,800



**LEGEND**

- ⊕ MONITORING WELL
- SOIL BORING (8/9/96)
- SOIL BORING (04/02 & 03/03)
- ⊕ SOIL GAS PROBE

Groundwater 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



System was shutdown 2 days prior to monitoring

DRAFTED BY RJB 10-01-07  
 REVISED BY RJB 04-25-08

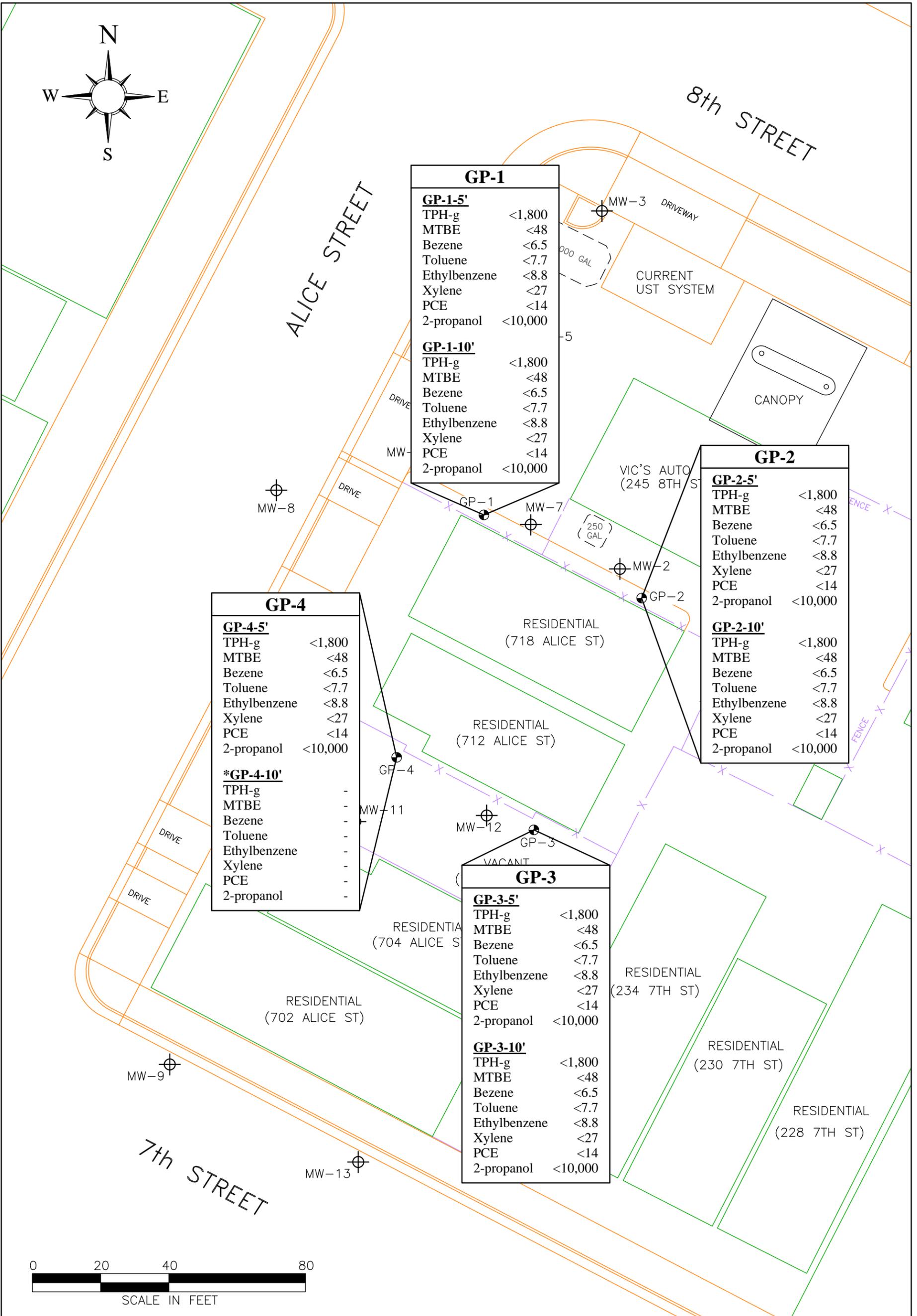
**AEI CONSULTANTS**

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

**GROUNDWATER ANALYTICAL DATA (02/13/08)**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 5**  
 PROJECT NO. 116907



GP-1	
<b>GP-1-5'</b>	
TPH-g	<1,800
MTBE	<48
Bezene	<6.5
Toluene	<7.7
Ethylbenzene	<8.8
Xylene	<27
PCE	<14
2-propanol	<10,000
<b>GP-1-10'</b>	
TPH-g	<1,800
MTBE	<48
Bezene	<6.5
Toluene	<7.7
Ethylbenzene	<8.8
Xylene	<27
PCE	<14
2-propanol	<10,000

GP-2	
<b>GP-2-5'</b>	
TPH-g	<1,800
MTBE	<48
Bezene	<6.5
Toluene	<7.7
Ethylbenzene	<8.8
Xylene	<27
PCE	<14
2-propanol	<10,000
<b>GP-2-10'</b>	
TPH-g	<1,800
MTBE	<48
Bezene	<6.5
Toluene	<7.7
Ethylbenzene	<8.8
Xylene	<27
PCE	<14
2-propanol	<10,000

GP-4	
<b>GP-4-5'</b>	
TPH-g	<1,800
MTBE	<48
Bezene	<6.5
Toluene	<7.7
Ethylbenzene	<8.8
Xylene	<27
PCE	<14
2-propanol	<10,000
<b>*GP-4-10'</b>	
TPH-g	-
MTBE	-
Bezene	-
Toluene	-
Ethylbenzene	-
Xylene	-
PCE	-
2-propanol	-

GP-3	
<b>GP-3-5'</b>	
TPH-g	<1,800
MTBE	<48
Bezene	<6.5
Toluene	<7.7
Ethylbenzene	<8.8
Xylene	<27
PCE	<14
2-propanol	<10,000
<b>GP-3-10'</b>	
TPH-g	<1,800
MTBE	<48
Bezene	<6.5
Toluene	<7.7
Ethylbenzene	<8.8
Xylene	<27
PCE	<14
2-propanol	<10,000

**LEGEND**

- ⊕ MONITORING WELL
- SOIL BORING (8/9/96)
- SOIL BORING (04/02 & 03/03)
- ⊕ SOIL GAS PROBE

Soil gas analytical data in micrograms per cubic meter (ug/m<sup>3</sup>)  
 TPH-g = Total Petroleum Hydrocarbons as gasoline  
 MTBE = Methyl tertiary-butyl ether  
 PCE = Tetrachloroethene  
 - Not sampled and/or analyzed  
 \* Sampling not possible due to seasonal wet soil conditions  
 System was shutdown 2 days prior to monitoring



FORMER UST LOCATION

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**AEI CONSULTANTS**

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK

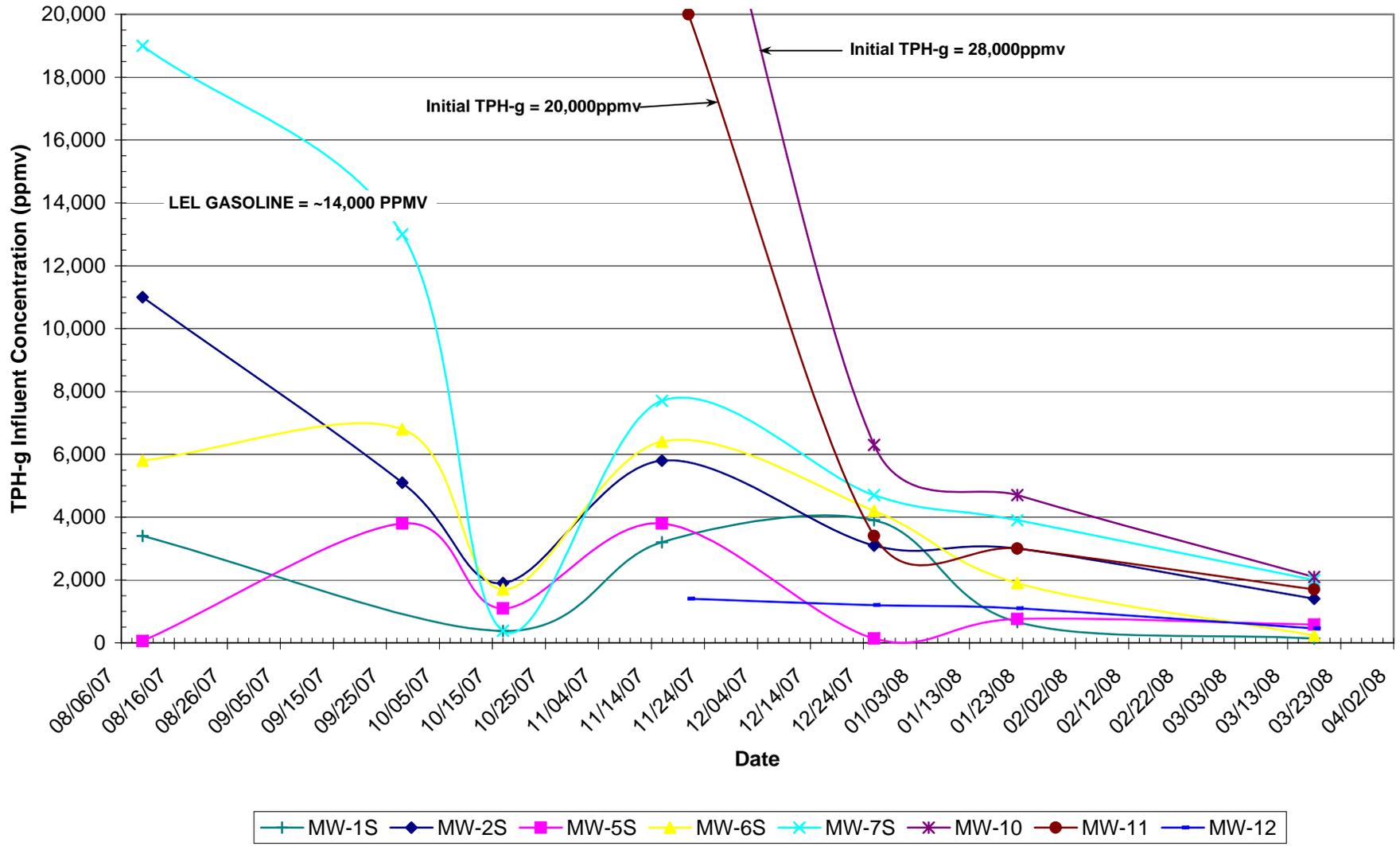
**SOIL GAS ANALYTICAL DATA (02/4/08)**

245 8TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 6**  
 PROJECT NO. 116907

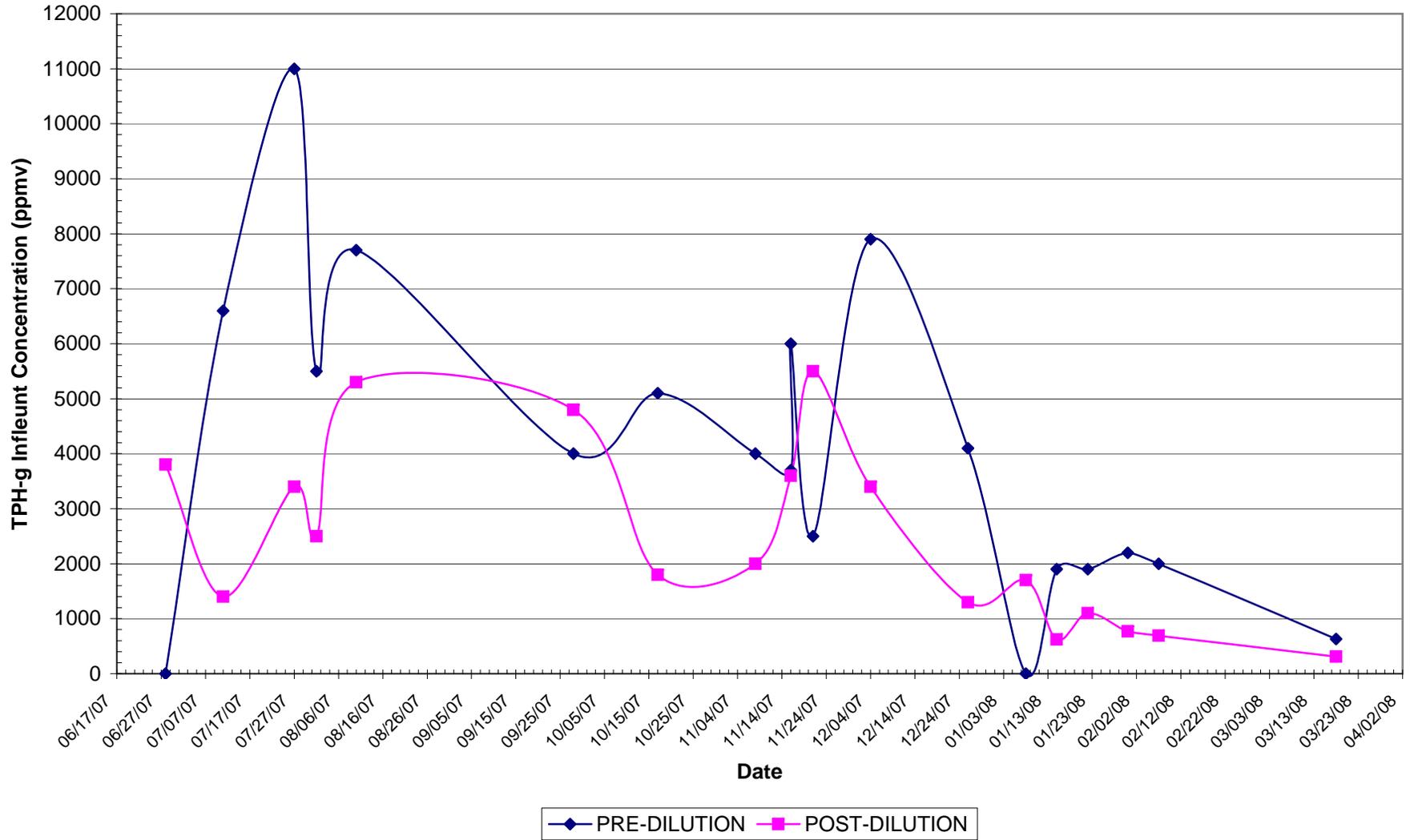
**FIGURE 7: EXTRACTION WELL INFLUENT CONCENTRATIONS**

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



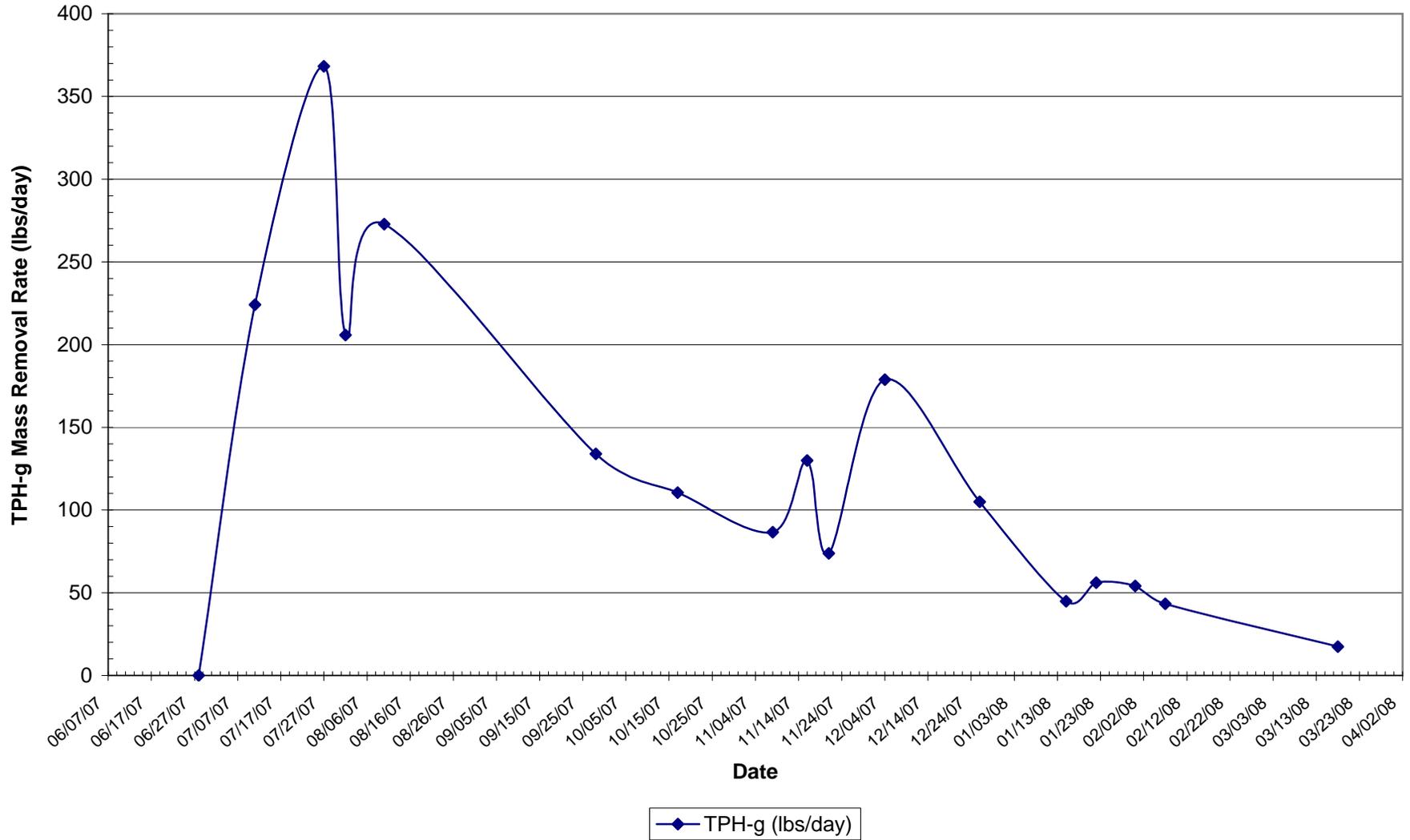
**FIGURE 8: COMBINED SYSTEM INFLUENT CONCENTRATIONS**

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



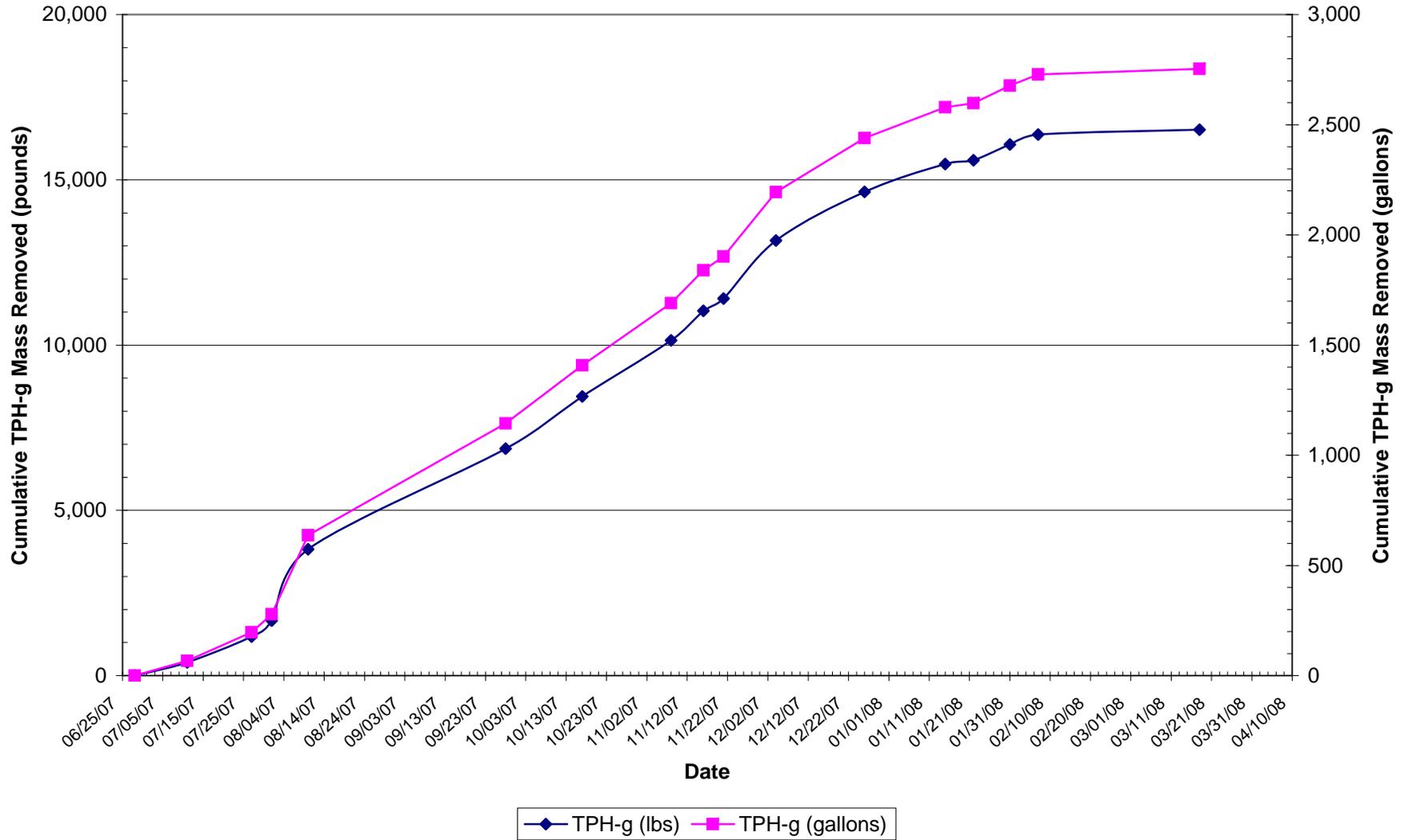
**FIGURE 9: HYDROCARBON MASS REMOVAL RATES BASED ON LAB DATA**

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



**FIGURE 10: 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 Water (ft)	Groundwater <sup>3</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
<b>02/13/08</b>	<b>32.55</b>	<b>15.94</b>	<b>16.61</b>	-	<b>Sheen</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
	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	-	-
<b>02/13/08</b>	<b>33.24</b>	<b>16.91</b>	<b>16.33</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 Water (ft)	Groundwater <sup>3</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MW-3 (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	-	-	
	<b>02/13/08</b>	<b>34.25</b>	<b>18.12</b>	<b>16.13</b>	-	-
MW-4 (10-25)	06/29/01	29.38	17.71	11.67	-	-
	10/10/01	29.38	18.00	11.38	-	-
	01/09/02	29.38	15.02	14.36	-	-
	04/24/02	29.38	15.74	13.64	-	-
	07/24/02	29.38	16.69	12.69	-	-
	11/05/02	29.38	17.64	11.74	-	-
	02/04/03	29.38	16.02	13.36	-	-
	05/02/03	29.38	16.72	12.66	-	-
	08/04/03	29.38	17.51	11.87	-	-
	11/03/03	29.38	18.09	11.29	-	-
	02/09/04	29.38	16.67	12.71	-	-
	05/10/04	29.38	16.89	12.49	-	-
	08/09/04	29.38	17.44	11.94	-	-
	11/09/04	29.38	17.89	11.49	-	-
	02/03/05	34.42	14.98	19.44	-	-
	05/09/05	34.42	16.20	18.22	-	-
	08/05/05	34.42	17.73	16.69	-	-
	11/09/05	34.42	17.91	16.51	-	-
	02/09/06	34.42	15.62	18.80	-	-
	05/04/06	34.42	15.12	19.30	-	-
	08/04/06	34.42	17.39	17.03	-	-
	11/08/06	34.42	18.30	16.12	-	-
	02/08/07	34.42	18.57	15.85	-	-
05/29/07	34.42	18.29	16.13	-	-	
09/05/07	34.42	19.27	15.15	-	-	
12/12/07	34.42	20.44	13.98	-	-	
	<b>02/13/08</b>	<b>34.42</b>	<b>18.52</b>	<b>15.90</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 Water (ft)	Groundwater <sup>3</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MW-5 (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	-	-
	<b>02/13/08</b>	<b>33.33</b>	<b>16.58</b>	<b>16.75</b>	-	-
MW-6 (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
	<b>02/13/08</b>	<b>32.82</b>	<b>15.54</b>	<b>17.28</b>	-	<b>Sheen</b>
MW-7 (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
	<b>02/13/08</b>	<b>33.07</b>	<b>16.27</b>	<b>16.80</b>	-	<b>Sheen</b>
MW-10 (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
	<b>02/13/08</b>	<b>31.17</b>	<b>15.59</b>	<b>15.58</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 Water (ft)	Groundwater <sup>3</sup> Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
<b>MW-11</b> (12-22)	02/03/05	31.78	13.39	18.39	-	Sheen
	05/09/05	31.78	13.89	17.89	-	Sheen
	08/05/05	31.78	15.47	16.31	-	Sheen
	11/09/05	31.78	15.73	16.05	-	Sheen
	02/09/06	31.78	13.53	18.25	-	Sheen
	05/04/06	31.78	12.73	19.05	-	Sheen
<b>MW-11</b> <i>Cont.</i>	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	-	-
	<b>02/13/08</b>	<b>31.78</b>	<b>16.28</b>	<b>15.50</b>	-	-
	<b>MW-12</b> (12-22)	02/03/05	32.05	13.70	18.35	-
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	-	-
<b>02/14/08</b>		<b>32.02</b>	<b>16.50</b>	<b>15.52</b>	-	-

**NOTES:**

all well elevations are measured from the top of the casing

- not applicable

ft = feet

ft amsl = feet above mean sea level

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

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) When LNAPL is present at &gt;0.10 ft, the groundwater elevations are assumed to be affected by the LNAPL

**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	-
<b>27*</b>	<b>02/13/08</b>	<b>16.24</b>	<b>1.86</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	ns/fp	-
	11/09/04	0.24	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/03/05	0.17	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/09/05	0.12	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/05/05	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/09/05	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/09/06	0.02	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/04/06	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/04/06	0.02	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/08/06	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/08/07	0.03	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/29/07	0.05	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	09/05/07	Sheen		47,000	<500	4,200	11,000	1,100	6,400	-
12/12/07	Sheen		80,000	<250	630	22,000	1,700	8,900	-	
02/13/08	Sheen		22,000	<250	750	4,100	340	3,200	-	
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	-		

**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 cont.	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
	2/8/2007*	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	-
	<b>02/13/08</b>	<b>0.00</b>	<b>5,700</b>	<b>250</b>	<b>440</b>	<b>290</b>	<b>43</b>	<b>1,000</b>	
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
	2/8/2007*	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	-	
<b>02/13/08</b>	<b>0.00</b>	<b>&lt;50</b>	<b>&lt;5.0</b>	<b>&lt;0.5</b>	<b>&lt;0.5</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	-	
<b>02/13/08</b>	<b>0.00</b>	<b>75</b>	<b>&lt;5.0</b>	<b>2.4</b>	<b>8.3</b>	<b>1.2</b>	<b>14</b>	<b>-</b>	
MW-5 (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	-
<b>02/13/08</b>	<b>0.00</b>	<b>4,600</b>	<b>&lt;50</b>	<b>77</b>	<b>440</b>	<b>41</b>	<b>1,300</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)	Ethylbenzene (µg/L)	Xylenes (µg/L)	HVOC (µg/L)	
MW-6 (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	-
	<b>02/13/08</b>	<b>Sheen</b>		<b>27,000</b>	<b>&lt;250</b>	<b>700</b>	<b>4,900</b>	<b>620</b>	<b>5,300</b>	<b>&lt;DL</b>
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	-
	<b>02/13/08</b>	<b>0.00</b>		<b>17,000</b>	<b>590</b>	<b>2,800</b>	<b>2,700</b>	<b>300</b>	<b>1,900</b>	-
MW-10 (12-22)	02/03/05	0.00	36,000	<500	4,700	7,200	660	3,400	-	
	05/09/05	0.00	88,000	<1,500	6,900	20,000	2,300	9,900	-	
	08/05/05	0.00	88,000	<1,100	10,000	21,000	1,900	9,800	-	
	11/09/05	0.00	63,000	<1,100	5,400	13,000	1,900	7,900	-	
	02/09/06	0.00	100,000	<500	6,600	19,000	2,900	13,000	-	
	05/04/06	0.00	100,000	<500	8,500	25,000	3,000	13,000	-	
	08/04/06	0.00	190,000	<2,200	17,000	35,000	2,800	13,000	-	
	11/08/06	0.00	57,000	<500	2,500	7,600	1,600	5,700	<DL	
	02/08/07	0.00	69,000	<1,000	4,400	14,000	2,200	8,800	-	
	05/29/07	0.00	100,000	<1,000	5,300	19,000	2,600	12,000	-	
	09/05/07	0.00	87,000	<1,000	6,100	20,000	2,400	12,000	-	
	12/12/07	Sheen		4,700	<50	95	280	110	730	-
	<b>02/13/08</b>	<b>0.00</b>		<b>4,500</b>	<b>&lt;250</b>	<b>190</b>	<b>370</b>	<b>65</b>	<b>880</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-11 (12-22)	02/03/05	Sheen	170,000	<3,000	23,000	35,000	3,100	16,000	-
	05/09/05	Sheen	210,000	3,500	29,000	40,000	3,400	16,000	-
	07/27/05	Sheen	220,000	2,500	26,000	37,000	3,200	18,000	-
	08/05/05	Sheen	210,000	<2,500	35,000	42,000	3,300	16,000	-
	11/09/05	Sheen	180,000	9,100	32,000	47,000	3,600	18,000	-
	02/09/06	Sheen	210,000	10,000	33,000	39,000	3,800	20,000	-
	05/04/06	Sheen	190,000	12,000	34,000	41,000	3,500	17,000	-
	08/04/06	Sheen	290,000	11,000	33,000	43,000	3,300	15,000	-
	11/08/06	0.00	240,000	14,000	34,000	44,000	3,300	16,000	<DL
	02/08/07	0.00	230,000	19,000	43,000	44,000	3,900	20,000	-
	05/29/07	0.00	230,000	19,000	35,000	39,000	3,600	20,000	-
	09/05/07	0.00	200,000	19,000	34,000	36,000	3,700	23,000	-
	12/12/07	0.00	81,000	4,000	9,400	9,500	1,700	9,700	-
	<b>02/13/08</b>	<b>0.00</b>	<b>36,000</b>	<b>4,200</b>	<b>5,700</b>	<b>4,000</b>	<b>560</b>	<b>5,300</b>	-
MW-12 (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	-
	<b>02/13/08</b>	<b>0.00</b>	<b>17,000</b>	<b>3,000</b>	<b>3,600</b>	<b>2,300</b>	<b>440</b>	<b>1,800</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 = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary-butyl ether

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

DL = detection limit

TPH-g by modified EPA Method 8015

BTEX & MTBE by modified EPA Method 8021B

\* MTBE sample re-analyzed by modified EPA Method 8260B (expressed as 8021B / 8260B)

\* = Analytical results for MW-2 and MW-3 reversed from lab data based on historical concentration trends observed

**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/m <sup>3</sup> )	MTBE (µg/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	Toluene (µg/m <sup>3</sup> )	Ethylbenzene (µg/m <sup>3</sup> )	Xylenes (µg/m <sup>3</sup> )	Ethanol (µg/m <sup>3</sup> )	PCE (µg/m <sup>3</sup> )	2-propanol (µg/m <sup>3</sup> )
GP-1-5	08/04/06	5	331	<8.0	<7.1	<8.4	<9.7	<9.7	<17	17	23
GP-1-5D <sub>1</sub>	08/04/06	5	-	<8.0	<7.1	<8.4	<9.7	<9.7	<17	18	23
GP-1-5	11/08/06	5	1,100	<4.6	<4.0	<4.8	<5.5	<5.5	<9.5	12	<12
GP-1-5	03/06/07*	5	-	-	-	-	-	-	-	-	-
GP-1-5	05/17/07	5	457	<3.6	<3.2	<3.8	<4.4	<4.4	<7.6	14	<9.9
GP-1-5D <sub>1</sub>	05/17/07	5	-	<3.6	<3.2	<3.8	<4.4	<4.4	<7.6	14	<9.9
GP-1-5	12/12/07	5	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
<b>GP-1-5</b>	<b>02/14/08</b>	<b>5</b>	<b>&lt;1800</b>	<b>&lt;48</b>	<b>&lt;6.5</b>	<b>&lt;7.7</b>	<b>&lt;8.8</b>	<b>&lt;27</b>	<b>&lt;96</b>	<b>&lt;14</b>	<b>&lt;10,000</b>
GP-1-10	08/04/06	10	493	<4.1	<3.6	<4.3	<5.0	<5.0	<8.6	20	<11
GP-1-10	11/08/06	10	950	<4.2	<3.7	<4.4	<5.0	<5.0	<8.8	<7.9	<11
GP-1-10	03/06/07*	10	-	-	-	-	-	-	-	-	-
GP-1-10	05/17/07^	10	-	-	-	-	-	-	-	-	-
GP-1-10	12/12/07	10	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
<b>GP-1-10</b>	<b>02/14/08</b>	<b>10</b>	<b>&lt;1800</b>	<b>&lt;48</b>	<b>&lt;6.5</b>	<b>&lt;7.7</b>	<b>&lt;8.8</b>	<b>&lt;27</b>	-	<b>&lt;14</b>	<b>&lt;10,000</b>
GP-2-5	08/04/06	5	493	<4.4	<3.9	6.9	<5.4	10	<9.3	600	<12
GP-2-5	11/08/06	5	1,100	<4.0	<3.6	<4.2	<4.9	<4.9	<8.4	240	<11
GP-2-5	03/06/07*	5	-	-	-	-	-	-	-	-	-
GP-2-5	05/17/07	5	582	<4.0	<3.5	<4.1	<4.8	<4.8	<8.3	420	<11
GP-2-5	12/12/07	5	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
<b>GP-2-5</b>	<b>02/14/08</b>	<b>5</b>	<b>&lt;1800</b>	<b>&lt;48</b>	<b>&lt;6.5</b>	<b>&lt;7.7</b>	<b>&lt;8.8</b>	<b>&lt;27</b>	<b>&lt;14</b>	<b>&lt;14</b>	<b>&lt;10,000</b>
GP-2-10	08/04/06	10	352	<10	<9.0	18	<12	<12	<21	270	<28
GP-2-10	11/08/06	10	910	<3.9	<3.4	<4.1	<4.7	<4.7	<8.1	450	<11
GP-2-10	03/06/07*	10	-	-	-	-	-	-	-	-	-
GP-2-10	05/17/07	10	748	<3.8	<3.3	<3.9	<4.5	<4.5	<7.9	440	<10
GP-2-10	12/12/07	10	<1500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
<b>GP-2-10</b>	<b>02/14/08</b>	<b>10</b>	<b>&lt;1800</b>	<b>&lt;48</b>	<b>&lt;6.5</b>	<b>&lt;7.7</b>	<b>&lt;8.8</b>	<b>&lt;27</b>	-	<b>&lt;14</b>	<b>&lt;10,000</b>
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
<b>GP-3-5</b>	<b>02/14/08</b>	<b>5</b>	<b>&lt;1800</b>	<b>&lt;48</b>	<b>&lt;6.5</b>	<b>&lt;7.7</b>	<b>&lt;8.8</b>	<b>&lt;27</b>	-	<b>&lt;14</b>	<b>&lt;10,000</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	-
<b>GP-3-10</b>	<b>02/14/08</b>	<b>10</b>	<b>&lt;1800</b>	<b>&lt;48</b>	<b>&lt;6.5</b>	<b>&lt;7.7</b>	<b>&lt;8.8</b>	<b>&lt;27</b>	-	<b>&lt;14</b>	<b>&lt;10,000</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 (µg/m3)	MTBE (µg/m3)	Benzene (µg/m3)	Toluene (µg/m3)	Ethyl-benzene (µg/m3)	Xylenes (µg/m3)	Ethanol (µg/m3)	PCE (µg/m3)	2-propanol (µg/m3)
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
<b>GP-4-5</b>	<b>02/14/08</b>	<b>5</b>	<b>&lt;1800</b>	<b>&lt;48</b>	<b>&lt;6.5</b>	<b>&lt;7.7</b>	<b>&lt;8.8</b>	<b>&lt;27</b>	<b>&lt;96</b>	<b>&lt;14</b>	<b>&lt;10,000</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
<b>GP-4-10</b>	<b>02/14/08</b>	<b>10</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</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>

**NOTES:**

- not sampled/analyzed

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

ft bgs = feet below ground surface

µg/m3 = 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 field

D<sub>1</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

**TABLE 5: HVDPE VAPOR ANALYTICAL DATA: TPH-g & MBTEX**

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

Sample Port ID	Sample Date	Notes	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
MW-1S	08/10/07	1,2	3,400	ND<14	68	210	30	160
	09/28/07		-	-	-	-	-	-
	10/17/07		380	ND<14	26	58	5.7	46
	11/16/07		3,200	ND<14	69	220	20	110
	12/26/07		3,900	ND<27	79	210	41	210
	<b>01/22/08</b>		<b>660</b>	<b>ND&lt;14</b>	<b>5.8</b>	<b>23</b>	<b>2.7</b>	<b>28</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>140</b>	<b>ND</b>	<b>1.3</b>	<b>6.9</b>	<b>0.78</b>	<b>6.9</b>
	<b>04/28/08</b>							
MW-2S	08/10/07	1	11,000	ND<110	280	770	81	360
	09/28/07		5,100	ND<35	110	310	46	260
	10/17/07		1,900	ND<20	59	120	12	73
	11/16/07		5,800	ND<27	120	340	40	200
	12/26/07		3,100	ND<27	84	230	37	190
	<b>01/22/08</b>		<b>3,000</b>	<b>ND&lt;14</b>	<b>61</b>	<b>190</b>	<b>24</b>	<b>180</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>1,400</b>	<b>2.3</b>	<b>17</b>	<b>51</b>	<b>13</b>	<b>81</b>
MW-5S	08/10/07	1	54	ND	0.60	2.7	0.60	3.7
	09/28/07		3,800	ND<60	70	150	19	120
	10/17/07		1,100	ND<14	27	56	5.3	36
	11/16/07		3,800	ND<110	64	170	21	170
	12/26/07		140	ND<0.68	0.45	3.7	1.5	14
	<b>01/22/08</b>		<b>760</b>	<b>ND&lt;4.5</b>	<b>3.3</b>	<b>16</b>	<b>2.4</b>	<b>28</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>580</b>	<b>ND&lt;2.7</b>	<b>3.0</b>	<b>24</b>	<b>4.2</b>	<b>39</b>
MW-6S	08/10/07	1	5,800	ND<30	69	280	24	140
	09/28/07		6,800	ND<60	100	360	34	190
	10/17/07		1,700	ND<10	24	90	9.7	79
	11/16/07		6,400	ND<27	56	270	40	310
	12/26/07		4,200	ND<27	21	96	14	180
	<b>01/22/08</b>		<b>1,900</b>	<b>ND&lt;14</b>	<b>11</b>	<b>74</b>	<b>13</b>	<b>100</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>230</b>	<b>ND&lt;1.4</b>	<b>1.2</b>	<b>9.2</b>	<b>2.4</b>	<b>16</b>
MW-7S	08/10/07	1	19,000	ND<450	620	590	27	100
	09/28/07		13,000	ND<150	350	630	69	370
	10/17/07		390	ND<14	27	60	6	51
	11/16/07		7,700	ND<45	170	390	47	280
	12/26/07		4,700	ND<45	100	220	27	190
	<b>01/22/08</b>		<b>3,900</b>	<b>ND&lt;14</b>	<b>69</b>	<b>200</b>	<b>20</b>	<b>210</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>2,000</b>	<b>ND&lt;5.0</b>	<b>25</b>	<b>81</b>	<b>11</b>	<b>78</b>

**TABLE 5: HVDPE VAPOR ANALYTICAL DATA: TPH-g & MBTEX**

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

Sample Port ID	Sample Date	Notes	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
MW-10S	11/21/07		28,000	ND<68	300	800	63	230
	12/26/07		6,300	ND<14	55	350	64	300
	<b>01/22/08</b>		<b>4,700</b>	<b>ND&lt;14</b>	<b>38</b>	<b>230</b>	<b>49</b>	<b>310</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>2,100</b>	<b>ND&lt;14</b>	<b>13</b>	<b>73</b>	<b>31</b>	<b>190</b>
MW-11S	11/21/07		20,000	ND<68	240	640	63	240
	12/26/07		3,400	ND<75	50	220	50	230
	<b>01/22/08</b>		<b>3,000</b>	<b>ND&lt;30</b>	<b>81</b>	<b>190</b>	<b>39</b>	<b>230</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>1,700</b>	<b>ND&lt;14</b>	<b>26</b>	<b>66</b>	<b>26</b>	<b>150</b>
MW-12S	11/21/07		1,400	ND<100	87	51	10	40
	12/26/07		1,200	ND<45	27	100	13	74
	<b>01/22/08</b>		<b>1,100</b>	<b>ND&lt;45</b>	<b>14</b>	<b>50</b>	<b>8.4</b>	<b>65</b>
	<b>02/07/08</b>		-	-	-	-	-	-
	<b>03/18/08</b>		<b>460</b>	<b>ND&lt;30</b>	<b>42</b>	<b>32</b>	<b>4.2</b>	<b>36</b>
AS	10/17/07		130	ND<1.4	4.3	11	1.4	12
	11/08/07		19	ND	0.60	1.8	0.18	3.2
	<b>01/15/08</b>		<b>1,100</b>	<b>19</b>	<b>31</b>	<b>100</b>	<b>17</b>	<b>180</b>
	<b>01/31/08</b>		<b>69</b>	<b>ND&lt;4.5</b>	<b>1.7</b>	<b>5.0</b>	<b>0.81</b>	<b>11</b>
	<b>02/07/08</b>		<b>31</b>	<b>1.4</b>	<b>0.47</b>	<b>1.5</b>	<b>0.21</b>	<b>4.1</b>
	<b>03/18/08</b>		<b>31</b>	<b>0.71</b>	<b>0.60</b>	<b>1.8</b>	<b>0.34</b>	<b>3.2</b>
PRED	06/28/07		-	-	-	-	-	-
	07/11/07		6,600	ND<90	180	340	39	190
	07/27/07		11,000	ND<75	170	330	38	160
	08/01/07		5,500	ND<70	140	250	16	71
	08/10/07		7,700	ND<90	210	410	41	190
	09/28/07	1	4,000	ND<50	90	170	9.3	42
	10/17/07		5,100	ND<60	130	210	8.6	51
	11/08/07		4,000	ND<0.68	0.35	2.2	0.68	6.6
	11/16/07		3,700	ND<120	63	170	20	120
	11/16/07		6,000	ND<27	100	250	27	170
	11/21/07		2,500	ND<14	39	120	16	79
	12/04/07		7,900	ND<32	120	340	48	280
	12/26/07		4,100	ND<27	72	250	42	270
	01/08/08	4	-	-	-	-	-	-
	<b>01/15/08</b>		<b>1,900</b>	<b>ND&lt;14</b>	<b>29</b>	<b>89</b>	<b>16</b>	<b>100</b>
	<b>01/22/08</b>		<b>1,900</b>	<b>ND&lt;14</b>	<b>34</b>	<b>100</b>	<b>13</b>	<b>100</b>
	<b>01/31/08</b>		<b>2,200</b>	<b>ND&lt;14</b>	<b>36</b>	<b>120</b>	<b>19</b>	<b>160</b>
<b>02/07/08</b>		<b>2,000</b>	<b>ND&lt;35</b>	<b>34</b>	<b>110</b>	<b>10</b>	<b>130</b>	
<b>03/18/08</b>		<b>630</b>	<b>ND&lt;3.0</b>	<b>7.0</b>	<b>25</b>	<b>5.6</b>	<b>38</b>	

**TABLE 5: HVDPE VAPOR ANALYTICAL DATA: TPH-g & MBTEX**

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

Sample Port ID	Sample Date	Notes	TPH-g (ppmv)	MTBE (ppmv)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)
<b>POSTD</b>	06/28/07		3,800	ND<60	120	160	22	110
	07/11/07		1,400	ND<14	36	82	12	67
	07/27/07		3,400	ND<14	56	120	15	70
	08/01/07		2,500	ND<27	59	140	17	95
	08/10/07		5,300	ND<45	130	290	37	180
	09/28/07		4,800	ND<60	100	210	23	120
	10/17/07		1,800	ND<14	41	110	14	100
	11/08/07		2,000	ND<15	42	100	12	88
	11/16/07		3,600	ND<14	58	190	25	180
	11/21/07		5,500	ND<25	75	210	28	130
	12/04/07		3,400	ND<16	44	120	22	120
	12/26/07		1,300	ND<45	26	96	15	100
	<b>01/08/08</b>		<b>1,700</b>	<b>ND&lt;14</b>	<b>23</b>	<b>79</b>	<b>13</b>	<b>83</b>
	<b>01/15/08</b>		<b>620</b>	<b>ND&lt;14</b>	<b>11</b>	<b>39</b>	<b>6.6</b>	<b>44</b>
	<b>01/22/08</b>		<b>1,100</b>	<b>ND&lt;14</b>	<b>14</b>	<b>50</b>	<b>8.4</b>	<b>65</b>
	<b>01/31/08</b>		<b>770</b>	<b>ND&lt;14</b>	<b>12</b>	<b>38</b>	<b>6.9</b>	<b>62</b>
	<b>02/07/08</b>		<b>690</b>	<b>ND&lt;6.8</b>	<b>10</b>	<b>37</b>	<b>6.6</b>	<b>58</b>
<b>03/18/08</b>		<b>310</b>	<b>ND&lt;3.5</b>	<b>3.9</b>	<b>12</b>	<b>3.0</b>	<b>20</b>	
<b>STACK</b>	06/28/07		ND	ND	ND	ND	ND	ND
	07/27/08		-	-	-	-	-	-
	08/10/07		ND	ND	ND	ND	ND	ND
	09/28/07		ND	ND	ND	ND	ND	ND
	10/17/07		ND	ND	ND	ND	ND	ND
	11/08/07		21	ND	0.24	1.5	0.29	2.4
	11/16/07		ND	ND	ND	ND	ND	ND
	12/26/07		-	-	-	-	-	-
	<b>01/18/08</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
	<b>02/07/08</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>03/18/08</b>		<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
<b>DL</b>			<b>7</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

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

DL = detection limit for dilution factor of 1

TPH-g by modified EPA Method 8015

BTEX & MTBE by modified 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) Opened 100% for sampling, turned OFF after sampling
- 4) Pump failed, not strong enough to collect sample from PRED
- 5)

**TABLE 6: HVDPE VAPOR FIELD DATA: TVH, CH4, O2, CO2**

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

Sample Port ID	Date	Notes	Initial Valve Position (%OPEN)	Final Valve Position (%OPEN)	Manifold Vacuum (in-Hg)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
MW-1S	09/28/07	1,2	OFF	OFF	-	-	-	-	-
	10/17/07		100%	100%	-20.0	0	0.0	20.9	0.0
	11/07/07		100%	50%	-20.0	680	0.0	20.9	0.1
	11/16/07		50%	50%	-20.5	2,750	0.5	20.9	0.6
	12/04/07		50%	50%	-20.5	2,050	1.0	20.9	0.3
	12/26/07		50%	50%	-18.0	3,000	1.5	20.7	0.4
	01/15/08		50%	50%	-19.0	110	0.0	20.4	0.2
	01/22/08		100%	100%	-18.0	160	0.0	19.7	0.3
	01/31/08		OFF	OFF	-17.5	85	0.0	20.9	0.0
	02/07/08		-	-	-	-	-	-	-
	03/14/08	5	100%	100%	-19.0	0	xx	20.9	0.1
	03/18/08		100%	100%	-14.0	0	xx	20.9	0.0
	03/28/08		100%	100%	-19.5	0	-	21.0	0.1
	MW-2S	09/28/07	1	100%	100%	-20.0	5,900	2.5	20.6
10/17/07		100%		100%	-20.0	1,450	1.0	20.9	0.1
11/07/07			100%	100%	-20.0	1,100	0.5	20.9	0.2
11/16/07			100%	100%	-20.0	4,600	2.5	20.7	0.5
12/04/07			100%	100%	-19.5	10,000	8.5	19.5	0.6
12/26/07			100%	100%	-17.0	2,600	1.5	20.9	0.4
01/15/08			100%	100%	-19.0	1,700	0.5	20.2	0.4
01/22/08			100%	100%	-17.0	1,000	0.5	17.7	0.6
01/31/08			100%	100%	-21.0	1,150	0.5	20.8	0.3
02/07/08			-	-	-	-	-	-	-
03/14/08		5	100%	100%	-19.0	120	xx	12.0	1.8
03/18/08			100%	100%	-14.0	100	xx	20.3	0.6
03/28/08			100%	100%	-19.5	210	-	20.9	0.5
MW-5S		09/28/07	1	100%	100%	-20.0	8,000	5.5	20.2
	10/17/07	100%		100%	-20.0	880	0.5	20.9	0.1
	11/07/07		100%	100%	-20.0	1,200	0.5	20.2	0.4
	11/16/07		100%	100%	-20.5	4,600	3.0	20.0	0.7
	12/04/07	3	OFF	OFF	-19.5	6,900	5.5	15.5	1.9
	12/26/07		OFF	OFF	-17.0	200	0.0	20.9	0.0
	01/15/08		OFF	OFF	-	-	-	-	-
	01/22/08		100%	100%	-16.0	300	0.0	18.0	0.4
	01/31/08		50%	50%	-21.0	740	0.0	20.7	0.4
	02/07/08		-	-	-	-	-	-	-
	03/14/08	5	100%	100%	-18.5	50	xx	17.0	0.6
	03/18/08		100%	100%	-16.5	0	xx	19.9	0.3
	03/28/08		100%	100%	-20.0	200	-	20.9	0.4

**TABLE 6: HVDPE VAPOR FIELD DATA: TVH, CH4, O2, CO2**

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

Sample Port ID	Date	Notes	Initial Valve Position (%OPEN)	Final Valve Position (%OPEN)	Manifold Vacuum (in-Hg)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	
MW-6S	09/28/07	1	100%	100%	-20.0	>11,000	8.0	19.7	0.5	
	10/17/07		100%	100%	-20.0	1,350	0.5	20.9	0.1	
	11/07/07		100%	100%	-20.0	0	0.0	20.9	0.0	
	11/16/07		100%	50%	-19.0	6,300	4.5	19.2	1.0	
	12/04/07		50%	100%	-19.5	10,000	8.0	17.1	1.8	
	12/26/07		100%	100%	-17.5	4,600	2.5	18.5	1.3	
	01/15/08		100%	75%	-19.0	410	-	-	-	
	01/22/08		75%	100%	-16.5	1,050	0.5	15.6	1.0	
	01/31/08		50%	50%	-20.8	1,000	0.5	20.0	0.9	
	02/07/08		-	-	-	-	-	-	-	-
	03/14/08		5	100%	100%	-18.5	110	xx	18.5	0.7
	03/18/08			100%	100%	-17.0	15	xx	20.5	0.1
	03/28/08			100%	100%	-19.0	125	-	20.9	0.2
MW-7S	09/28/07	1	100%	100%	-20.0	11,000	19	20.0	0.5	
	10/17/07		100%	100%	-20.0	0	0.0	20.9	0.0	
	11/07/07		100%	100%	-20.0	4,200	3.0	20.9	0.4	
	11/16/07		100%	50%	-20.5	10,000	8.0	20.5	0.4	
	12/04/07		50%	100%	-19.5	14,000	14.0	19.1	0.8	
	12/26/07		100%	100%	-17.5	5,500	3.0	20.4	0.5	
	01/15/08		100%	75%	-19.0	1,150	0.5	20.9	0.3	
	01/22/08		75%	100%	-16.0	2,050	1.0	18.2	0.4	
	01/31/08		50%	50%	-21.0	670	0.0	20.9	0.3	
	02/07/08		-	-	-	-	-	-	-	-
	03/14/08		5	100%	100%	-18.5	280	xx	14.4	1.0
	03/18/08			100%	100%	-14.0	390	xx	20.2	0.3
	03/28/08			100%	100%	-19.0	2,100	-	20.0	0.0
MW-10S	11/21/07		100%	100%	-19.0	>44,000	43.0	17	2.2	
	12/04/07		100%	100%	-20.0	7,650	6.5	19.2	0.5	
	12/26/07		100%	100%	-18.0	3,900	2.5	19.4	0.5	
	01/15/08		100%	100%	-19.0	1,900	1.0	18.9	0.7	
	01/22/08		100%	100%	-16.5	1,850	0.5	16.1	0.5	
	01/31/08		100%	50%	-21.0	440	0.0	20.9	0.0	
	02/07/08		-	-	-	-	-	-	-	
	03/14/08		5	100%	100%	-18.0	170	xx	16.7	0.5
	03/18/08			100%	100%	-14.0	270	xx	19	0.9
	03/28/08			100%	100%	-19.0	215	-	20.9	0.1

**TABLE 6: HVDPE VAPOR FIELD DATA: TVH, CH4, O2, CO2**

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

Sample Port ID	Date	Notes	Initial Valve Position (%OPEN)	Final Valve Position (%OPEN)	Manifold Vacuum (in-Hg)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
MW-11S	11/21/07		100%	100%	-19.0	36,600	26.5	19.2	2.2
	12/04/07		100%	50%	-19.5	430	0.0	20.9	0.1
	12/26/07		50%	100%	-18.0	1350	0.5	20.9	0.2
	01/15/08		100%	100%	-19.0	1000	0.5	20.2	0.2
	01/22/08		100%	100%	-16.0	1,000	0.5	18.7	0.2
	01/31/08		50%	50%	-21.0	1,050	0.5	19.4	0.5
	02/07/08		-	-	-	-	-	-	-
	03/14/08	5	100%	100%	-19.0	260	xx	17.3	0.5
	03/18/08		100%	100%	-14.5	130	xx	20	0.3
	03/28/08		100%	100%	-20.0	60	-	20.9	0.2
	MW-12S	11/21/07		50%	50%	-19.0	110	0.0	20.9
12/04/07			50%	50%	-20.0	1,350	0.5	20.9	0.2
12/26/07			50%	50%	-18.0	710	0.0	20.9	0.1
01/15/08			50%	50%	-19.0	945	0.0	20.6	0.3
01/22/05			100%	100%	-15.0	630	0.0	19.3	0.2
01/31/08			50%	50%	-21.5	1,100	0.0	20.9	0.2
02/07/08			-	-	-	-	-	-	-
03/14/08		5	100%	100%	-19.0	20	xx	20.3	0.2
03/18/08			100%	100%	-14.0	0	xx	20.9	0.0
03/28/08			100%	100%	-20.0	0	-	21.0	0.1
AS		06/28/07		100%	100%	-	0	0.0	12.3
	10/17/07		100%	100%	-	0	0.0	20.9	0.0
	11/07/07		100%	100%	-	0	0.0	20.9	0.0
	11/08/07		100%	100%	-	0	0.0	20.9	0.0
	11/16/07		100%	100%	-	0	0.0	20.9	0.0
	12/04/07		100%	100%	-	-	-	-	-
	01/15/08		100%	100%	-	-	-	-	-
	01/22/08		100%	100%	-	0	0.0	20.9	0.0
	02/07/08		-	-	-	-	-	-	-
	03/14/08	5	100%	100%	-	0	xx	20.9	0.0
	03/18/08		100%	100%	-	0	xx	20.9	0.0
03/28/08		100%	100%	-	0	-	20.9	0.0	

**TABLE 6: HVDPE VAPOR FIELD DATA: TVH, CH4, O2, CO2**

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

Sample Port ID	Date	Notes	Initial Valve Position (%OPEN)	Final Valve Position (%OPEN)	Manifold Vacuum (in-Hg)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)
<b>PRED</b>	06/28/07		-	-	-18.5	-	-	-	-
	06/29/07		-	-	-18.5	-	-	-	-
	07/03/07		-	-	-18.0	-	-	-	-
	07/11/07		-	-	-21.5	10,750	-	-	-
	07/27/07		-	-	-20.0	>11,000	-	-	-
	08/01/07		-	-	-19.0	6,000	9.1	18.5	1.1
	08/10/07		-	-	-21.0	-	-	-	-
	09/28/07		-	-	-20.0	5,700	3.5	20.7	0.3
	10/17/07		-	-	-21.0	9,050	6.5	20.1	0.6
	11/07/07		-	-	-19.0	40	0.0	20.9	0.0
	11/08/07		-	-	-21.0	0	0.0	20.9	0.0
	11/16/07		-	-	-21.0	3,050	2.0	20.7	0.4
	11/16/07		-	-	-21.0	6,100	4.5	20.3	0.7
	11/21/07		-	-	-19.0	12,000	13.5	19.4	1.2
	12/04/07		-	-	-20.0	10,500	9.5	18.8	0.9
	12/26/07		-	-	-18.0	3,650	2.0	20.9	0.5
	01/08/07	4	-	-	<b>-18.0</b>	-	-	-	-
	01/15/08		-	-	<b>-19.0</b>	<b>710</b>	<b>0.0</b>	<b>20</b>	<b>0.3</b>
	01/22/08		-	-	<b>-18.0</b>	<b>800</b>	<b>0.0</b>	<b>17.8</b>	<b>0.5</b>
	01/31/08		-	-	<b>-21.0</b>	<b>1,250</b>	<b>0.5</b>	<b>20.9</b>	<b>0.5</b>
	02/07/08		-	-	-	-	-	-	-
	03/14/08	5	-	-	<b>-19.0</b>	<b>160</b>	<b>xx</b>	<b>15.3</b>	<b>0.9</b>
	03/18/08		-	-	-	-	-	-	-
	03/28/08		-	-	<b>-20.0</b>	<b>230</b>	-	<b>20.9</b>	<b>0.2</b>
<b>POSTD</b>	06/28/07		-	-	-	10,000	6.5	18.2	1.4
	06/29/07		-	-	-	2,450	3.5	19.3	0.9
	07/03/07		-	-	-	11,300	13.5	17.2	1.9
	07/11/07		-	-	-	3,550	-	-	-
	07/27/07		-	-	-	4,550	-	-	-
	08/01/07		-	-	-	10,000	9.1	18.5	1.1
	08/10/07		-	-	-	4,800	2.0	19.9	0.5
	09/28/07		-	-	-	6,750	4.0	20.7	0.3
	10/17/07		-	-	-	4,500	2.5	20.9	0.0
	11/07/07		-	-	-	1,550	1.0	20.7	0.3
	11/08/07		-	-	-	1,300	1.0	20.9	0.4
	11/16/07		-	-	-	4,150	2.0	20.5	0.4
	11/21/07		-	-	-	8,600	7.5	20.5	0.8
	12/04/07		-	-	-	6,500	5.0	19.8	0.6
	12/26/07		-	-	-	2,000	1.0	20.9	0.3
	01/08/07		-	-	-	<b>1,200</b>	<b>0.5</b>	<b>20.9</b>	<b>0.3</b>
	01/15/08		-	-	-	<b>45</b>	<b>0.0</b>	<b>20.7</b>	<b>0.0</b>
	01/22/08		-	-	-	<b>280</b>	<b>0.0</b>	<b>20.2</b>	<b>0.0</b>
	01/31/08		-	-	-	<b>470</b>	<b>0.0</b>	<b>20.9</b>	<b>0.1</b>
	02/07/08		-	-	-	-	-	-	-
	03/14/08	5	-	-	-	<b>75</b>	<b>xx</b>	<b>20.2</b>	<b>0.4</b>
	03/18/08		-	-	-	-	-	-	-
	03/28/08	6	-	-	-	<b>10</b>	-	<b>22.9</b>	<b>0.0</b>

**TABLE 6: HVDPE VAPOR FIELD DATA: TVH, CH4, O2, CO2**

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

Sample Port ID	Date	Notes	Initial Valve Position (%OPEN)	Final Valve Position (%OPEN)	Manifold Vacuum (in-Hg)	TVH (ppmv)	CH4 (%)	O2 (%)	CO2 (%)	
<b>STACK</b>	06/28/07		-	-	-	0	0.0	12.3	5.4	
	07/27/07		-	-	-	-	-	-	-	
	08/10/07		-	-	-	-	-	-	-	
	09/28/07		-	-	-	0	0.0	14.0	4.5	
	10/17/07		-	-	-	-	-	-	-	
	11/08/07		-	-	-	-	-	-	-	
	11/16/07		-	-	-	0	0.0	14.8	4.8	
	12/26/07		-	-	-	-	-	-	-	
	<b>01/18/08</b>		-	-	-	-	-	-	-	
	<b>02/07/08</b>		-	-	-	-	-	-	-	
	<b>03/18/08</b>		-	-	-	<b>0</b>	-	<b>18.0</b>	<b>1.9</b>	
	<b>DL</b>	-	-	-	-	-	<b>5.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>

**NOTES:**

- not sampled/analyzed

in-Hg = inches of mercury

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 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 in the field w/ RKI Eagle gas detector

- 1) Individual well water separator trap used for the 1st time
- 2) Vacuum leak detected at wellhead due to broken wellhead seal
- 3) Opened 100% for sampling, turned OFF after sampling
- 4) Pump failed, not strong enough to collect sample from PRED
- 5) First samples collected after system was shutdown on February 12, 2008 prior to groundwater and soil gas monitoring event
- 6) All readings with GasTech GT409 gas detector
- 7)
- 8)
- 9)
- 10)

**TABLE 7: GROUNDWATER TREATMENT SYSTEM 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)
INF	06/26/07	1	-	20,000	<1500	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	<250	990	3,000	380	3,600
	11/07/07		-	21,000	<500	730	2,600	300	4,800
	12/12/07	5	-	75,000	<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
POST-AS	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	<0.5	7
	11/07/07		-	120	41	0.71	1.9	<0.5	12
	12/12/07	5	-	65,000	<250	210	3,400	1,300	11,000
	01/08/08		-	130	55	0.85	2.8	<0.5	12
	03/18/08		-	120	190	2.5	3.5	0.77	7.2
POST-C1	06/26/07	1	-	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	08/22/07	2	-	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	10/17/07	3,4	-	<50	<5.0	<0.5	<0.5	<0.5	<0.5
EFF	06/26/07	1	<5.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	08/22/07	2	-	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	10/17/07	3,4	-	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	11/07/07		-	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	12/12/07	5	-	<50	17	<0.5	<0.5	<0.5	<0.5
	01/08/08		-	<50	17	<0.5	<0.5	<0.5	<0.5
03/18/08	6	<5.0	<50	50	<0.5	<0.5	<0.5	<0.5	
DL	-	-	5.0	50	5.0	0.5	0.5	0.5	0.5

**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 SW8015Cm

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) Extraction wells MW-10, MW-11, and MW-12 brought online 11/20/07

6) Metal analysis no longer required per email from EBMUD, dated January 31, 2008

**TABLE 8: SOIL GAS FIELD DATA: 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	18.6	2.4
	08/01/07		-0.40	-	0	0.0	20.9	0.0
	08/10/07		-0.35	-	0	0.0	20.9	0.0
	10/05/07		0.00	-	0	0.0	20.9	0.3
	11/07/07		-0.24	-1.50	0	0.0	20.9	0.0
	11/21/07		-0.84	-1.50	0	0.0	20.9	0.0
	<b>03/28/08</b>		<b>&lt;-0.10</b>	<b>&gt;-50</b>	<b>0</b>	<b>xx</b>	<b>20.9</b>	<b>0.0</b>
GP-1-10'	05/17/07	4	0.00	-	-	-	-	-
	06/12/07		0.00	-	0	0.0	18.7	2.2
	08/01/07		-0.44	-	0	0.0	20.9	0.0
	08/10/07		-0.38	-	0		20.9	0.0
	10/05/07		0.00	-	0	0.0	20.9	0.3
	11/07/07		-0.27	-2.00	0	0.0	20.9	0.0
	11/21/07		-0.59	-1.50	0	0.0	20.9	0.0
	<b>03/28/08</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</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	19.0	1.7
	08/01/07		0.00	-	0	0.0	20.9	0.3
	08/10/07		-0.04	-	0	0.0	20.9	0.2
	10/05/07		0.00	-	0	0.0	20.9	0.1
	11/07/07		-0.08	-4.00	0	0.0	20.9	0.0
	11/21/07		-0.04	-1.50	0	0.0	20.9	0.0
	<b>03/28/08</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
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	20.8	0.5
	08/10/07		0.00	-	0	0.0	20.9	0.2
	10/05/07		0.00	-	0	0.0	20.9	0.1
	11/07/07		<0.10	-24.0	0	0.0	20.9	0.0
	11/21/07		-1.70	-35.0	0		20.9	0.0
	<b>03/28/08</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
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	20.9	0.4
	08/10/07		-0.01	-	0	0.0	20.9	0.3
	10/05/07		0.00	-	0	0.0	20.9	0.2
	11/07/07		<-0.10	-1.00	0	0.0	20.9	0.2
	11/21/07		-0.05	-1.00	0	0.0	20.9	0.0
	<b>03/28/08</b>		<b>&lt;-0.10</b>	<b>-43</b>	<b>0</b>	<b>xx</b>	<b>20.5</b>	<b>0.1</b>
	GP-3-10'	05/17/07	4	0.00	-	0.37	0.0	2.4
06/12/07			0.00	-	0	0.0	10.5	1.8
08/10/07			-0.16	-	0	0.0	16.8	2.2
10/05/07			0.00	-	0	0.0	20.8	1.2
11/07/07			-0.30	-55.0	0	0.0	20.9	0.5
11/21/07			-5.20	-47.0	0	0.0	20.9	0.2
<b>03/28/08</b>		<b>3</b>	<b>-1.00</b>	<b>&gt;-150</b>	<b>0</b>	<b>xx</b>	<b>20.0</b>	<b>0.0</b>

**TABLE 8: SOIL GAS FIELD DATA: 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-4-5'	05/17/07	4	0.00	-	0.21	0.0	20.0	0.7
	06/12/07		0.00	-	0	0.0	20.8	0.6
	08/10/07		-0.02	-	0	0.0	20.9	0.4
	10/05/07		0.00	-	0	0.0	20.9	0.5
	11/07/07		<-0.10	-0.85	0	0.0	20.9	0.3
	11/21/07		0.00	-0.50	0	0.0	20.9	0.0
	<b>03/28/08</b>		<b>&lt;-0.10</b>	<b>-47</b>	<b>0</b>	<b>xx</b>	<b>20.0</b>	<b>0.0</b>
GP-4-10'	05/17/07	4	0.00	-	-	-	-	-
	06/12/07		2	0.00	-	-	-	-
	08/10/07		-0.08	-	0	0.0	20.4	0.2
	10/05/07		0.00	-	0	0.0	20.9	0.5
	11/07/07		<-0.1	-80.0	0	0.0	20.9	0.3
	11/21/07		<-0.1	>-50.0	0	0.0	20.9	0.0
	<b>03/28/08</b>	<b>2,3</b>	<b>&lt;-0.1</b>	<b>&gt;-150</b>	<b>0</b>	<b>xx</b>	<b>20.5</b>	<b>0.0</b>
<b>DL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>

**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 in the field 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)

**TABLE 9: 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
<b>01/15/08</b>	-	<b>OFF</b>	-	<b>11.0</b>	<b>14.0</b>	<b>21.0</b>	<b>n/a</b>	<b>OFF</b>	-	<b>16.5</b>	<b>11.5</b>	<b>20.0</b>	<b>12.0</b>	<b>14.0</b>	<b>20.0</b>
<b>02/07/08</b>	<b>5.0</b>	<b>9.5</b>	<b>25.0</b>	<b>10.0</b>	<b>13.0</b>	<b>20.0</b>	<b>n/a</b>	<b>OFF</b>	-	<b>15.5</b>	<b>14.0</b>	<b>19.0</b>	<b>15.5</b>	<b>21.0</b>	<b>20.0</b>
<b>03/18/08</b>	<b>9.0</b>	<b>10.0</b>	<b>25.0</b>	<b>5.5</b>	<b>11.5</b>	<b>19.0</b>	<b>n/a</b>	<b>9.5</b>	<b>21.0</b>	<b>8.0</b>	<b>9.5</b>	<b>20.0</b>	<b>8.5</b>	<b>12.0</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

**TABLE 9: 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						
<b>01/15/08</b>	<b>n/a</b>	<b>10.0</b>	<b>18.0</b>	<b>n/a</b>	<b>9.0</b>	<b>19.0</b>	<b>n/a</b>	<b>12.0</b>	<b>19.0</b>						
<b>02/01/08</b>	<b>n/a</b>	<b>9.0</b>	<b>18.0</b>	<b>n/a</b>	<b>10.0</b>	<b>19.0</b>	<b>n/a</b>	<b>15.0</b>	<b>19.0</b>						
<b>03/18/08</b>	<b>n/a</b>	<b>7.5</b>	<b>18.0</b>	<b>n/a</b>	<b>9.0</b>	<b>19.0</b>	<b>n/a</b>	<b>9.0</b>	<b>20.5</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 10: 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	-	-	-	-
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
<b>01/15/08</b>		<b>20</b>	<b>480</b>	<b>3,016</b>	<b>19</b>	<b>451</b>	<b>94%</b>	<b>60</b>	<b>19</b>	<b>1,200</b>	<b>59</b>	<b>1,900</b>	<b>45</b>	<b>15,476</b>	<b>2,579</b>
<b>01/22/08</b>	6,7	<b>7</b>	<b>168</b>	<b>3,064</b>	<b>2</b>	<b>48</b>	<b>29%</b>	<b>60</b>	<b>18</b>	<b>1,500</b>	<b>74</b>	<b>1,900</b>	<b>56</b>	<b>15,589</b>	<b>2,598</b>
<b>01/31/08</b>		<b>9</b>	<b>216</b>	<b>3,276</b>	<b>9</b>	<b>212</b>	<b>98%</b>	<b>60</b>	<b>20</b>	<b>1,250</b>	<b>61</b>	<b>2,200</b>	<b>54</b>	<b>16,067</b>	<b>2,678</b>
<b>02/07/08</b>		<b>7</b>	<b>168</b>	<b>3,443</b>	<b>7</b>	<b>167</b>	<b>99%</b>	<b>60</b>	<b>22</b>	<b>1,100</b>	<b>54</b>	<b>2,000</b>	<b>43</b>	<b>16,368</b>	<b>2,728</b>
<b>03/18/08</b>	8,9	<b>40</b>	<b>960</b>	<b>3,653</b>	<b>9</b>	<b>210</b>	<b>22%</b>	<b>60</b>	<b>15</b>	<b>1,400</b>	<b>69</b>	<b>630</b>	<b>17</b>	<b>16,520</b>	<b>2,753</b>
<b>AVG</b>	-	-	-	-	-	-	<b>68%</b>	<b>60</b>	<b>19</b>	<b>1,290</b>	<b>63</b>	<b>1,726</b>	<b>43</b>	-	-

**NOTES:**

ppmv = parts per million by volume

TPH-g = total petroleum hydrocarbons as gasoline

TPH-g by modified EPA Method 8015

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

AVG = averages

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)\*(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

MWgas = 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

**TABLE 11: 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
<b>AVG</b>	-	-	-	-	-	-	<b>68%</b>	<b>1,256</b>	<b>1,220</b>	<b>2,190</b>	<b>108</b>	<b>698</b>	<b>3.5</b>	<b>99.41%</b>	<b>30</b>	-	-	-

**NOTES:**

ppmv = parts per million by volume  
 TPH-g = total petroleum hydrocarbons as gasoline  
 TPH-g by modified EPA Method 8015  
 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

DL = detection limit  
 1/2 the DL was used for abatement efficiency calculations  
 DL for THP-g by modified EPA Method 8015 = 7.0 ppmv  
 AVG = averages

- 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)\*(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

**TABLE 12: AIR STRIPPER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter	Actual Runtime (days)	Blower VFD (Hz)	*Back Pressure (in-H2O)	Outlet Velocity (fpm)	Outlet Flow (scfm)	Effluent Conc. (ppmv)	Influent Conc. (µg/L)	Effluent Conc. (µg/L)	Removal Efficiency (%)
06/26/07	1	0.00	-	45	25	2,600	128	-	20,000	1,000	95.0%
06/27/08		4.84	0.20	45	25	2,600	128	-	25,000	420	98.3%
06/28/07		9.68	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		70.48	3	20	5	900	44	-	8,300	-	-
07/12/07		70.48	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		529.98	19	15	5	600	29	-	16,000	5,300	66.9%
09/28/07				25	16	1,300	64	-	-	-	-
10/17/07		1,238.96	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		1,708.55	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		2,365.83	99	20	18	900	44	-	75,000	65,000	13.3%
12/14/07				20	18	900	44	-	-	-	-

**TABLE 12: AIR STRIPPER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter	Actual Runtime (days)	Blower VFD (Hz)	*Back Pressure (in-H2O)	Outlet Velocity (fpm)	Outlet Flow (scfm)	Effluent Conc. (ppmv)	Influent Conc. (µg/L)	Effluent Conc. (µg/L)	Removal Efficiency (%)
12/25/07				20	20	900	44	-	-	-	-
12/26/07				20	20	900	44	-	-	-	-
01/08/08		2,814.79	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		3,653.33	35	20	15	900	44	31	4,100	120	97.1%
03/28/08				20	16	900	44	-	-	-	-
<b>AVG</b>	-	-	-	<b>20</b>	<b>17</b>	<b>900</b>	<b>44</b>	<b>387</b>	<b>8,050</b>	<b>125</b>	<b>97.99%</b>

\*Air will leak from air stripper if backpressure exceeds 30 to 35 in-H2O as tested on June 11, 2007

**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

1) System started up and first discharge to the sanitary sewer

2) Air stripper cleaned due to high backpressure

3)

4)

5)

**TABLE 13: ACTIVATED CARBON ABSORBER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter	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	0.00	-	0	-	-	-	-	-	-	1.5	<1.0	-	N	N	1,000	25	97.50%	-	-	-
06/27/07		4.84	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		9.68	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		13.47	0.2	1,800	500	3,166	132	2.20	-	-	1.5	<1.0	-	N	N	-	-	-	-	-	-
07/09/07		25.12	0.5	4,310	2,510	5,171	215	3.59	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
07/10/07		28.29	0.1	5,000	690	5,224	218	3.63	-	-	3	<1.0	-	N	N	-	-	-	-	-	-
07/11/07		52.72	1.0	7,280	2,280	2,240	93	1.56	-	-	3	<1.0	-	N	N	-	-	-	-	-	-
07/12/07		70.48	0.7	7,400	120	162	7	0.11	-	-	5	<1.0	-	Y	N	-	-	-	-	-	-
07/27/07		103.41	1.4	8,580	1,180	860	35.8	0.60	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
07/30/07		121.03	0.7	9,200	620	844	35	0.59	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
08/01/07		160.40	1.6	13,400	4,200	2,560	107	1.78	-	-	5	<1.0	-	Y	N	-	-	-	-	-	-
08/07/07		278.73	4.9	14,470	1,070	217	9.0	0.15	-	-	2	<1.0	-	N	N	-	-	-	-	-	-
08/17/08	2	444.73	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		505.98	2.6	33,000	8,000	3,135	131	2.18	7	2.5	2.5	<1.0	Y	N	N	-	-	-	-	-	-
08/22/07		529.98	1.0	34,110	1,110	1,110	46	0.77	2	2.5	2.5	<1.0	N	N	N	5,300	25	99.53%	0.0488	1.47	0.25
08/23/07		554.07	1.0	36,710	2,600	2,590	108	1.80	2	2.5	2.5	<1.0	N	N	N	-	-	-	-	-	-
08/27/07		648.48	3.9	45,800	9,090	2,311	96	1.60	10	>7	>7	-	Y	Y	Y	-	-	-	-	-	-
08/31/07		744.48	4.0	50,820	5,020	1,255	52	0.87	2	2.5	2.5	<1.0	N	N	N	-	-	-	-	-	-
09/05/08		862.48	4.9	57,100	6,280	1,277	53	0.89	10	2.5	2.5	<1.0	Y	N	N	-	-	-	-	-	-
09/24/07		895.50	1.4	65,360	8,260	6,004	250	4.17	10	2.5	2.5	<1.0	Y	N	N	-	-	-	-	-	-
10/01/07		1,087.50	8.0	99,000	33,640	4,205	175	2.92	15	>10	>10	2	Y	N	Y	-	-	-	-	-	-
10/17/07	3	1,238.96	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		1,383.93	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	1,395.35	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		1,708.55	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		1,729.55	0.9	227,190	3,810	4,354	181	3.02	16	16.5	16.5	OFFLINE	N	N	N	-	-	-	-	-	-
11/13/07		1,808.50	3.3	244,360	17,170	5,220	217.5	3.62	14	14.5	15	OFFLINE	N	N	N	-	-	-	-	-	-
11/16/07		1,874.21	2.7	259,600	15,240	5,566	232	3.87	17	17.5	18	OFFLINE	N	N	N	-	-	-	-	-	-
11/20/07	5	1,968.57	3.9	279,190	19,590	4,983	208	3.46	19	19.5	20	OFFLINE	N	N	N	-	-	-	-	-	-
11/21/07		1,992.57	1.0	287,450	8,260	8,260	344	5.74	19	19.5	20	OFFLINE	N	N	N	-	-	-	-	-	-
11/27/07		2,106.56	4.7	320,320	32,870	6,921	288	4.81	20.5	21.5	21.5	OFFLINE	Y	N	N	-	-	-	-	-	-
11/29/07		2,131.25	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		2,229.83	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		2,365.83	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		2,379.36	0.6	395,260	3,760	6,670	278	4.63	11	4.0	4.5	OFFLINE	N	N	N	-	-	-	-	-	-
12/26/07		2,545.24	6.9	440,900	45,640	6,603	275	4.59	13	13.5	14	OFFLINE	N	N	N	-	-	-	-	-	-

**TABLE 13: ACTIVATED CARBON ABSORBER PERFORMANCE & MASS REMOVAL DATA SUMMARY**

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

Sample Date	Notes	Hour Meter	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		2,814.79	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		3,016.36	8.4	541,920	29,160	3,472	145	2.41	19	20	20	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
01/22/08		3,064.42	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		3,276.38	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		3,443.01	6.9	657,140	48,250	6,950	290	4.83	19	19.5	20	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
02/12/08		3,559.25	4.8	685,990	28,850	5,957	248	4.14	25.5	26	26	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
03/18/08		3,653.33	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		3,850.81	8.2	760,730	45,250	5,499	229	3.82	4	4.5	5	OFFLINE	OFFLINE	N	N	-	-	-	-	-	-
<b>AVG</b>	-	-	-	-	-	<b>4268</b>	<b>178</b>	<b>3.0</b>	-	-	-	-	-	-	-	<b>8,730</b>	<b>25</b>	<b>88.21%</b>	<b>0.4028</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 SW8015Cm

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 operational 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 THP-g by modified EPA Method 8015 = 50 µg/L

\*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)

- 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) Extraction wells MW-10, MW-11, and MW-12 brought online 11/20/07

**TABLE 14: 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 in the field 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:	2/14/2008
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)	15.94		
Depth to Free Product (from top of casing)	Not detected		
Water Elevation (feet above msl)	16.61		
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)	23.4		
Actual Volume Purged (gallons)	24.0		
Appearance of Purge Water	Dark, clears at 2.5 gal, sheen noted		
Free Product Present?	No	Thickness (ft):	Sheen

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
10:00 AM	1	20.09	6.88	871	0.71	-100.4	Dark
	2	20.24	6.87	865	0.42	-102.0	Clear
	3	20.33	6.86	861	0.30	-101.6	Clear
	6	20.52	6.84	871	0.20	-99.0	Clear
	9	20.58	6.84	855	0.36	-93.6	Clear
	12	20.50	6.86	802	1.43	-80.9	Clear
	15	20.20	6.99	774	1.67	-73.0	Clear
	18	20.49	6.82	762	1.20	-64.1	Clear
10:26 AM	21	20.46	6.82	762	1.20	-64.1	Clear
	24	20.46	6.82	766	1.65	-62.3	Clear

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

Black with silt present and strong hydrocarbon odors. Clears at 2.5 gallons. Sheen present in purge water.
Dry at 12 gallons (10:08am). Recharge at 10:20am.

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

**Monitoring Well Number: MW-2**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	16.91		
Water Elevation (feet above msl)	16.33		
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>5.3</b>		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	Dark		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
8:47 AM	1	18.48	6.91	1,210	0.94	-119.9	Dark
	2	18.57	6.90	1,159	0.51	-110.0	Clear
	3	18.67	6.88	1,080	0.34	-96.1	Clear
	4	18.74	6.85	1,037	0.29	-85.1	Clear
	5	18.78	6.83	1031	0.29	-78.6	Clear
8:52 AM	6	18.80	6.79	1028	0.28	-71.9	Clear

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

Dark with strong hydrocarbon odors. Clears by 1.0 gallons
Iron bacteria stuck on stinger tube.

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

**Monitoring Well Number: MW-3**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	18.12		
Water Elevation (feet above msl)	16.13		
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)	13.4		
Actual Volume Purged (gallons)	14		
Appearance of Purge Water	Slightly brown, fast clearing		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
7:55 AM	1	19.41	6.57	908	1.40	111.4	Light brown
	2	19.50	6.58	907	1.06	98.7	Clear
	3	19.54	6.56	908	0.88	87.7	Clear
	4	19.58	6.55	900	0.81	69.2	Clear
	5	19.60	6.55	888	0.83	53.2	Clear
	7	19.68	6.56	85.2	0.80	23.4	Clear
	9	19.72	6.56	861	0.62	13.2	Clear
	11	19.76	6.56	878	0.50	10.6	Clear
	14	19.80	6.57	912	0.44	22.9	Clear

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

Milky brown with no hydrocarbon odors noted. Clears by 2.0 gallons

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

**Monitoring Well Number: MW-4**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	18.52		
Water Elevation (feet above msl)	15.90		
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>12.6</b>		
Actual Volume Purged (gallons)	13.0		
Appearance of Purge Water	Reddish brown, clears at 0.5 gallon.		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs				
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments	
12:40 PM	1	18.11	7.17	524	6.76	-4.3	Clear	
	2	18.11	7.13	537	6.91	1.8	Clear	
	3	18.11	7.07	545	7.04	6.7	Clear	
	4	18.13	7.00	537	7.11	15.9	Clear	
	5	18.15	6.85	520	6.59	22.8	Clear	
	7	18.16	6.81	506	5.95	25.8	Clear	
	9	18.18	6.72	520	5.34	30.1	Clear	
	11	18.20	6.75	523	5.14	27.4	Clear	
	12:52 PM	14	18.22	6.76	523	5.03	26.6	Clear

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

Reddish brown with no hydrocarbon odor. Clears at 0.5 gallon.

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

**Monitoring Well Number: MW-5**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	16.58		
Water Elevation (feet above msl)	16.75		
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>10.5</b>		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	Dark gray, clears by 0.5 gallons		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs				
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments	
8:12 AM	1	20.01	6.89	844	0.47	-127.6	Clear	
	2	20.17	6.90	821	0.36	128.2		
	3	20.31	6.89	797	0.31	-123.0		
	4	20.37	6.88	709	0.28	-108.0		
	5	20.36	6.88	692	0.28	-105.2		
	7	20.28	6.90	668	0.31	-96.4		
	9	20.15	6.87	634	1.15	-56.9		
	8:40 AM	11	20.35	6.86	637	2.18		-46.0

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

Dark gray with strong hydrocarbon odors. Clears at 0.5 gallons.
Dry at 7.0 gallons (8:18am). Recharged at 8:37am.

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

**Monitoring Well Number: MW-6**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	15.54		
Depth to Free Product (from top of casing)	None		
Water Elevation (feet above msl)	17.28		
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)	12.5		
Actual Volume Purged (gallons)	13.0		
Appearance of Purge Water	Dark, clears at 2 gallons, sheen noted		
Free Product Present?	No	Thickness (ft):	Sheen

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
9:30 AM	1	19.65	6.68	698	1.25	-42.5	Dark
	2	19.71	6.64	698	0.71	-44.3	Clear
	3	19.73	6.63	700	0.50	-44.6	Clear
	4	19.75	6.61	691	0.36	-42.4	Clear
	6	19.78	6.61	658	0.26	-39.0	Clear
	8	19.76	6.62	701	0.31	-42.3	Clear
	10	19.65	6.82	694	1.09	-46.7	Clear
	13	19.78	6.74	667	0.79	-42.7	Clear

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

Dark with strong hydrocarbon odor. Clears at 2.0 gallons.
Sheen noted in purge water. Dry at 9 gallons (9:38am). Recharged at 9:52am.

**AEI CONSULTANTS**

**GROUNDWATER MONITORING WELL FIELD SAMPLING FORM**

**Monitoring Well Number: MW-7**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	16.27		
Depth to Free Product (from top of casing)	NONE		
Water Elevation (feet above msl)	16.80		
Well Volumes Purged	0		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	11.1		
Actual Volume Purged (gallons)	12.0		
Appearance of Purge Water	Gray, fast clearing		
Free Product Present?	No	Thickness (ft):	Sheen

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
Time	Vol Removed (gal)	Temperature (deg C)	pH				
9:00 AM	1	18.52	6.93	775	0.90	-102.9	Clear
	2	18.57	6.94	774	0.63	-104.3	Clear
	3	18.60	6.92	821	0.42	-102.9	Clear
	4	18.63	6.90	826	0.37	-101.6	Clear
	6	18.77	6.99	712	0.53	-100.4	Clear
	8	18.64	7.12	707	1.85	-66.6	Clear
9:27 AM	10	18.78	7.07	711	1.10	-68.1	Clear
	12	18.82	7.05	720	0.85	-68.5	Clear

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

Dark gray with strong hydrocarbon odors.
Dry at 6 gallons (9:04). Recharged at 9:22am.

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

**Monitoring Well Number: MW-10**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	15.59		
Water Elevation (feet above msl)	15.58		
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)	12.4		
Actual Volume Purged (gallons)	13		
Appearance of Purge Water	Clear at 1.0 gallon		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
10:54 AM	1	18.70	6.76	625	1.54	-36.7	Clear
	2	18.75	6.72	625	1.11	-36.5	Clear
	3	18.77	6.71	622	0.78	-38.1	Clear
	5	18.81	6.70	606	0.49	-37.4	Clear
	7	18.87	6.70	594	0.36	-37.5	Clear
	9	19.04	6.71	581	0.37	-40.9	Clear
	11	19.11	6.77	617	0.45	-46.2	Clear
11:06 AM	13	19.12	6.77	626	0.59	-46.6	Clear

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

Dark gray with strong hydrocarbon odor.
Clears quickly with some slit and clay present in purge water.

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

**Monitoring Well Number: MW-11**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	16.28		
Water Elevation (feet above msl)	15.50		
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)	11.1		
Actual Volume Purged (gallons)	12.0		
Appearance of Purge Water	Dark, clears at 2.0 gallon		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO(mg/L)	ORP (meV)	Comments
11:14 AM	1	17.91	6.90	664	1.28	-33.1	Dark
	2	17.92	6.86	683	0.77	-31.3	Clear
	3	17.93	6.80	672	0.44	-29.0	Clear
	4	17.94	6.76	682	0.40	-28.1	Clear
	6	18.10	6.76	675	0.28	-36.1	Clear
	8	18.14	6.77	670	0.25	-38.5	Clear
11:25 AM	10	18.17	6.78	672	0.25	-41.7	Clear
	12	18.19	6.81	672	0.26	-43.7	Clear

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

Dark with strong hydrocarbon odors. Clears at 2.0 gallons.

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

**Monitoring Well Number: MW-12**

Project Name:	Vic's Automotive	Date of Sampling:	2/14/2008
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)	32.05		
Depth of Well	22.00		
Depth to Water (from top of casing)	16.50		
Water Elevation (feet above msl)	15.55		
Well Volumes Purged	11		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<b>10.7</b>		
Actual Volume Purged (gallons)	11.0		
Appearance of Purge Water	Clear, fast clearing		
Free Product Present?	No	Thickness (ft):	-

**GROUNDWATER SAMPLES**

Number of Samples/Container Size				3 VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:33 AM	1	17.63	6.83	758	1.06	-56.7	Clear
	2	17.64	6.79	765	0.48	-57.7	Clear
	3	17.65	6.77	787	0.40	-58.1	Clear
	5	17.68	6.72	821	0.27	-66.9	Clear
	7	17.76	6.70	758	0.22	-54.0	Clear
11:43 AM	9	17.94	6.73	765	0.31	-48.3	Clear
	11	17.01	6.76	768	0.37	-49.5	Clear

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

Clear with strong hydrocarbon odors. Some silts present during purging.

## **APPENDIX B**

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

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

<b>SOIL GAS PROBE ID:</b>	<b>GP-1-5</b>
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Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	8:48
Project Address:	245 8th Street, Oakland, California	End Time:	9:10
		Name of Sampler:	R. Bartlett

SOIL GAS PROBE DATA
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Starting Vacuum (in-Hg)	-27.0
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	<b>167</b>
Tubing Inside Diameter (1/8" or 1/4")	<b>1/8"</b>
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	<b>5</b>
Length of Tubing Above Grade (ft)	<b>2</b>
Total Length of Tubing Purged (ft)	<b>7</b>
Number of Purge Volumes (default = 3 purge volumes)	<b>3</b>
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	<b>50 mL</b>
Appreciable Amount of Rain (>1/2") in Last Five Days?	<b>NO</b>
Moisture / Water Present in Tubing?	<b>NO</b>

SOIL GAS SAMPLING EQUIPMENT
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Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	4740
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS
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cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

**SOIL GAS PROBE ID: GP-1-10**

Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	9:03
Project Address:	245 8th Street, Oakland, California	End Time:	9:27
		Name of Sampler:	R. Bartlett

**SOIL GAS PROBE DATA**

Starting Vacuum (in-Hg)	-29.0
Ending Vacuum (in-Hg)	-3.0
Flow Controller / Sampling Flow Rate (mL/min)	<b>167</b>
Tubing Inside Diameter (1/8" or 1/4")	<b>1/8"</b>
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	<b>10</b>
Length of Tubing Above Grade (ft)	<b>2</b>
Total Length of Tubing Purged (ft)	<b>12</b>
Number of Purge Volumes (default = 3 purge volumes)	<b>3</b>
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	<b>86 mL</b>
Appreciable Amount of Rain (>1/2") in Last Five Days?	<b>NO</b>
Moisture / Water Present in Tubing?	<b>NO</b>

**SOIL GAS SAMPLING EQUIPMENT**

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	4752
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

**NOTES & COMMENTS**


cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

**SOIL GAS PROBE ID: GP-2-5**

Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	8:26
Project Address:	245 8th Street, Oakland, California	End Time:	8:50
		Name of Sampler:	R. Bartlett

**SOIL GAS PROBE DATA**

Starting Vacuum (in-Hg)	-29.0
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	<b>167</b>
Tubing Inside Diameter (1/8" or 1/4")	<b>1/8"</b>
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	<b>5</b>
Length of Tubing Above Grade (ft)	<b>2</b>
Total Length of Tubing Purged (ft)	<b>7</b>
Number of Purge Volumes (default = 3 purge volumes)	<b>3</b>
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	<b>50 mL</b>
Appreciable Amount of Rain (>1/2") in Last Five Days?	<b>NO</b>
Moisture / Water Present in Tubing?	<b>NO</b>

**SOIL GAS SAMPLING EQUIPMENT**

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	4707
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

**NOTES & COMMENTS**


cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

**SOIL GAS PROBE ID: GP-2-10**

Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	8:22
Project Address:	245 8th Street, Oakland, California	End Time:	9:30
		Name of Sampler:	R. Bartlett

**SOIL GAS PROBE DATA**

Starting Vacuum (in-Hg)	-29.0
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	<b>167</b>
Tubing Inside Diameter (1/8" or 1/4")	<b>1/8"</b>
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	<b>10</b>
Length of Tubing Above Grade (ft)	<b>2</b>
Total Length of Tubing Purged (ft)	<b>12</b>
Number of Purge Volumes (default = 3 purge volumes)	<b>3</b>
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	<b>86 mL</b>
Appreciable Amount of Rain (>1/2") in Last Five Days?	<b>NO</b>
Moisture / Water Present in Tubing?	<b>NO</b>

**SOIL GAS SAMPLING EQUIPMENT**

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	3653
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

**NOTES & COMMENTS**


cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

**SOIL GAS PROBE ID: GP-3-5**

Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	10:36
Project Address:	245 8th Street, Oakland, California	End Time:	11:05
		Name of Sampler:	R. Bartlett

**SOIL GAS PROBE DATA**

Starting Vacuum (in-Hg)	-27.5
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	<b>167</b>
Tubing Inside Diameter (1/8" or 1/4")	<b>1/8"</b>
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	<b>5</b>
Length of Tubing Above Grade (ft)	<b>2</b>
Total Length of Tubing Purged (ft)	<b>7</b>
Number of Purge Volumes (default = 3 purge volumes)	<b>3</b>
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	<b>50 mL</b>
Appreciable Amount of Rain (>1/2") in Last Five Days?	<b>NO</b>
Moisture / Water Present in Tubing?	<b>NO</b>

**SOIL GAS SAMPLING EQUIPMENT**

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	4753
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

**NOTES & COMMENTS**


cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

**SOIL GAS PROBE ID: GP-3-10**

Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	10:54
Project Address:	245 8th Street, Oakland, California	End Time:	11:24
		Name of Sampler:	R. Bartlett

**SOIL GAS PROBE DATA**

Starting Vacuum (in-Hg)	-28.5
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	<b>167</b>
Tubing Inside Diameter (1/8" or 1/4")	<b>1/8"</b>
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	<b>10</b>
Length of Tubing Above Grade (ft)	<b>2</b>
Total Length of Tubing Purged (ft)	<b>12</b>
Number of Purge Volumes (default = 3 purge volumes)	<b>3</b>
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	<b>86 mL</b>
Appreciable Amount of Rain (>1/2") in Last Five Days?	<b>NO</b>
Moisture / Water Present in Tubing?	<b>NO</b>

**SOIL GAS SAMPLING EQUIPMENT**

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	4760
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

**NOTES & COMMENTS**


cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

**SOIL GAS PROBE ID: GP-4-5**

Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	10:12
Project Address:	245 8th Street, Oakland, California	End Time:	10:37
		Name of Sampler:	R. Bartlett

**SOIL GAS PROBE DATA**

Starting Vacuum (in-Hg)	-27.5
Ending Vacuum (in-Hg)	-5.0
Flow Controller / Sampling Flow Rate (mL/min)	<b>167</b>
Tubing Inside Diameter (1/8" or 1/4")	<b>1/8"</b>
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	<b>5</b>
Length of Tubing Above Grade (ft)	<b>2</b>
Total Length of Tubing Purged (ft)	<b>7</b>
Number of Purge Volumes (default = 3 purge volumes)	<b>3</b>
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	<b>50 mL</b>
Appreciable Amount of Rain (>1/2") in Last Five Days?	<b>NO</b>
Moisture / Water Present in Tubing?	<b>NO</b>

**SOIL GAS SAMPLING EQUIPMENT**

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	4892
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

**NOTES & COMMENTS**


cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

**AEI CONSULTANTS**  
SOIL GAS SAMPLING FIELD FORM

<b>SOIL GAS PROBE ID:</b>	<b>GP-4-10</b>
---------------------------	----------------

Project Name:	Vic's Automotive	Date of Sampling:	02/14/08
Job Number:	116907	Start Time:	10:20
Project Address:	245 8th Street, Oakland, California	End Time:	11:00
		Name of Sampler:	R. Bartlett

SOIL GAS PROBE DATA
---------------------

Starting Vacuum (in-Hg)	-
Ending Vacuum (in-Hg)	-
Flow Controller / Sampling Flow Rate (mL/min)	-
Tubing Inside Diameter (1/8" or 1/4")	-
Tubing Type (Nylon, Kynar, Teflon, Stainless Steel)	KYNAR (PVDF) ▼
Wellbox Condition	WELL BOX IN GOOD CONDITION ▼
Depth of Probe (ft bgs)	10
Length of Tubing Above Grade (ft)	2
Total Length of Tubing Purged (ft)	12
Number of Purge Volumes (default = 3 purge volumes)	0
Total Volume Purged (mL): formula valid only for tubing sizes of 1/8" I.D. (2.40 mL/ft) and 1/4" I.D. (9.60 mL/ft)	0.0
Appreciable Amount of Rain (>1/2") in Last Five Days?	NO
Moisture / Water Present in Tubing?	YES

SOIL GAS SAMPLING EQUIPMENT
-----------------------------

Number of Samples / Container Size and Type	One (1) 1-Liter Summa Canister
Summa Canister Number	-
Sampling Manifold / Flow Controller Number	-
Leak Check Compound	Isopropyl Alcohol (2-propanol)

NOTES & COMMENTS
------------------

Excessive moisture in tubing, sampling not undertaken

cc = cubic centimeter  
mL = milliliter

1 L = 1000 mL  
1 mL = 1 cc

in-Hg = inches of mercury  
ft bgs = feet below ground surface

## **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.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: 02/13/08
	Client Contact: Ricky Bradford	Date Received: 02/13/08
	Client P.O.:	Date Reported: 02/19/08
		Date Completed: 02/19/08

**WorkOrder: 0802310**

February 19, 2008

Dear Ricky:

Enclosed within are:

- 1) The results of the **10** 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.

0802310

**McCAMPBELL ANALYTICAL INC.**

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

Telephone: (925) 798-1620

Fax: (925) 798-1622

**CHAIN OF CUSTODY RECORD**

**TURN AROUND TIME**

RUSH  24 HR  48 HR  72 HR  5 DAY

EDF Required?  YES

PDF Required?  YES

Report To: Ricky Bradford      Bill To:  
Company: AEI Consultants  
2500 Camino Diablo, Suite 200  
Walnut Creek, CA 94597      E-Mail: rbradford@aeiconsultants.com  
Tele: (925) 283-6000 ext. 148      Fax: (925) 944-2895  
Project #: 116907      Project Name: Vic's Automotive  
Project Location: 245 8<sup>th</sup> Street, Oakland  
Sampler Signature: *[Signature]*

**Analysis Request**

**Other**

**Comments**

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED									
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other						
MW-1		2/13/08	10:40	3	VOCS	X					X	X								
MW-2			9:45			X					X	X								
MW-3			9:00			X					X	X								
MW-4			1:04			X					X	X								
MW-5			9:20			X					X	X								
MW-6			10:05			X					X	X								
MW-7			9:50			X					X	X								
MW-10			12:0			X					X	X								
MW-11			12:10			X					X	X								
MW-12			12:15			X					X	X								

MBTEX & TPH as Gas by EPA 602/8020 + 8015																				
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																				
HVOCs by EPA 8260 (8010 Target List)																				
CAM-17 Metals																				
LUFT 5 Metals																				
Lead (7240/7421/239.2/6010)																				
RCI																				

+  
+  
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+

Relinquished By: <i>[Signature]</i>	Date: 2/13/08	Time: 9:15	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE# 10.900  
GOOD CONDITION ✓  
HEAD SPACE ABSENT ✓  
DECHLORINATED IN LAB N/A  
PRESERVATION HCL  
APPROPRIATE CONTAINERS ✓  
PERSERVED IN LAB HCL

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: 0802310

ClientCode: AEL

EDF     Excel     Fax     Email     HardCopy     ThirdParty

Report to:		Bill to:	Requested TAT: <b>5 days</b>
Ricky Bradford	Email: rbradford@aeiconsultants.com	Denise Mockel	
AEI Consultants	TEL: (925) 283-6000    FAX: (925) 944-2895	AEI Consultants	Date Received: <b>02/13/2008</b>
2500 Camino Diablo, Ste. #200	ProjectNo: #116907; Vic's Automotive	2500 Camino Diablo, Ste. #200	Date Printed: <b>02/13/2008</b>
Walnut Creek, CA 94597	PO:	Walnut Creek, CA 94597	
		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	
0802310-001	MW-1	Water	02/13/08 10:40:00	<input type="checkbox"/>		A	A										
0802310-002	MW-2	Water	02/13/08 9:45:00	<input type="checkbox"/>		A											
0802310-003	MW-3	Water	02/13/08 9:10:00	<input type="checkbox"/>		A											
0802310-004	MW-4	Water	02/13/08 10:04:00	<input type="checkbox"/>		A											
0802310-005	MW-5	Water	02/13/08 9:20:00	<input type="checkbox"/>		A											
0802310-006	MW-6	Water	02/13/08 10:05:00	<input type="checkbox"/>	B	A											
0802310-007	MW-7	Water	02/13/08 9:50:00	<input type="checkbox"/>		A											
0802310-008	MW-10	Water	02/13/08 12:00:00	<input type="checkbox"/>		A											
0802310-009	MW-11	Water	02/13/08 12:10:00	<input type="checkbox"/>		A											
0802310-010	MW-12	Water	02/13/08 12:15:00	<input type="checkbox"/>		A											

**Test Legend:**

1	8010BMS_W	2	G-MBTEX_W	3	PREFD REPORT	4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

**Comments:**

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



### Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **02/13/08 4:51:38 PM**  
 Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Samantha Arbuckle**  
 WorkOrder N°: **0802310** 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: 10.9°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

Client contacted: Date contacted: Contacted by:

Comments:



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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: 02/13/08
	Client Contact: Ricky Bradford	Date Received: 02/13/08
	Client P.O.:	Date Extracted: 02/14/08
		Date Analyzed: 02/14/08

### Halogenated Volatile Organics by P&T and GC-MS (8010 Basic Target List)\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0802310

Lab ID	0802310-006B				Reporting Limit for DF = 1	
Client ID	MW-6				S	W
Matrix	W					
DF	10					

Compound	Concentration				µg/kg	µg/L
Bromodichloromethane	ND<5.0				NA	0.5
Bromoform	ND<5.0				NA	0.5
Bromomethane	ND<5.0				NA	0.5
Carbon Tetrachloride	ND<5.0				NA	0.5
Chlorobenzene	ND<5.0				NA	0.5
Chloroethane	ND<5.0				NA	0.5
2-Chloroethyl Vinyl Ether	ND<10				NA	1.0
Chloroform	ND<5.0				NA	0.5
Chloromethane	ND<5.0				NA	0.5
Dibromochloromethane	ND<5.0				NA	0.5
1,2-Dichlorobenzene	ND<5.0				NA	0.5
1,3-Dichlorobenzene	ND<5.0				NA	0.5
1,4-Dichlorobenzene	ND<5.0				NA	0.5
Dichlorodifluoromethane	ND<5.0				NA	0.5
1,1-Dichloroethane	ND<5.0				NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<5.0				NA	0.5
1,1-Dichloroethene	ND<5.0				NA	0.5
cis-1,2-Dichloroethene	ND<5.0				NA	0.5
trans-1,2-Dichloroethene	ND<5.0				NA	0.5
1,2-Dichloropropane	ND<5.0				NA	0.5
cis-1,3-Dichloropropene	ND<5.0				NA	0.5
trans-1,3-Dichloropropene	ND<5.0				NA	0.5
Methylene chloride	ND<5.0				NA	0.5
1,1,2,2-Tetrachloroethane	ND<5.0				NA	0.5
Tetrachloroethene	ND<5.0				NA	0.5
1,1,1-Trichloroethane	ND<5.0				NA	0.5
1,1,2-Trichloroethane	ND<5.0				NA	0.5
Trichloroethene	ND<5.0				NA	0.5
Trichlorofluoromethane	ND<5.0				NA	0.5
Vinyl Chloride	ND<5.0				NA	0.5

#### Surrogate Recoveries (%)

%SS1:	104				
%SS2:	91				
%SS3:	96				

**Comments** j

\* 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.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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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: 02/13/08
		Date Received: 02/13/08
	Client Contact: Ricky Bradford	Date Extracted: 02/14/08-02/16/08
	Client P.O.:	Date Analyzed 02/14/08-02/16/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0802310

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	22,000,a	ND<250	750	4100	340	3200	50	94
002A	MW-2	W	5700,a	250	440	290	43	1000	20	91
003A	MW-3	W	ND	ND	ND	ND	ND	ND	1	92
004A	MW-4	W	75,a	ND	2.4	8.3	1.2	14	1	89
005A	MW-5	W	4600,a	ND<50	77	440	41	1300	10	91
006A	MW-6	W	27,000,a	ND<250	700	4900	620	5300	20	94
007A	MW-7	W	17,000,a	590	2800	2700	300	1900	50	94
008A	MW-10	W	4500,a	ND<250	190	370	65	880	50	93
009A	MW-11	W	36,000,a	4200	5700	4000	560	5300	50	93
010A	MW-12	W	17,000,a	3000	3600	2300	440	1800	20	96

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0802310

Analyte	EPA Method SW8260B		Extraction SW5030B			BatchID: 33767			Spiked Sample ID: 0802276-005B			
	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
Chlorobenzene	ND	10	102	100	1.62	103	103	0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	105	103	1.62	108	105	2.70	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	87.7	97.8	10.8	93.5	90.9	2.87	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	74.3	74	0.362	74.2	73.6	0.778	70 - 130	30	70 - 130	30
%SS1:	113	10	109	110	0.496	110	108	1.32	70 - 130	30	70 - 130	30
%SS2:	98	10	103	102	0.835	102	102	0	70 - 130	30	70 - 130	30
%SS3:	107	10	94	94	0	93	92	0.805	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 33767 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0802310-006B	02/13/08 10:05 AM	02/14/08	02/14/08 5:20 PM				

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

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

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

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

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



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0802310

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33785			Spiked Sample ID: 0802310-003A			
	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	110	99.7	10.0	87.9	96	8.85	70 - 130	30	70 - 130	30
MTBE	ND	10	101	110	8.79	107	105	2.03	70 - 130	30	70 - 130	30
Benzene	ND	10	106	114	7.32	97	100	3.16	70 - 130	30	70 - 130	30
Toluene	ND	10	117	123	5.73	94.9	97.1	2.28	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	113	116	2.23	96.5	98.2	1.84	70 - 130	30	70 - 130	30
Xylenes	ND	30	122	123	0.784	89.7	90.6	1.05	70 - 130	30	70 - 130	30
%SS:	92	10	97	105	7.71	104	106	1.76	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 33785 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0802310-001A	02/13/08 10:40 AM	02/14/08	02/14/08 2:28 PM	0802310-002A	02/13/08 9:45 AM	02/14/08	02/14/08 3:03 PM
0802310-003A	02/13/08 9:10 AM	02/16/08	02/16/08 12:59 AM	0802310-004A	02/13/08 10:04 AM	02/14/08	02/14/08 4:10 PM
0802310-005A	02/13/08 9:20 AM	02/16/08	02/16/08 1:32 AM	0802310-006A	02/13/08 10:05 AM	02/14/08	02/14/08 6:59 PM
0802310-007A	02/13/08 9:50 AM	02/14/08	02/14/08 6:26 PM	0802310-008A	02/13/08 12:00 PM	02/14/08	02/14/08 5:51 PM
0802310-009A	02/13/08 12:10 PM	02/14/08	02/14/08 5:17 PM	0802310-010A	02/13/08 12:15 PM	02/14/08	02/14/08 4:44 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.



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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	Date Sampled: 02/14/08
		Date Received: 02/15/08
	Client Contact: Ricky Bradford	Date Reported: 02/26/08
	Client P.O.:	Date Completed: 02/26/08

**WorkOrder: 0802359**

February 26, 2008

Dear Ricky:

Enclosed within are:

- 1) The results of the 7 analyzed samples from your project: **#116907; Vic's**,
- 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.

0802359

**McCAMPBELL ANALYTICAL INC.**

1534 Willow Pass Road  
Pittsburg, CA 94565-1701  
www.main@mccampbell.com

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? Coelt (Normal)  No  Write On (DW)  No

Report To: Ricky Bradford Bill To: SAME  
Company: AEI Consultants  
2500 Camino Diablo  
Walnut Creek, CA E-Mail: rbradford@aeiconsultants.com  
Tel: (925) 944-2899 Fax: (925) 944-2895  
Project #: 116907 Project Name: Vic's  
Project Location: Oakland, CA  
Sampler Signature: [Signature]

Lab Use Only  
Pressurized By: Vic's Date: 02.15.08  
Pressurization Gas: N2 He

Notes: \* please report results in ppm and ug/L

PC added 5/5/08 per Russ

Field Sample ID (Location)	Collection		Canister SN#	Sampler Kit SN#	Analysis Requested	Indoor Air	Soil Gas	Canister Pressure/Vacuum			
	Date	Time						Initial	Final	Receipt	Final (psi)
GP-1-5		8:48	4740		TPH-g & MBTEX (T015)		X	-27.0	-5.0	12.00	23.90
GP-1-10	2/14	8:53	4740-4752		"		X	-29.0	-3.0	13.82	27.54
GP-2-5	2/14	8:26	4707		"		X	-29.0	-5.0	11.85	23.62
GP-2-10	2/14	8:22	3653		"		X	-29.0	-5.0	11.45	22.82
GP-3-5	2/14	10:36	4753		"		X	-27.0	-5.0	12.06	24.10
GP-3-10	2/14	10:54	4760		"		X	-28.5	-5.0	12.27	24.44
GP-4-5	2/14	10:12	4892		"		X	-27.5	-5.0	11.81	23.53

Relinquished By: [Signature] Date: 2/15 Time: 10:05 Received By: [Signature]  
Temp (°C): \_\_\_\_\_ Work Order #: \_\_\_\_\_  
Condition: \_\_\_\_\_  
Custody Seals Intact?: Yes \_\_\_\_\_ No \_\_\_\_\_ None \_\_\_\_\_  
Shipped Via: \_\_\_\_\_

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0802359

ClientCode: AEL

EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty

Report to:		Bill to:	Requested TAT: <b>5 days</b>
Ricky Bradford	Email: rbradford@aeiconsultants.com	Denise Mockel	
AEI Consultants	TEL: (925) 283-6000 FAX: (925) 944-2895	AEI Consultants	Date Received: <b>02/15/2008</b>
2500 Camino Diablo, Ste. #200	ProjectNo: #116907; Vic's	2500 Camino Diablo, Ste. #200	Date Printed: <b>02/15/2008</b>
Walnut Creek, CA 94597	PO:	Walnut Creek, CA 94597	
		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	
0802359-001	GP-1-5	Soil Vapor	2/14/08 8:48:00	<input type="checkbox"/>	A	A											
0802359-002	GP-1-10	Soil Vapor	2/14/08 9:03:00	<input type="checkbox"/>	A	A											
0802359-003	GP-2-5	Soil Vapor	2/14/08 8:26:00	<input type="checkbox"/>	A	A											
0802359-004	GP-2-10	Soil Vapor	2/14/08 8:22:00	<input type="checkbox"/>	A	A											
0802359-005	GP-3-5	Soil Vapor	2/14/08 10:36:00	<input type="checkbox"/>	A	A											
0802359-006	GP-3-10	Soil Vapor	2/14/08 10:54:00	<input type="checkbox"/>	A	A											
0802359-007	GP-4-5	Soil Vapor	2/14/08 10:12:00	<input type="checkbox"/>	A	A											

**Test Legend:**

1	TO15(MBTX)_SOILGAS	2	TO3_SOIL(UG/M3)	3		4		5	
6		7		8		9		10	
11		12							

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

**Prepared by: Melissa Valles**

**Comments:**

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



**Sample Receipt Checklist**

Client Name: **AEI Consultants**

Date and Time Received: **2/15/08 10:09:22 AM**

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

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

WorkOrder N°: **0802359** Matrix Soil Vapor

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

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	Date Sampled: 02/14/08
		Date Received: 02/15/08
	Client Contact: Ricky Bradford	Date Extracted: 02/15/08-02/20/08
	Client P.O.:	Date Analyzed: 02/15/08-02/20/08

### MBTEX in nL/L\*

Extraction Method: TO-15

Analytical Method: TO15

Work Order: 0802359

Lab ID	0802359-001A	0802359-002A	0802359-003A	0802359-004A	Reporting Limit for DF =1	
Client ID	GP-1-5	GP-1-10	GP-2-5	GP-2-10		
Matrix	Soil Vapor	Soil Vapor	Soil Vapor	Soil Vapor		
Initial Pressure	12	13.82	11.85	11.45		
Final Pressure	23.9	27.54	23.62	22.82		
					SoilVapor	W

Compound	Concentration				nL/L	ug/L
Benzene	ND	ND	ND	ND	2.0	NA
Ethylbenzene	ND	ND	ND	ND	2.0	NA
Isopropyl Alcohol	ND	ND	ND	ND	4000	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	13	NA
Tetrachloroethene	ND	ND	ND	ND	2.0	NA
Toluene	ND	ND	ND	ND	2.0	NA
Xylenes	ND	ND	ND	ND	6.0	NA

### Surrogate Recoveries (%)

%SS1:	104	100	105	101
%SS2:	106	102	108	105
%SS3:	108	108	111	113

<b>Comments</b>				
-----------------	--	--	--	--

\*vapor samples are reported in nL/L.

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; &) high/low surrogate due to matrix interference.

j) sample diluted due to high organic content; k) this compound's reporting limit does not meet the ESL for residential soil gas.



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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's	Date Sampled: 02/14/08
		Date Received: 02/15/08
	Client Contact: Ricky Bradford	Date Extracted: 02/15/08-02/20/08
	Client P.O.:	Date Analyzed: 02/15/08-02/20/08

### MBTEX in nL/L\*

Extraction Method: TO-15

Analytical Method: TO15

Work Order: 0802359

Lab ID	0802359-005A	0802359-006A	0802359-007A		Reporting Limit for DF =1	
Client ID	GP-3-5	GP-3-10	GP-4-5			
Matrix	Soil Vapor	Soil Vapor	Soil Vapor			
Initial Pressure	12.06	12.27	11.81			
Final Pressure	24.1	24.44	23.53			
					SoilVapor	W

Compound	Concentration			nL/L	ug/L
Benzene	ND	ND	ND	2.0	NA
Ethylbenzene	ND	ND	ND	2.0	NA
Isopropyl Alcohol	ND	ND	ND	4000	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	13	NA
Tetrachloroethene	ND	ND	ND	2.0	NA
Toluene	ND	ND	ND	2.0	NA
Xylenes	ND	ND	ND	6.0	NA

### Surrogate Recoveries (%)

%SS1:	104	102	103	
%SS2:	108	106	106	
%SS3:	107	106	104	

### Comments

\*vapor samples are reported in nL/L.

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; &) high/low surrogate due to matrix interference.

j) sample diluted due to high organic content; k) this compound's reporting limit does not meet the ESL for residential soil gas.



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		Date Received: 02/15/08
	Client Contact: Ricky Bradford	Date Extracted: 02/15/08-02/20/08
	Client P.O.:	Date Analyzed: 02/15/08-02/20/08

### MBTEX in µg/m<sup>3</sup>\*

Extraction Method: TO-15

Analytical Method: TO15

Work Order: 0802359

Lab ID	0802359-001A	0802359-002A	0802359-003A	0802359-004A	Reporting Limit for DF =1	
Client ID	GP-1-5	GP-1-10	GP-2-5	GP-2-10		
Matrix	Soil Vapor	Soil Vapor	Soil Vapor	Soil Vapor		
Initial Pressure	12	13.82	11.85	11.45		
Final Pressure	23.9	27.54	23.62	22.82		

Compound	Concentration				µg/m <sup>3</sup>	ug/L
Benzene	ND	ND	ND	ND	6.5	NA
Ethylbenzene	ND	ND	ND	ND	8.8	NA
Isopropyl Alcohol	ND	ND	ND	ND	10000	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	48	NA
Tetrachloroethene	ND	ND	ND	ND	14	NA
Toluene	ND	ND	ND	ND	7.7	NA
Xylenes	ND	ND	ND	ND	27	NA

### Surrogate Recoveries (%)

%SS1:	104	100	105	101	
%SS2:	106	102	108	105	
%SS3:	108	108	111	113	

<b>Comments</b>					
-----------------	--	--	--	--	--

\*vapor samples are reported in µg/m<sup>3</sup>.

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; &) high/low surrogate due to matrix interference.

j) sample diluted due to high organic content; k) this compound's reporting limit does not meet the ESL for residential soil gas.



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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's	Date Sampled: 02/14/08
		Date Received: 02/15/08
	Client Contact: Ricky Bradford	Date Extracted: 02/15/08-02/20/08
	Client P.O.:	Date Analyzed: 02/15/08-02/20/08

### MBTEX in µg/m<sup>3</sup>\*

Extraction Method: TO-15

Analytical Method: TO15

Work Order: 0802359

Lab ID	0802359-005A	0802359-006A	0802359-007A		Reporting Limit for DF =1	
Client ID	GP-3-5	GP-3-10	GP-4-5			
Matrix	Soil Vapor	Soil Vapor	Soil Vapor			
Initial Pressure	12.06	12.27	11.81			
Final Pressure	24.1	24.44	23.53			
					SoilVapor	W

Compound	Concentration				µg/m <sup>3</sup>	ug/L
Benzene	ND	ND	ND		6.5	NA
Ethylbenzene	ND	ND	ND		8.8	NA
Isopropyl Alcohol	ND	ND	ND		10000	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND		48	NA
Tetrachloroethene	ND	ND	ND		14	NA
Toluene	ND	ND	ND		7.7	NA
Xylenes	ND	ND	ND		27	NA

### Surrogate Recoveries (%)

%SS1:	104	102	103		
%SS2:	108	106	106		
%SS3:	107	106	104		

### Comments

\*vapor samples are reported in µg/m<sup>3</sup>.

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; &) high/low surrogate due to matrix interference.

j) sample diluted due to high organic content; k) this compound's reporting limit does not meet the ESL for residential soil gas.



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		Date Received: 02/15/08
	Client Contact: Ricky Bradford	Date Extracted: 02/19/08-02/21/08
	Client P.O.:	Date Analyzed 02/19/08-02/21/08

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline in $\mu\text{g}/\text{m}^3$ \*

Extraction method: TO3

Analytical methods: TO3

Work Order: 0802359

Lab ID	Client ID	Matrix	Initial Pressure	Final Pressure	TPH(g)	DF	% SS
001A	GP-1-5	SoilVapor	12	23.9	ND	1	N/A
002A	GP-1-10	SoilVapor	13.82	27.54	ND	1	N/A
003A	GP-2-5	SoilVapor	11.85	23.62	ND	1	N/A
004A	GP-2-10	SoilVapor	11.45	22.82	ND	1	N/A
005A	GP-3-5	SoilVapor	12.06	24.1	ND	1	N/A
006A	GP-3-10	SoilVapor	12.27	24.44	ND	1	N/A
007A	GP-4-5	SoilVapor	11.81	23.53	ND	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W			NA	NA
	SoilVapor			1800	$\mu\text{g}/\text{m}^3$

\*vapor samples are reported in  $\mu\text{g}/\text{m}^3$ .

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.

a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?) g) strongly aged gasoline or diesel range compounds are significant; j) sample diluted due to high organic content; k) this compound's reporting limit does not meet the ESL for residential soil gas; m) no recognizable pattern.j) sample diluted due to high organic content.



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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's	Date Sampled: 02/14/08
		Date Received: 02/15/08
	Client Contact: Ricky Bradford	Date Extracted: 02/19/08-02/21/08
	Client P.O.:	Date Analyzed 02/19/08-02/21/08

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline in nL/L\*

Extraction method: TO3

Analytical methods: TO3

Work Order: 0802359

Lab ID	Client ID	Matrix	Initial Pressure	Final Pressure	TPH(g)	DF	% SS
001A	GP-1-5	SoilVapor	12	23.9	ND	1	N/A
002A	GP-1-10	SoilVapor	13.82	27.54	ND	1	N/A
003A	GP-2-5	SoilVapor	11.85	23.62	ND	1	N/A
004A	GP-2-10	SoilVapor	11.45	22.82	ND	1	N/A
005A	GP-3-5	SoilVapor	12.06	24.1	ND	1	N/A
006A	GP-3-10	SoilVapor	12.27	24.44	ND	1	N/A
007A	GP-4-5	SoilVapor	11.81	23.53	ND	1	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W			NA	NA
	SoilVapor			500	nL/L

\*vapor samples are reported in nL/L.

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.

j) sample diluted due to high organic content.



### QC SUMMARY REPORT FOR TO-15

W.O. Sample Matrix: Air

QC Matrix: Soil Vapor

WorkOrder 0802359

EPA Method TO15	Extraction TO-15			BatchID: 33834			Spiked Sample ID: N/A			Acceptance Criteria (%)			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	MS / MSD	RPD	LCS/LCSD	RPD	
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD					
Benzene	N/A	25	N/A	N/A	N/A	97.6	99.9	2.32	N/A	N/A	70 - 130	30	
Ethylbenzene	N/A	25	N/A	N/A	N/A	99.4	103	3.63	N/A	N/A	70 - 130	30	
Methyl-t-butyl ether (MTBE)	N/A	25	N/A	N/A	N/A	95.4	98.6	3.30	N/A	N/A	70 - 130	30	
Toluene	N/A	25	N/A	N/A	N/A	98.1	101	3.04	N/A	N/A	70 - 130	30	
Xylenes	N/A	75	N/A	N/A	N/A	95.5	101	5.28	N/A	N/A	70 - 130	30	
%SS1:	N/A	500	N/A	N/A	N/A	103	106	2.22	N/A	N/A	70 - 130	30	
%SS2:	N/A	500	N/A	N/A	N/A	105	108	3.25	N/A	N/A	70 - 130	30	
%SS3:	N/A	500	N/A	N/A	N/A	107	112	3.95	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 33834 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0802359-001A	02/14/08 8:48 AM	02/15/08	02/15/08 8:25 PM	0802359-002A	02/14/08 9:03 AM	02/15/08	02/15/08 6:13 PM
0802359-003A	02/14/08 8:26 AM	02/15/08	02/20/08 5:45 PM	0802359-004A	02/14/08 8:22 AM	02/15/08	02/16/08 3:07 PM
0802359-005A	02/14/08 10:36 AM	02/15/08	02/15/08 9:12 PM	0802359-006A	02/14/08 10:54 AM	02/15/08	02/15/08 6:59 PM
0802359-007A	02/14/08 10:12 AM	02/15/08	02/15/08 7:42 PM				

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

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

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

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

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



### QC SUMMARY REPORT FOR TO-15

W.O. Sample Matrix: Air

QC Matrix: Soil Vapor

WorkOrder 0802359

EPA Method TO15	Extraction TO-15			BatchID: 33834			Spiked Sample ID: N/A			Acceptance Criteria (%)			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	MS / MSD	RPD	LCS/LCSD	RPD	
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD					
Benzene	N/A	25	N/A	N/A	N/A	97.6	99.9	2.32	N/A	N/A	70 - 130	30	
Ethylbenzene	N/A	25	N/A	N/A	N/A	99.4	103	3.63	N/A	N/A	70 - 130	30	
Methyl-t-butyl ether (MTBE)	N/A	25	N/A	N/A	N/A	95.4	98.6	3.30	N/A	N/A	70 - 130	30	
Toluene	N/A	25	N/A	N/A	N/A	98.1	101	3.04	N/A	N/A	70 - 130	30	
Xylenes	N/A	75	N/A	N/A	N/A	95.5	101	5.28	N/A	N/A	70 - 130	30	
%SS1:	N/A	500	N/A	N/A	N/A	103	106	2.22	N/A	N/A	70 - 130	30	
%SS2:	N/A	500	N/A	N/A	N/A	105	108	3.25	N/A	N/A	70 - 130	30	
%SS3:	N/A	500	N/A	N/A	N/A	107	112	3.95	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 33834 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0802359-001A	02/14/08 8:48 AM	02/15/08	02/15/08 8:25 PM	0802359-002A	02/14/08 9:03 AM	02/15/08	02/15/08 6:13 PM
0802359-003A	02/14/08 8:26 AM	02/15/08	02/20/08 5:45 PM	0802359-004A	02/14/08 8:22 AM	02/15/08	02/16/08 3:07 PM
0802359-005A	02/14/08 10:36 AM	02/15/08	02/15/08 9:12 PM	0802359-006A	02/14/08 10:54 AM	02/15/08	02/15/08 6:59 PM
0802359-007A	02/14/08 10:12 AM	02/15/08	02/15/08 7:42 PM				

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

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

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

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

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



### QC SUMMARY REPORT FOR TO3

W.O. Sample Matrix: Soil Vapor

QC Matrix: Soil Vapor

WorkOrder: 0802359

EPA Method TO3		Extraction TO3			BatchID: 33833			Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	nL/L	nL/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(g)	N/A	1250	N/A	N/A	N/A	90.1	89.8	0.292	N/A	N/A	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 33833 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0802359-001A	02/14/08 8:48 AM	02/15/08	02/19/08 7:03 PM	0802359-002A	02/14/08 9:03 AM	02/15/08	02/19/08 8:22 PM
0802359-003A	02/14/08 8:26 AM	02/15/08	02/21/08 6:11 PM	0802359-004A	02/14/08 8:22 AM	02/15/08	02/19/08 8:59 PM
0802359-005A	02/14/08 10:36 AM	02/15/08	02/19/08 7:41 PM	0802359-006A	02/14/08 10:54 AM	02/15/08	02/19/08 5:48 PM
0802359-007A	02/14/08 10:12 AM	02/15/08	02/19/08 6:25 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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.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: 01/08/08
	Client Contact: Ricky Bradford	Date Received: 01/08/08
	Client P.O.:	Date Reported: 01/11/08
		Date Completed: 01/11/08

**WorkOrder: 0801184**

January 11, 2008

Dear Ricky:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#116907; Vic's Automotive,**
- 2) A QC report for the above sample,
- 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.

0801184

**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  
 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: *[Signature]* #153

SAMPLE ID		FIELD POINT NAME		SAMPLING		MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments									
Date	Time	# of Containers	Type Containers	Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other	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 (TTL/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	Report in both units - ug/L and ppmv	
MW-1S	MW-1S			1	TB		X																			X
MW-2S	MW-2S			1	TB		X																			X
MW-3S	MW-3S			1	TB		X						X													X
MW-4S	MW-4S			1	TB		X						X													X
MW-5S	MW-5S			1	TB		X																			X
MW-6S	MW-6S			1	TB		X																			X
MW-7S	MW-7S			1	TB		X																			X
MW-10S	MW-10S			1	TB		X																			X
MW-11S	MW-11S			1	TB		X																			X
MW-12S	MW-12S			1	TB		X																			X
POSTD	POSTD	1/8/08	0810	1	TB		X						X													X
PRED	PRED			1	TB		X																			X
AS	AS			1	TB		X																			X

Relinquished By: *[Signature]* Date: 1/8/08 Time: 3:10 Received By: *[Signature]*  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

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

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0801184**

**ClientID: AEL**

EDF     Excel     Fax     Email     HardCopy     ThirdParty

<b>Report to:</b>		<b>Bill to:</b>	<b>Requested TAT: 5 days</b>
Ricky Bradford	Email: rbradford@aeiconsultants.com	Denise Mockel	
AEI Consultants	TEL: (925) 283-6000    FAX: (925) 944-2895	AEI Consultants	<i>Date Received: 01/08/2008</i>
2500 Camino Diablo, Ste. #200	ProjectNo: #116907; Vic's Automotive	2500 Camino Diablo, Ste. #200	<i>Date Printed: 01/08/2008</i>
Walnut Creek, CA 94597	PO:	Walnut Creek, CA 94597	
		dmockel@aeiconsultants.com	

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801184-001	POSTD	Air	1/8/2008 8:10:00	<input type="checkbox"/>	A	A											

**Test Legend:**

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

The following SampID: 001A contains testgroup.

**Prepared by: Ana Venegas**

**Comments:**

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



### Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **1/8/2008 3:53:34 PM**  
 Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Ana Venegas**  
 WorkOrder N°: **0801184** 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

Client contacted: Date contacted: Contacted by:

Comments:





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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: 01/08/08
	Client Contact: Ricky Bradford	Date Received: 01/08/08
	Client P.O.:	Date Analyzed: 01/08/08
		Date Extracted: 01/08/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801184

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	POSTD	A	1700,a	ND<14	23	79	13	83	20	124

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 & SPL 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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0801184

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33072			Spiked Sample ID: 0801210-001E			
	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	110	113	2.28	108	119	9.13	70 - 130	30	70 - 130	30
MTBE	ND	10	105	109	3.98	81.6	84.1	3.04	70 - 130	30	70 - 130	30
Benzene	ND	10	118	119	1.24	88.3	85.6	3.05	70 - 130	30	70 - 130	30
Toluene	ND	10	101	102	1.61	106	108	1.89	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	109	112	3.00	110	102	7.21	70 - 130	30	70 - 130	30
Xylenes	ND	30	117	117	0	120	113	5.71	70 - 130	30	70 - 130	30
%SS:	89	10	89	88	0.611	94	98	3.91	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 33072 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801184-001A	01/08/08 8:10 AM	01/08/08	01/08/08 11:03 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.



**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: 01/08/08
	Client Contact: Ricky Bradford	Date Received: 01/08/08
	Client P.O.:	Date Reported: 01/14/08
		Date Completed: 01/14/08

**WorkOrder: 0801216**

January 14, 2008

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.

0801210

**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  
 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: *[Signature]* RD #153

**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			4/1	VOA	X					X	X							
✓ POST-AS	POST-AS			4/1	VOA	X					X	X							
<del>POST-C1</del>	<del>POST-C1</del>				VOA	X					X	X							
✓ EFF	EFF			3	VOA	X					X	X							

TPH-g & MBTEX (SW8021B/8015Cm)	TPH-d (SW8015Cm)	TRPH (E418.1) w/ Silica Gel Clean-up by IRS	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)	<del>APHA Metals</del> Alkalinity (SM2320B)	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: *[Signature]*      Date: 1/18/08      Time: 3:14p      Received By: *[Signature]*  
 Relinquished By:      Date:      Time:      Received By:  
 Relinquished By:      Date:      Time:      Received By:

ICE/t° 4.8  
 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: 0801216**

**ClientID: AEL**

EDF     Excel     Fax     Email     HardCopy     ThirdParty

<b>Report to:</b> Ricky Bradford AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	<b>Email:</b> rbradford@aeiconsultants.com <b>TEL:</b> (925) 283-6000 <b>FAX:</b> (925) 944-2895 <b>ProjectNo:</b> #116907; Vic's Automotive <b>PO:</b>	<b>Bill to:</b> Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	<b>Requested TAT: 5 days</b>  <b>Date Received: 01/08/2008</b> <b>Date Printed: 01/09/2008</b>
---	--	--	---

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0801216-001	INF	Water	1/8/2008	<input type="checkbox"/>	C	B	A	C	B	A	C	C				
0801216-002	POST-AS	Water	1/8/2008	<input type="checkbox"/>	C	B	A	C	B		C	C				
0801216-003	EFF	Water	1/8/2008	<input type="checkbox"/>			A									

**Test Legend:**

1	Alka(spe)_W	2	FE2 DISS	3	G-MBTEX_W	4	METALSMS DISS	5	PRDISSOLVED
6	PREDF REPORT	7	TDS_W	8	TSS_W	9		10	
11		12							

**Prepared by: Ana Venegas**

**Comments:**

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



### Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **1/8/2008 9:45:41 PM**  
 Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Ana Venegas**  
 WorkOrder N°: **0801216** 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: 4.8°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

Client contacted: \_\_\_\_\_ Date contacted: \_\_\_\_\_ Contacted by: \_\_\_\_\_

Comments: \_\_\_\_\_





# 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: 01/08/08
	Client Contact: Ricky Bradford	Date Received: 01/08/08
	Client P.O.:	Date Extracted: 01/08/08
		Date Analyzed: 01/10/08

### Dissolved Ferrous Iron\*

Analytical Method: SM3500-Fe B4c

Work Order: 0801216

Lab ID	Client ID	Matrix	Ferrous Iron	DF
0801216-001B	INF	W	460	1
0801216-002B	POST-AS	W	160	1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	50 µg/L
	S	NA

\*water samples are reported in ug/L.

i) liquid sample that contains greater than 1 vol. % sediment.



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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: 01/08/08
		Date Received: 01/08/08
	Client Contact: Ricky Bradford	Date Extracted: 01/09/08-01/11/08
	Client P.O.:	Date Analyzed 01/09/08-01/11/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801216

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	W	12,000,a	320	260	1100	170	2900	20	86
002A	POST-AS	W	130,b	55	0.85	2.8	ND	12	1	98
003A	EFF	W	ND	17	ND	ND	ND	ND	1	88

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



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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: 01/08/08
	Client Contact: Ricky Bradford	Date Received: 01/08/08
	Client P.O.:	Date Extracted: 01/08/08
		Date Analyzed: 01/10/08

### Metals\*

Extraction method E200.8

Analytical methods E200.8

Work Order: 0801216

Lab ID	Client ID	Matrix	Extraction Type	Calcium	Magnesium	Manganese	DF	% SS
001C	INF	W	DISS.	20,000	22,000	2500	10	N/A
002C	POST-AS	W	DISS.	20,000	22,000	2500	10	N/A

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	DISS.	100	20	20	µg/L
	S	TOTAL	NA	NA	NA	NA

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

# means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

TOTAL = acid digestion.

WET = Waste Extraction Test (STLC).

DI WET = Waste Extraction Test using de-ionized water.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TOTAL metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrogate recovery; n) results are reported on a dry weight basis; p) see attached narrative.







**QC SUMMARY REPORT FOR WET CHEMISTRY TESTS**

**Test Method: Alkalinity**

**Matrix: W**

**WorkOrder: 0801216**

Method Name: SM2320B			Units mg CaCO3/L			BatchID: 32944
SampleID	Sample	DF	Dup / Ser. Dil.	DF	% RPD	Acceptance Criteria (%)
0801216-001C	135	1	136	1	0.738	<20
0801216-002C	135	1	135	1	0	<20

BATCH 32944 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801216-001C	01/08/08	01/08/08	01/09/08 4:21 PM	0801216-002C	01/08/08	01/08/08	01/09/08 4:28 PM

**Test Method: Total Dissolved Solids**

**Matrix: W**

**WorkOrder: 0801216**

Method Name: SM2540C			Units mg/L			BatchID: 33076
SampleID	Sample	DF	Dup / Ser. Dil.	DF	% RPD	Acceptance Criteria (%)
0801216-001C	253	1	250	1	1.19	<20
0801216-002C	249	1	245	1	1.62	<20

BATCH 33076 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801216-001C	01/08/08	01/08/08	01/11/08 3:20 PM	0801216-002C	01/08/08	01/08/08	01/11/08 3:10 PM

**Test Method: Total Suspended Solids**

**Matrix: W**

**WorkOrder: 0801216**

Method Name: SM2540D			Units mg/L			BatchID: 33047
SampleID	Sample	DF	Dup / Ser. Dil.	DF	% RPD	Acceptance Criteria (%)
0801216-001C	6.67	1	6.33	1	5.23	<10
0801216-002C	4.33	1	4.00	1	7.92	<10

BATCH 33047 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801216-001C	01/08/08	01/08/08	01/09/08 3:00 PM	0801216-002C	01/08/08	01/08/08	01/09/08 3:10 PM

Dup = Duplicate; Ser. Dil. = Serial Dilution; MS = Matrix Spike; RD = Relative Difference; RPD = Relative Percent Deviation.

RD = Absolute Value (Sample - Duplicate); RPD = 100 \* (Sample - Duplicate) / [(Sample + Duplicate) / 2].



### QC SUMMARY REPORT FOR SM3500 Fe B4c

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0801216

EPA Method SM3500-Fe B4c		Extraction SM3500-Fe B4c			BatchID: 32945			Spiked Sample ID: 0801058-003C				
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
Ferrous Iron	ND	200	90.8	95.8	5.41	93.3	98.4	5.26	70 - 130	20	80 - 120	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 32945 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801216-001B	01/08/08	01/08/08	01/10/08 2:51 PM	0801216-002B	01/08/08	01/08/08	01/10/08 3:07 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 applicable to this 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 E200.8

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0801216

EPA Method E200.8	Extraction E200.8			BatchID: 33087			Spiked Sample ID: 0801208-002B					
	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
Calcium	94,000	1000	NR	NR	NR	96	103	6.84	70 - 130	20	70 - 130	20
Magnesium	54,000	100	NR	NR	NR	115	120	4.19	70 - 130	20	70 - 130	20
Manganese	27	100	90.7	92	1.10	104	106	1.82	70 - 130	20	70 - 130	20
%SS:	106	750	106	106	0	102	103	0.820	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 33087 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801216-001C	01/08/08	01/08/08	01/10/08 10:48 PM	0801216-002C	01/08/08	01/08/08	01/10/08 10:56 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 applicable to this 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

WorkOrder: 0801216

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33082			Spiked Sample ID: 0801219-003A			
	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	97.6	93.5	4.32	107	106	0.725	70 - 130	30	70 - 130	30
MTBE	ND	10	102	99.9	1.58	101	108	7.19	70 - 130	30	70 - 130	30
Benzene	ND	10	89	88.2	0.927	100	101	0.457	70 - 130	30	70 - 130	30
Toluene	ND	10	86.9	86.4	0.616	100	99.7	0.578	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	99.4	99	0.478	106	105	0.767	70 - 130	30	70 - 130	30
Xylenes	ND	30	96	96.7	0.692	117	117	0	70 - 130	30	70 - 130	30
%SS:	103	10	99	96	2.19	90	89	1.05	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 33082 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801216-001A	01/08/08	01/09/08	01/09/08 7:44 PM	0801216-002A	01/08/08	01/11/08	01/11/08 1:02 AM
0801216-003A	01/08/08	01/09/08	01/09/08 9:24 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.



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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: 01/15/08
	Client Contact: Ricky Bradford	Date Received: 01/16/08
	Client P.O.:	Date Reported: 01/18/08
		Date Completed: 01/18/08

**WorkOrder: 0801415**

January 18, 2008

Dear Ricky:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#116907; Vic's Automotive,**
- 2) A QC report for the above sample,
- 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.



# McC Campbell Analytical, Inc.



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 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

**WorkOrder: 0801415**

**ClientID: AEL**

EDF     Excel     Fax     Email     HardCopy     ThirdParty

<b>Report to:</b> Ricky Bradford AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	<b>Email:</b> rbradford@aeiconsultants.com <b>TEL:</b> (925) 283-6000 <b>FAX:</b> (925) 944-2895 <b>ProjectNo:</b> #116907; Vic's Automotive <b>PO:</b>	<b>Bill to:</b> Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	<b>Requested TAT: 5 days</b>  <b>Date Received: 01/16/2008</b> <b>Date Printed: 01/16/2008</b>
---	--	--	---

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801415-001	STACK	Air	1/15/08 2:30:00	<input type="checkbox"/>	A	A											

**Test Legend:**

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

The following SampID: 001A contains testgroup.

**Prepared by: Ana Venegas**

**Comments:**

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



### Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **1/16/08 3:42:16 PM**  
 Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Ana Venegas**  
 WorkOrder N°: **0801415** 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

Client contacted: Date contacted: Contacted by:

Comments:





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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: 01/15/08
	Client Contact: Ricky Bradford	Date Received: 01/16/08
	Client P.O.:	Date Extracted: 01/16/08
		Date Analyzed: 01/16/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801415

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0801415

EPA Method SW8021B/8015Cm	Extraction SW5030B			BatchID: 33202			Spiked Sample ID: 0801386-011A					
	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	91.1	93.3	2.36	91.2	111	19.3	70 - 130	30	70 - 130	30
MTBE	ND	10	113	107	4.69	125	126	1.05	70 - 130	30	70 - 130	30
Benzene	ND	10	106	99.5	6.28	109	100	8.70	70 - 130	30	70 - 130	30
Toluene	ND	10	96.1	91.7	4.66	103	90.1	13.8	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	106	101	4.13	111	102	8.69	70 - 130	30	70 - 130	30
Xylenes	ND	30	98.5	95.1	3.39	107	100	6.45	70 - 130	30	70 - 130	30
%SS:	94	10	95	96	0.767	93	100	6.48	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 33202 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801415-001A	01/15/08 2:30 PM	01/16/08	01/16/08 10:36 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.



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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 01/15/08
	Client Contact: Ricky Bradford	Date Received: 01/16/08
	Client P.O.:	Date Reported: 01/18/08
		Date Completed: 01/18/08

**WorkOrder: 0801416**

January 18, 2008

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.

0801414

<b>McCAMPBELL ANALYTICAL INC.</b> 1538 Willow Pass Road, Pittsburg, CA 94565 Telephone: (925) 252-9262      Fax: (925) 252-9269	<b>CHAIN OF CUSTODY RECORD</b> <b>TURN AROUND TIME</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
	RUSH    24 HR    48 HR    72 HR    5 DAY EDF Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No      PDF Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Report To:</b> Ricky Bradford	<b>Bill To:</b> same
<b>Company:</b> 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: <i>[Signature]</i>	

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			1	TB		X										X		
MW-2S	MW-2S			1	TB		X										X		
MW-3S	MW-3S			1	TB		X										X		
MW-4S	MW-4S			1	TB		X										X		
MW-5S	MW-5S			1	TB		X										X		
MW-6S	MW-6S			1	TB		X										X		
MW-7S	MW-7S			1	TB		X										X		
MW-10S	MW-10S			1	TB		X										X		
MW-11S	MW-11S			1	TB		X										X		
MW-12S	MW-12S			1	TB		X										X		
POSTD	POSTD	1/15	2:32	1	TB		X										X		
PRED	PRED	1/15	2:40	1	TB		X										X		
AS	AS	1/15	3:20	1	TB		X										X		

Relinquished By: <i>[Signature]</i> Date: 1/15    Time: 3:40 Received By: <i>[Signature]</i>	Relinquished By: Date:    Time:    Received By:
Relinquished By: Date:    Time:    Received By:	ICE/t* <u>NA</u> PRESERVATION <u>✓</u> GOOD CONDITION <u>✓</u> APPROPRIATE HEAD SPACE ABSENT <u>✓</u> CONTAINERS <u>✓</u> DECHLORINATED IN LAB _____    PERSERVED IN LAB _____

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  
 Report in both units - ug/L and ppmv

**McC Campbell Analytical, Inc.**



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 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0801416**

**ClientID: AEL**

EDF     Excel     Fax     Email     HardCopy     ThirdParty

<b>Report to:</b> Ricky Bradford AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	<b>Email:</b> rbradford@aeiconsultants.com <b>TEL:</b> (925) 283-6000 <b>FAX:</b> (925) 944-2895 <b>ProjectNo:</b> #116907; Vic's Automotive <b>PO:</b>	<b>Bill to:</b> Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	<b>Requested TAT: 5 days</b>  <b>Date Received: 01/16/2008</b> <b>Date Printed: 01/16/2008</b>
---	--	--	---

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801416-001	POSTD	Air	01/15/08 2:32:00	<input type="checkbox"/>	A	A											
0801416-002	PRED	Air	01/15/08 2:40:00	<input type="checkbox"/>	A												
0801416-003	AS	Air	01/15/08 3:20:00	<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 contain testgroup.

**Prepared by: Ana Venegas**

**Comments:**

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



**Sample Receipt Checklist**

Client Name: **AEI Consultants** Date and Time Received: **1/16/08 3:48:50 PM**  
Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Ana Venegas**  
WorkOrder N°: **0801416** 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

-----  
Client contacted: Date contacted: Contacted by:

Comments:



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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: 01/15/08
		Date Received: 01/16/08
	Client Contact: Ricky Bradford	Date Extracted: 01/16/08-01/17/08
	Client P.O.:	Date Analyzed 01/16/08-01/17/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801416

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	POSTD	A	2200,a	ND<50	34	150	29	190	20	109
002A	PRED	A	6800,a	ND<50	95	340	72	440	20	122
003A	AS	A	4000,a	68	100	390	74	820	20	102

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	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



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

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 01/15/08
	Client Contact: Ricky Bradford	Date Received: 01/16/08
	Client P.O.:	Date Extracted: 01/16/08-01/17/08
		Date Analyzed: 01/16/08-01/17/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801416

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	POSTD	A	620,a	ND<14	11	39	6.6	44	20	109
002A	PRED	A	1900,a	ND<14	29	89	16	100	20	122
003A	AS	A	1100,a	19	31	100	17	180	20	102

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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0801416

EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33202			Spiked Sample ID: 0801386-011A				
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	91.1	93.3	2.36	91.2	111	19.3	70 - 130	30	70 - 130	30
MTBE	ND	10	113	107	4.69	125	126	1.05	70 - 130	30	70 - 130	30
Benzene	ND	10	106	99.5	6.28	109	100	8.70	70 - 130	30	70 - 130	30
Toluene	ND	10	96.1	91.7	4.66	103	90.1	13.8	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	106	101	4.13	111	102	8.69	70 - 130	30	70 - 130	30
Xylenes	ND	30	98.5	95.1	3.39	107	100	6.45	70 - 130	30	70 - 130	30
%SS:	94	10	95	96	0.767	93	100	6.48	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 33202 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801416-001A	01/15/08 2:32 PM	01/16/08	01/16/08 11:06 PM	0801416-002A	01/15/08 2:40 PM	01/16/08	01/16/08 11:36 PM
0801416-003A	01/15/08 3:20 PM	01/17/08	01/17/08 12:07 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.



**McC Campbell Analytical, Inc.**

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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: 01/22/08
	Client Contact: Ricky Bradford	Date Received: 01/23/08
	Client P.O.:	Date Reported: 01/29/08
		Date Completed: 01/29/08

**WorkOrder: 0801561**

January 29, 2008

Dear Ricky:

Enclosed within are:

- 1) The results of the **10** 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.



# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0801561

ClientID: AEL

EDF     Excel     Fax     Email     HardCopy     ThirdParty

**Report to:**

Ricky Bradford  
AEI Consultants  
2500 Camino Diablo, Ste. #200  
Walnut Creek, CA 94597

Email: rbradford@aeiconsultants.com  
TEL: (925) 283-6000    FAX: (925) 944-2895  
ProjectNo: #116907; Vic's Automotive  
PO:

**Bill to:**

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

**Requested TAT: 5 days**

**Date Received: 01/23/2008**

**Date Printed: 01/23/2008**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801561-001	MW-1S	Air	1/22/2008 1:25:00	<input type="checkbox"/>	A	A											
0801561-002	MW-2S	Air	1/22/2008 1:25:00	<input type="checkbox"/>	A												
0801561-003	MW-5S	Air	1/22/2008 2:00:00	<input type="checkbox"/>	A												
0801561-004	MW-6S	Air	1/22/2008 1:50:00	<input type="checkbox"/>	A												
0801561-005	MW-7S	Air	1/22/2008 1:45:00	<input type="checkbox"/>	A												
0801561-006	MW-10S	Air	1/22/2008 1:40:00	<input type="checkbox"/>	A												
0801561-007	MW-11S	Air	1/22/2008 1:37:00	<input type="checkbox"/>	A												
0801561-008	MW-12S	Air	1/22/2008 1:13:00	<input type="checkbox"/>	A												
0801561-009	POSTD	Air	1/22/2008 1:10:00	<input type="checkbox"/>	A												
0801561-010	PRED	Air	1/22/2008 1:05:00	<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 contain testgroup.

**Prepared by: Samantha Arbuckle**

**Comments:**

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



**Sample Receipt Checklist**

Client Name: **AEI Consultants** Date and Time Received: **1/23/2008 3:09:07 PM**  
Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Samantha Arbuckle**  
WorkOrder N°: **0801561** 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: 24.4°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

-----

Client contacted: Date contacted: Contacted by:

Comments:



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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: 01/22/08
		Date Received: 01/23/08
	Client Contact: Ricky Bradford	Date Extracted: 01/23/08-01/24/08
	Client P.O.:	Date Analyzed 01/23/08-01/24/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801561

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	2300,a	ND<50	19	89	12	130	20	94
002A	MW-2S	A	11,000,a	ND<50	200	710	100	800	20	88
003A	MW-5S	A	2700,a	ND<17	11	61	10	120	6.7	88
004A	MW-6S	A	6600,a	ND<50	36	280	58	460	20	90
005A	MW-7S	A	14,000,a	ND<50	220	760	89	920	20	85
006A	MW-10S	A	17,000,a	ND<50	120	890	220	1400	20	98
007A	MW-11S	A	11,000,a	ND<270	260	730	170	1000	20	96
008A	MW-12S	A	6000,a	ND<100	170	460	64	410	20	89
009A	POSTD	A	3800,a	ND<50	47	190	37	290	20	114
010A	PRED	A	6900,a	ND<50	110	400	59	450	20	118

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	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



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

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 01/22/08
	Client Contact: Ricky Bradford	Date Received: 01/23/08
	Client P.O.:	Date Extracted: 01/23/08-01/24/08
		Date Analyzed: 01/23/08-01/24/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801561

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	660,a	ND<14	5.8	23	2.7	28	20	94
002A	MW-2S	A	3000,a	ND<14	61	190	24	180	20	88
003A	MW-5S	A	760,a	ND<4.5	3.3	16	2.4	28	6.7	88
004A	MW-6S	A	1900,a	ND<14	11	74	13	100	20	90
005A	MW-7S	A	3900,a	ND<14	69	200	20	210	20	85
006A	MW-10S	A	4700,a	ND<14	38	230	49	310	20	98
007A	MW-11S	A	3000,a	ND<75	81	190	39	230	20	96
008A	MW-12S	A	1700,a	ND<30	51	120	14	92	20	89
009A	POSTD	A	1100,a	ND<14	14	50	8.4	65	20	114
010A	PRED	A	1900,a	ND<14	34	100	13	100	20	118

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 & SPL 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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0801561

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33321			Spiked Sample ID: 0801543-001F			
	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	87.8	88.7	1.03	119	111	7.10	70 - 130	30	70 - 130	30
MTBE	ND	10	99.2	96	3.33	88.9	90.5	1.70	70 - 130	30	70 - 130	30
Benzene	ND	10	93.3	87.8	6.12	88.9	89.7	0.950	70 - 130	30	70 - 130	30
Toluene	ND	10	86.4	80.2	7.41	88.7	90.6	2.07	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	95.2	89.6	6.01	95.4	96	0.624	70 - 130	30	70 - 130	30
Xylenes	ND	30	92.3	86.3	6.72	107	107	0	70 - 130	30	70 - 130	30
%SS:	92	10	97	96	1.50	91	89	2.67	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 33321 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801561-001A	01/22/08 1:25 PM	01/23/08	01/23/08 7:49 PM	0801561-002A	01/22/08 1:25 PM	01/23/08	01/23/08 8:20 PM
0801561-003A	01/22/08 2:00 PM	01/23/08	01/23/08 8:51 PM	0801561-004A	01/22/08 1:50 PM	01/23/08	01/23/08 9:21 PM
0801561-005A	01/22/08 1:45 PM	01/23/08	01/23/08 9:52 PM	0801561-006A	01/22/08 1:40 PM	01/23/08	01/23/08 10:23 PM
0801561-007A	01/22/08 1:37 PM	01/24/08	01/24/08 12:26 AM	0801561-008A	01/22/08 1:13 PM	01/23/08	01/23/08 11:25 PM
0801561-009A	01/22/08 1:10 PM	01/24/08	01/24/08 12:57 AM	0801561-010A	01/22/08 1:05 PM	01/24/08	01/24/08 3:31 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.



**McC Campbell Analytical, Inc.**

"When Quality Counts"

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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: 01/31/08
		Date Received: 02/01/08
	Client Contact: Ricky Bradford	Date Reported: 02/08/08
	Client P.O.:	Date Completed: 02/08/08

**WorkOrder: 0802004**

February 08, 2008

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.



# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

**WorkOrder: 0802004**

**ClientID: AEL**

EDF     Excel     Fax     Email     HardCopy     ThirdParty

**Report to:**

Ricky Bradford  
 AEI Consultants  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597

Email: rbradford@aeiconsultants.com  
 TEL: (925) 283-6000    FAX: (925) 944-2895  
 ProjectNo: #116907; Vic's Automotive  
 PO:

**Bill to:**

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

**Requested TAT: 5 days**

**Date Received: 02/01/2008**

**Date Printed: 02/01/2008**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0802004-001	POSTD	Air	01/31/08 10:05:00	<input type="checkbox"/>	A	A											
0802004-002	PRED	Air	01/31/08 10:00:00	<input type="checkbox"/>	A												
0802004-003	AS	Air	01/31/08 10:15:00	<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 contain testgroup.

**Prepared by: Maria Venegas**

**Comments:**

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



### Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **02/01/08 10:02:53 AM**  
 Project Name: **#116907; Vic's Automotive** Checklist completed and reviewed by: **Maria Venegas**  
 WorkOrder N°: **0802004** 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

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: 01/31/08
	Client Contact: Ricky Bradford	Date Received: 02/01/08
	Client P.O.:	Date Extracted: 02/01/08
		Date Analyzed: 02/01/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0802004

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	POSTD	A	2700,a	ND<50	39	150	30	270	20	105
002A	PRED	A	7700,a	ND<50	120	450	85	720	20	101
003A	AS	A	250,a	ND<17	5.5	19	3.6	47	6.7	90

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	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



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

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 01/31/08
	Client Contact: Ricky Bradford	Date Received: 02/01/08
	Client P.O.:	Date Analyzed: 02/01/08
		Date Extracted: 02/01/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0802004

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	POSTD	A	770,a	ND<14	12	38	6.9	62	20	105
002A	PRED	A	2200,a	ND<14	36	120	19	160	20	101
003A	AS	A	69,a	ND<4.5	1.7	5.0	0.81	11	6.7	90

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 & SPL 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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0802004

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33565			Spiked Sample ID: 0802009-002A			
	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	102	103	0.777	97.6	94	3.81	70 - 130	30	70 - 130	30
MTBE	ND	10	118	123	3.89	109	106	3.03	70 - 130	30	70 - 130	30
Benzene	ND	10	101	104	3.02	98.8	102	3.31	70 - 130	30	70 - 130	30
Toluene	ND	10	111	115	3.40	91.8	94.4	2.78	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	107	111	3.88	103	104	1.78	70 - 130	30	70 - 130	30
Xylenes	ND	30	113	120	5.71	100	100	0	70 - 130	30	70 - 130	30
%SS:	102	10	97	97	0	98	96	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 33565 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0802004-001A	01/31/08 10:05 AM	02/01/08	02/01/08 1:24 PM	0802004-002A	01/31/08 10:00 AM	02/01/08	02/01/08 1:57 PM
0802004-003A	01/31/08 10:15 AM	02/01/08	02/01/08 2:31 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.



**McC Campbell Analytical, Inc.**

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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: 02/07/08
	Client Contact: Ricky Bradford	Date Received: 02/08/08
	Client P.O.:	Date Reported: 02/14/08
		Date Completed: 02/14/08

**WorkOrder: 0802186**

February 14, 2008

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.

0802-186

<b>McCAMPBELL ANALYTICAL INC.</b> 1538 Willow Pass Road, Pittsburg, CA 94565 Telephone: (925) 252-9262      Fax: (925) 252-9269	<b>CHAIN OF CUSTODY RECORD</b> <b>TURN AROUND TIME</b> <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAY EDF Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No      PDF Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	--

Report To: Ricky Bradford	Bill To: same
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	
Telephone: (925) 944-2899	E-Mail: rbradford@aeiconsultatns.com
AEI Project No. 116907	Project Name: Vic's Automotive
Project Location: 245 8 <sup>th</sup> Street, Oakland, CA 94607	
Sampler Signature: <i>[Signature]</i> #153	

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				CAM 17 Metals
MW-1S	MW-1S			1	TB			X										X
MW-2S	MW-2S			1	TB			X										X
MW-3S	MW-3S			1	TB			X				X						X
MW-4S	MW-4S			1	TB			X				X						X
MW-5S	MW-5S			1	TB			X										X
MW-6S	MW-6S			1	TB			X										X
MW-7S	MW-7S			1	TB			X										X
MW-10S	MW-10S			1	TB			X										X
MW-11S	MW-11S			1	TB			X										X
MW-12S	MW-12S			1	TB			X										X
POSTD	POSTD	2/7/08	1230	1	TB			X				X						X
PRED	PRED	2/7/08	1225	1	TB			X				X						X
AS	AS	2/7/08	1240	1	TB			X				X						X

Relinquished By: <i>[Signature]</i>	Date: 2/8	Time: 5:00pm	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° <i>[Signature]</i>	VOAS	O&G	METALS	OTHER
GOOD CONDITION <input checked="" type="checkbox"/>	PRESERVATION APPROPRIATE			
HEAD SPACE ABSENT <input checked="" type="checkbox"/>	CONTAINERS PRESERVED IN LAB			
DECLORINATED IN LAB <input type="checkbox"/>	PRESERVED IN LAB <input type="checkbox"/>			

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0802186**

**ClientID: AEL**

EDF     Excel     Fax     Email     HardCopy     ThirdParty

**Report to:**

Ricky Bradford  
 AEI Consultants  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597

Email: rbradford@aeiconsultants.com  
 TEL: (925) 283-6000    FAX: (925) 944-2895  
 ProjectNo: # 116907; Vic's Automotive  
 PO:

**Bill to:**

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

**Requested TAT: 5 days**

**Date Received: 02/08/2008**

**Date Printed: 02/08/2008**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0802186-001	POSTD	Air	2/7/2008 12:30:00	<input type="checkbox"/>	A	A											
0802186-002	PRED	Air	2/7/2008 12:25:00	<input type="checkbox"/>	A												
0802186-003	AS	Air	2/7/2008 12:40:00	<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 contain testgroup.

**Prepared by: Kimberly Burks**

**Comments:**

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



### Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **2/8/2008 5:50:19 PM**

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

Checklist completed and reviewed by: **Kimberly Burks**

WorkOrder N°: **0802186** 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

Client contacted:

Date contacted:

Contacted by:

Comments:





# 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: 02/07/08
	Client Contact: Ricky Bradford	Date Received: 02/08/08
	Client P.O.:	Date Analyzed: 02/09/08
		Date Extracted: 02/09/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0802186

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	POSTD	A	690,a	ND<6.8	10	37	6.6	58	10	119
002A	PRED	A	2000,a	ND<35	34	110	10	130	20	111
003A	AS	A	31,a	1.4	0.47	1.5	0.21	4.1	1	97

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 & SPL 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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0802186

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33710			Spiked Sample ID: 0802210-002A			
	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	121	119	2.19	98.8	98.1	0.709	70 - 130	30	70 - 130	30
MTBE	23	10	97.9	100	0.726	115	118	3.31	70 - 130	30	70 - 130	30
Benzene	ND	10	101	102	0.766	109	112	2.37	70 - 130	30	70 - 130	30
Toluene	ND	10	100	101	0.241	101	99.5	1.17	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	108	109	0.154	111	106	4.32	70 - 130	30	70 - 130	30
Xylenes	ND	30	120	121	0.162	107	100	6.45	70 - 130	30	70 - 130	30
%SS:	97	10	96	96	0	99	104	5.59	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 33710 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0802186-001A	02/07/08 12:30 PM	02/09/08	02/09/08 3:49 AM	0802186-002A	02/07/08 12:25 PM	02/09/08	02/09/08 4:19 AM
0802186-003A	02/07/08 12:40 PM	02/09/08	02/09/08 4:50 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.



**McC Campbell Analytical, Inc.**

"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: 03/18/08
	Client Contact: Ricky Bradford	Date Received: 03/18/08
	Client P.O.:	Date Reported: 03/24/08
		Date Completed: 03/20/08

**WorkOrder: 0803447**

March 24, 2008

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.



# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0803447

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	TEL: (925) 283-6000 FAX: (925) 944-2895		AEI Consultants	Date Received: 03/18/2008
	2500 Camino Diablo, Ste. #200	PO:		2500 Camino Diablo, Ste. #200	Date Printed: 03/18/2008
	Walnut Creek, CA 94597	ProjectNo: #116907; Vic's Automotive		Walnut Creek, CA 94597	
				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	
0803447-001	MW-1S	Air	3/18/2008 11:17	<input type="checkbox"/>	A												
0803447-002	MW-2S	Air	3/18/2008 11:24	<input type="checkbox"/>	A												
0803447-003	MW-5S	Air	3/18/2008 12:04	<input type="checkbox"/>	A												
0803447-004	MW-6S	Air	3/18/2008 11:57	<input type="checkbox"/>	A												
0803447-005	MW-7S	Air	3/18/2008 11:50	<input type="checkbox"/>	A												
0803447-006	MW-10S	Air	3/18/2008 11:45	<input type="checkbox"/>	A												
0803447-007	MW-11S	Air	3/18/2008 11:40	<input type="checkbox"/>	A												
0803447-008	MW-12S	Air	3/18/2008 11:33	<input type="checkbox"/>	A												
0803447-009	POSTD	Air	3/18/2008 11:10	<input type="checkbox"/>	A												
0803447-010	PRED	Air	3/18/2008 11:00	<input type="checkbox"/>	A												
0803447-011	STACK	Air	3/18/2008 12:20	<input type="checkbox"/>	A												

**Test Legend:**

1	G-MBTEX AIR	2		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: **03/18/08 4:52:15 PM**

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

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

WorkOrder N°: **0803447** 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

Client contacted:

Date contacted:

Contacted by:

Comments:



# 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: 03/18/08
		Date Received: 03/18/08
	Client Contact: Ricky Bradford	Date Extracted: 03/18/08-03/19/08
	Client P.O.:	Date Analyzed 03/18/08-03/19/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0803447

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	500,a	ND	4.2	26	3.4	30	1	---#
002A	MW-2S	A	4900,a	ND<15	56	200	59	360	2	---#
003A	MW-5S	A	2100,a	ND<10	9.9	93	19	170	4	---#
004A	MW-6S	A	820,a	ND<5.0	4.0	35	10	72	2	---#
005A	MW-7S	A	7000,a	ND<20	81	310	48	340	4	---#
006A	MW-10S	A	7400,a	ND<50	41	280	140	850	20	119
007A	MW-11S	A	6000,a	ND<50	83	250	120	680	20	112
008A	MW-12S	A	1600,a	ND<150	140	120	19	160	20	104
009A	POSTD	A	1100,a	ND<15	13	47	13	89	2	---#
010A	PRED	A	2300,a	ND<11	23	96	25	170	2	---#
011A	STACK	A	ND	ND	ND	ND	ND	ND	1	105

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	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



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

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #116907; Vic's Automotive	Date Sampled: 03/18/08
	Client Contact: Ricky Bradford	Date Received: 03/18/08
	Client P.O.:	Date Extracted: 03/18/08-03/19/08
		Date Analyzed: 03/18/08-03/19/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0803447

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1S	A	140,a	ND	1.3	6.9	0.78	6.9	1	---#
002A	MW-2S	A	1400,a	2.3	17	51	13	81	2	---#
003A	MW-5S	A	580,a	ND<2.7	3.0	24	4.2	39	4	---#
004A	MW-6S	A	230,a	ND<1.4	1.2	9.2	2.4	16	2	---#
005A	MW-7S	A	2000,a	ND<5.0	25	81	11	78	4	---#
006A	MW-10S	A	2100,a	ND<14	13	73	31	190	20	119
007A	MW-11S	A	1700,a	ND<14	26	66	26	150	20	112
008A	MW-12S	A	460,a	ND<30	42	32	4.2	36	20	104
009A	POSTD	A	310,a	ND<3.5	3.9	12	3.0	20	2	---#
010A	PRED	A	630,a	ND<3.0	7.0	25	5.6	38	2	---#
011A	STACK	A	ND	ND	ND	ND	ND	ND	1	105

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: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder: 0803447

EPA Method SW8021B/8015Cm	Extraction SW5030B			BatchID: 34456			Spiked Sample ID: 0803460-002A					
	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>	270	60	NR	NR	NR	98.3	103	4.22	70 - 130	20	70 - 130	20
MTBE	ND<10	10	NR	NR	NR	92.6	95.5	3.11	70 - 130	20	70 - 130	20
Benzene	34	10	NR	NR	NR	96.2	95.6	0.615	70 - 130	20	70 - 130	20
Toluene	1.8	10	NR	NR	NR	107	106	0.810	70 - 130	20	70 - 130	20
Ethylbenzene	ND<1.0	10	NR	NR	NR	104	103	1.44	70 - 130	20	70 - 130	20
Xylenes	17	30	NR	NR	NR	113	111	1.68	70 - 130	20	70 - 130	20
%SS:	120	10	---#	---#	---#	95	97	2.06	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 34456 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0803447-001A	03/18/08 11:17 AM	03/18/08	03/18/08 7:54 PM	0803447-002A	03/18/08 11:24 AM	03/18/08	03/18/08 8:24 PM
0803447-003A	03/18/08 12:04 PM	03/18/08	03/18/08 7:24 PM	0803447-004A	03/18/08 11:57 AM	03/19/08	03/19/08 4:04 PM
0803447-005A	03/18/08 11:50 AM	03/18/08	03/18/08 9:24 PM	0803447-006A	03/18/08 11:45 AM	03/19/08	03/19/08 4:34 PM
0803447-007A	03/18/08 11:40 AM	03/18/08	03/18/08 10:23 PM	0803447-008A	03/18/08 11:33 AM	03/18/08	03/18/08 10:53 PM
0803447-009A	03/18/08 11:10 AM	03/18/08	03/18/08 11:23 PM	0803447-010A	03/18/08 11:00 AM	03/18/08	03/18/08 11:53 PM
0803447-011A	03/18/08 12:20 PM	03/19/08	03/19/08 3:34 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.



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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: 03/18/08
	Client Contact: Ricky Bradford	Date Received: 03/18/08
	Client P.O.:	Date Reported: 03/25/08
		Date Completed: 03/25/08

**WorkOrder: 0803451**

March 25, 2008

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.



**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 0803451**

**ClientCode: AEL**

WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

<b>Report to:</b>	Ricky Bradford AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	<b>Email:</b> rbradford@aeiconsultants.com TEL: (925) 283-6000    FAX: (925) 944-2895 PO: ProjectNo: # 116907; Vic's Automotive	<b>Bill to:</b>	Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	<b>Requested TAT: 5 days</b>
					<i>Date Received: 03/18/2008</i> <i>Date Printed: 03/18/2008</i>

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	
0803451-001	INF	Water	3/18/2008 11:20	<input type="checkbox"/>		A	A										
0803451-002	POST-AS	Water	3/18/2008 11:30	<input type="checkbox"/>		A											
0803451-003	EFF	Water	3/18/2008 11:40	<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: Kimberly Burks**

**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: **3/18/2008 5:33:18 PM**

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

Checklist completed and reviewed by: **Kimberly Burks**

WorkOrder N°: **0803451** 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: 6.6°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

Client contacted:

Date contacted:

Contacted by:

Comments:







### QC SUMMARY REPORT FOR E1664A

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0803451

EPA Method E1664A		Extraction E1664A_SG			BatchID: 34459			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	200	N/A	N/A	N/A	104	101	2.76	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 34459 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0803451-003B	03/18/08 11:40 AM	03/18/08	03/20/08 6:25 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

WorkOrder: 0803451

EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 34432			Spiked Sample ID: 0803442-006A				
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	107	104	3.00	100	97.3	3.16	70 - 130	20	70 - 130	20
MTBE	ND	10	91	87.7	3.66	96.7	92.2	4.73	70 - 130	20	70 - 130	20
Benzene	ND	10	91.9	95.2	3.51	97.3	96.9	0.431	70 - 130	20	70 - 130	20
Toluene	ND	10	90.5	93.7	3.50	96.5	95.7	0.908	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	91.9	94.1	2.35	97	95.3	1.76	70 - 130	20	70 - 130	20
Xylenes	ND	30	85.2	87.4	2.58	89.9	88.3	1.88	70 - 130	20	70 - 130	20
%SS:	106	10	105	107	2.15	108	107	0.516	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 34432 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0803451-001A	03/18/08 11:20 AM	03/21/08	03/21/08 7:38 PM	0803451-002A	03/18/08 11:30 AM	03/21/08	03/21/08 10:08 PM
0803451-003A	03/18/08 11:40 AM	03/21/08	03/21/08 10:37 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, or inconsistency in sample containers.