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Alameda County Environmental Health

June 30, 2010

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

Subject:

Perjury Statement and Report Transmittal

Quarterly Site Monitoring Report (Second Quarter, 2010)

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

Dear Mr. Wickham:

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

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

Sincerely,

Victor Lum

Owner

Vic's Automotive

RB/vl

Attachment

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

QUATERLY SITE MONITORING REPORT (SECOND QUARTER, 2010)

245 8th Street Oakland, California

AEI Project No. 116907 ACEH RO#00000202

Prepared For:

Vic's Automotive 245 8th Street Oakland, California 94607

Prepared By:

AEI Consultants

2500 Camino Diablo, Suite 200 Walnut Creek, California 94597 (925) 944-2899



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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 former fuel service station located at 245 8th 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 remediation of the release is being performed under the direction of the Alameda County Environmental Health (ACEH) local oversight program. This report has been prepared to document the field activities and results of groundwater monitoring for the second quarter 2010 performed on May 12, 2010.

The high vacuum dual phase extraction system (HVDPE) system was shutdown on December 23, 2009 due to declining influent concentrations and asymptotic hydrocarbon recovery. The remediation system remained off throughout the first quarter to evaluate hydrocarbon rebound in the subsurface. The system was restarted and influent vapor samples collected during the second quarter as part of preparation for the planned and approved air sparge pilot testing activities. The air sparge (AS) wells have recently been installed and the pilot test scheduled to occur during the 3rd Quarter 2010. Results of the rebound analyses, AS well installation, and upcoming pilot testing will be reported upon completion of the pilot test.

2.0 SITE DESCRIPTION AND 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 8th 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 8th 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 μ g/L, and from 12,000 to 19,000 μ g/L, respectively. Methyl tertiary-butyl ether (MTBE) was also detected in all three samples at concentrations up to 27,000 μ g/L. Although free phase product was not observed in the field, qualitative laboratory observations indicated an immiscible sheen was present in the samples.
- Manual bailing and pumping of LNAPL from MW-1 occurred intermittently from 1997 to 1998
- In May of 2001, two (2) additional groundwater monitoring wells (MW-3 and MW-4) were installed onsite. In June of 2001, a free product recovery system was installed in MW-1. The free product recovery system removed several hundred gallons of LNAPL between 2001 and 2003.
- In April of 2003, AEI advanced twelve (12) additional soil borings (SB-4 to SB-15) onsite and offsite for the collection of soil, shallow groundwater, and soil vapor samples to further characterize the magnitude and lateral extent of the release.
- In January of 2005, AEI installed six (6) additional monitoring/extraction wells (MW-5, MW-6 and MW-7 were installed onsite and wells MW-10 to MW-12 were installed offsite at the 708 Alice Street property). Wells MW-8 and MW-9 were proposed for installation in the parking lane along 7th and Alice Streets; however, due to difficult insurance wording requirements imposed by the City of Oakland, these wells were not installed until March of 2008.
- From July 11 to July 27, 2005, a 16-day HVDPE pilot test was performed on wells MW-1, MW-2, MW-5, MW-6, and MW-7. Combined vapor influent flow rates ranged from approximately 170 to 190 standard cubic feet per minute (scfm) under a sustained vacuum of 16 to 17 inches of mercury (in-Hg). The average water flow rate was approximately 4.1 gallons per minute (gpm). A total of 80,740 gallons of groundwater was recovered, treated, and discharged to the sanitary sewer under a short-term, limited volume groundwater discharge permit from the East Bay Municipal Utilities District (EBMUD). Significant drawdown and pressure (i.e., vacuum) response was observed in the vadose and saturated zone monitoring points. Approximately 5 pounds per day (lbs/day) of dissolved phase and 697 lbs/day of vapor phase hydrocarbons were recovered during the test. A total of 10,719 pounds or 1,716 gallons of gasoline was removed during this test. Based on the encouraging

results of this pilot test, AEI recommended interim corrective action using HVDPE for 12 to 18 months using fixed equipment. Please refer to AEI's "HVDPE Event Report", dated December 14, 2005, for more information.

- In March of 2006, the ACEH concurred with the implementation of HVDPE using fixed equipment and requested a system design, operations and maintenance, and monitoring plan. In this letter, the ACEH also requested soil vapor sampling to evaluate the potential for vapor intrusion due to the elevated concentrations of fuel hydrocarbons detected in the soil and groundwater onsite and offsite.
- In May of 2006, a HVDPE system design, operations and maintenance, and monitoring plan and a separate soil gas investigation work plan were submitted to ACEH for review and comment. Please refer to AEI's "High Vacuum Dual Phase Extraction System Design, Operations, and Maintenance Plan," dated May 24, 2006 and "Soil Gas Investigation Work Plan", dated May 12, 2006, for more information.
- In November of 2006, trenching and installation of the conveyance piping for HVDPE system was conducted. The system completion and delivery was scheduled for 1st Quarter 2007; however, the system was delivered in April 2007. The remaining infrastructure, such as the rotary phase converter, equipment, fence, and wellhead connections were installed in May of 2007 and the system was started up on June 26, 2007.
- On June 11, 2007, two (2) 55-gallon drums, or approximately 100 gallons of water containing about 50% LNAPL, was removed from MW-1 and MW-6 by operating the HVDPE system in product skimming mode.
- In November of 2007, additional HVDPE conveyance piping was installed above grade behind the onsite building to the rear of the property and the system was expanded to include monitoring/extraction wells MW-10, MW-11, and MW-12.
- In March of 2008, wells (MW-8, MW-9 and MW-13) were installed.
- Between August 21 and 22, 2008, soil gas probes GP-3 and GP-4 were decommissioned by physical removal and three (3) horizontal HVDPE conveyance piping laterals were installed to MW-10, 11, and 12 so that these wells could continue to be used for dual phase extraction while the 708 Alice Street property was being developed.
- In July of 2009, monitoring wells (MW-14, MW-15, and MW-16) were installed. MW-14 was installed in the parking lane along Alice Street approximately 80 feet southwest of MW-8. MW-15 and MW-16 were installed in the parking lane on the southwest side of 7th Street approximately 60 feet apart. The monitoring well locations are shown on Figure 2.
- On December 2, 2009, the property owner and AEI held a meeting with the ACEH to discuss
 the results of a rebound evaluation and recommendations regarding future activities for the
 site.

- On March 17, 2010, AEI performed an additional source area investigation by advancing four (4) temporary soil borings (SB-16 through SB-19) to approximately 30 feet bgs. Soil samples were collected from select depths and a discrete groundwater sample (SB-18W) was collected from boring SB-18 at 28 to 30 feet bgs. Overall, the highest concentrations of TPH-g, BTEX, and MTBE were detected in soil samples collected from SB-16, SB-17, and SB-19 at 20 feet bgs, indicating that a significant source of petroleum hydrocarbons resides submerged under the water table. Relatively low concentrations of TPH-g and benzene were detected in discrete grab groundwater sample SB-18W. Further detail relating to the additional soil source investigation can be found in AEI's Source Zone Delineation Report & Air Sparging Pilot Test Workplan, dated May 10, 2010.
- To target the source of petroleum hydrocarbons identified below the water table during the additional soil source delineation investigation, a proposed scope of work for an air sparging pilot test was included in AEI's Source Zone Delineation Report & Air Sparging Pilot Test Workplan. The proposed air sparging pilot test consists of the installation of four (4) permanent sparge wells to approximately 30 feet bgs spaced approximately 15 to 20 feet apart in the source zone. These wells were installed in late June 2010 and the pilot test activity schedule is being developed. ACEH will be notified of the pilot test field work schedule and report of these activities prepared upon completion of the testing and data interpretation.

3.0 GEOLOGY AND HYDROGEOLOGY

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

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

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

4.0 SUMMARY OF MONITORING ACTIVITIES

4.1 Quarterly Groundwater Monitoring

On May 12, 2010, the water levels were measured from all wells, expect for MW-10 through MW-12. Measuring the depth to water and sampling MW-10 through MW-12 is no longer feasible because the wellheads were removed and the wells were buried beneath a new residential construction in August 2008. Groundwater samples were collected from all the monitoring / dual phase extraction wells, except for MW-3, MW-4, MW-8, and MW-10 through MW-12, in accordance with the existing monitoring schedule approved by ACEH in December 2009. The well locations are shown on Figure 2.

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

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

The groundwater samples were collected with disposable plastic 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 entered onto a chain of custody record and placed in a pre-chilled cooler on wet ice pending transportation to the laboratory. The samples were delivered on the day of collection under proper chain of custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (DHS Certification #1644). A total of ten (10) groundwater samples were analyzed for TPH-g by EPA Method 8015C and MBTEX by EPA Method 8021B. In addition, due to the elevated reporting limits for MTBE by EPA Method SW8021B, the samples collected from MW-1, MW-6, MW-7, and MW-9 were analyzed for MTBE by EPA Method SW8260B.

4.2 Quarterly Soil Gas Monitoring for Vapor Intrusion Evaluation

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

4.3 HVDPE System Process Monitoring and Maintenance

The HVDPE system was shutdown on December 23, 2009 due to declining influent concentrations and asymptotic hydrocarbon recovery. The remediation system remained off throughout the first quarter but has been operated during the second quarter in preparation for the upcoming air sparge

pilot testing. Operational progress and hydrocarbon recovery will be evaluated with the air sparge pilot testing report.

5.0 RESULTS AND CONCLUSIONS

5.1 Apparent LNAPL Thickness, Groundwater Elevations, and Hydraulic Gradient

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

- LNAPL was not encountered in any of the monitoring wells, although elevated concentrations of dissolved hydrocarbons, such as TPH-g, BTEX, and MTBE, remain onsite and offsite.
- LNAPL of apparent measurable thickness (at or greater than 0.01 feet) has not been detected in MW-1, MW-6, and MW-7 since May of 2007.
- The current groundwater flow direction was calculated towards the southwest with a hydraulic gradient of approximately 0.006 ft/ft. This quarter's flow direction and hydraulic gradient is consistent with previous monitoring episodes. Since the HVDPE system was not operating prior to this monitoring event, the results are more likely representative of natural hydrologic conditions than those events performed during which the system had been running. It should be noted that the well heads wells MW-1, MW-2, MW-5, MW-6, and MW-7 were modified for remediation purposes and the top of casing elevations are no longer considered surveyed. The water table elevations for these wells were not used in the creation of Figure 4: Groundwater Elevation Contours, nor were used for the calculation of hydraulic gradient.
- The groundwater elevation data is summarized in Table 1 and groundwater elevation contours are shown on Figure 4. A summary of the average groundwater elevations and flow directions is presented in Table 2.

5.2 Groundwater Sample Analytical Data

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

• The highest concentration of TPH-g was detected in MW-9 at a concentration of 34,000 μ g/L. The next highest concentrations of TPH-g were detected in MW-6 and MW-7 at 19,000 μ g/L and 18,000 μ g/L, respectively.

- The highest concentration of benzene was detected in MW-9 at a concentration of 6,800 μg/L. The second and third highest concentrations of benzene were detected in MW-7 and MW-6 at 1,300 μg/L and 350 μg/L, respectively.
- The highest concentration of MTBE was detected in MW-9 at a concentration of 390 μg/L. The second and third highest concentrations of MTBE were detected in MW-2 and MW-7 at concentrations of 88 μg/L and 51 μg/L, respectively.
- Moderate concentrations of TPH-g and BTEX were detected in MW-2, MW-5, and MW-14.
- Low concentrations of MTBE and BTEX were detected in MW-16.
- TPH-g and MBTEX were not detected at or above reporting limits in MW-13.

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

6.0 SUMMARY AND PLANNED ACTIVITIES

This report presented the findings of the second quarter 2010 groundwater monitoring event and results. The results of this monitoring episode are summarized below:

- LNAPL of measurable apparent thickness (greater than 0.01 feet) has not been detected since the HVDPE system was installed and started up in June of 2007. However, elevated dissolved phase concentrations of TPH-g and BTEX remain onsite and offsite.
- The highest dissolved phase concentrations of TPH-g and BTEX were detected in MW-9, MW-7, MW-6, and MW-1.
- Low to moderate concentrations of TPH-g and BTEX were detected in MW-2, MW-5, and MW-14.
- Lower to non-detectable concentrations of TPH-g and BTEX were detected in MW-13, MW-15, and MW-16.
- TPH-g, BTEX, and MTBE were not detected at or above the standard laboratory reporting limits in MW-13.
- MTBE was not detected at or above the laboratory reporting limits in MW-1, MW-5, MW-6, and MW-13.

The following activities are planned for the third quarter 2010:

- Groundwater monitoring for the third quarter 2010 is planned for August 2010 in accordance with the approved monitoring schedule.
- A report on the upcoming AS pilot test will be prepared upon completion of the test and review of data. This report will include an evaluation of rebound analyses of the existing HVDPE system along with an approach to cost effectively optimize the existing system.

7.0 REFERENCES

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

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

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

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

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.

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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 Engir 1110-1-4010, Washington, DC.	neers, 1999.	"Multi-Phase	Extraction	Engineer	Manual", EM

8.0 REPORT LIMITATIONS AND SIGNATURES

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

Should you have any questions or comments, or need any additional information, please contact Mr. Bradford (925) 746-6000, ext. 148 or Mr. McIntyre at (925) 746-6000, ext. 104.

Sincerely,

AEI Consultants

Adrian M. Angel, GIT

Project Geologist

Peter J. McIntyre, PG, REA

Sr. Vice President, Principal Geologis

PETER J. MCINTYRE

Distribution List:

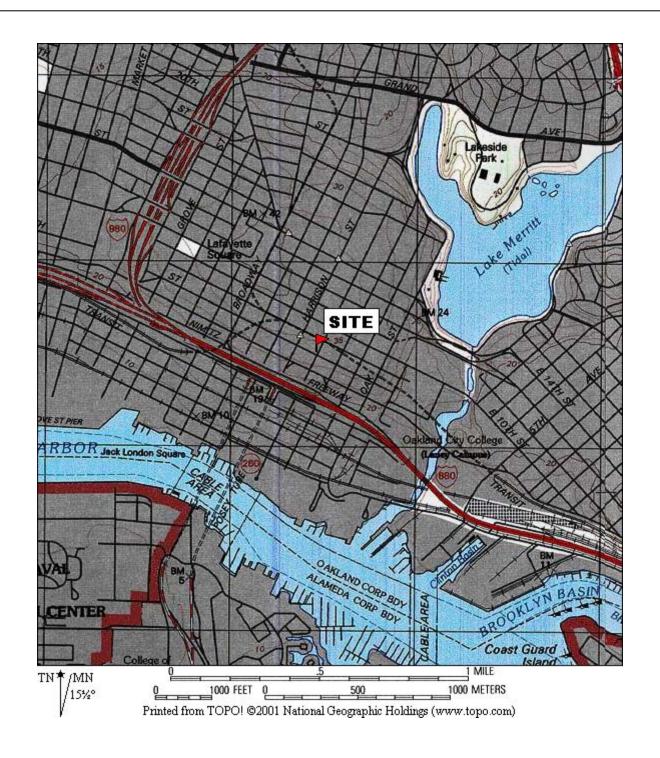
Mr. Victor Lum (1 hard copy) Vic's Automotive 245 8th Street Oakland, California 94607

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

SWRCB's GeoTracker Information System (electronic)

FIGURES



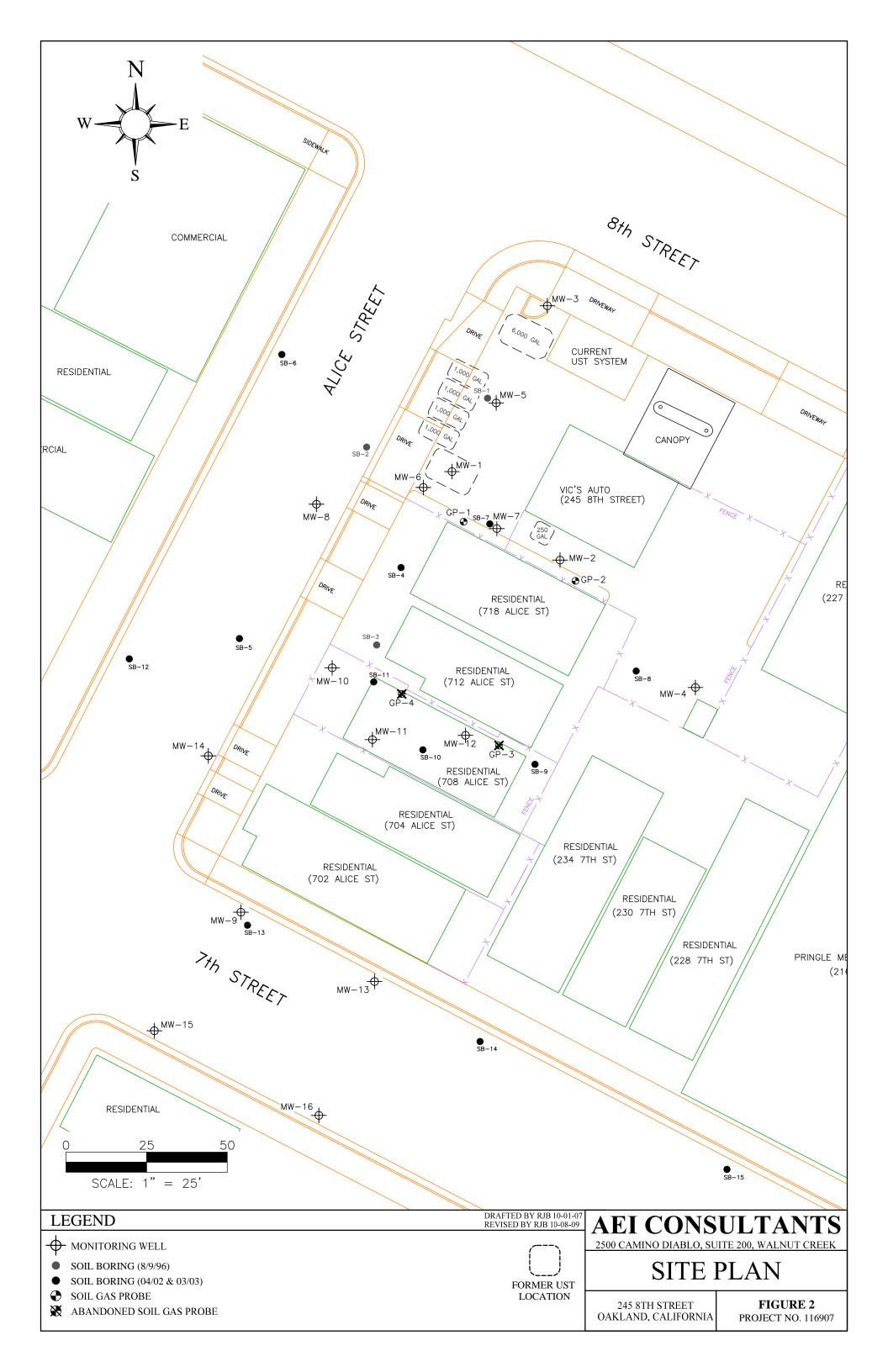


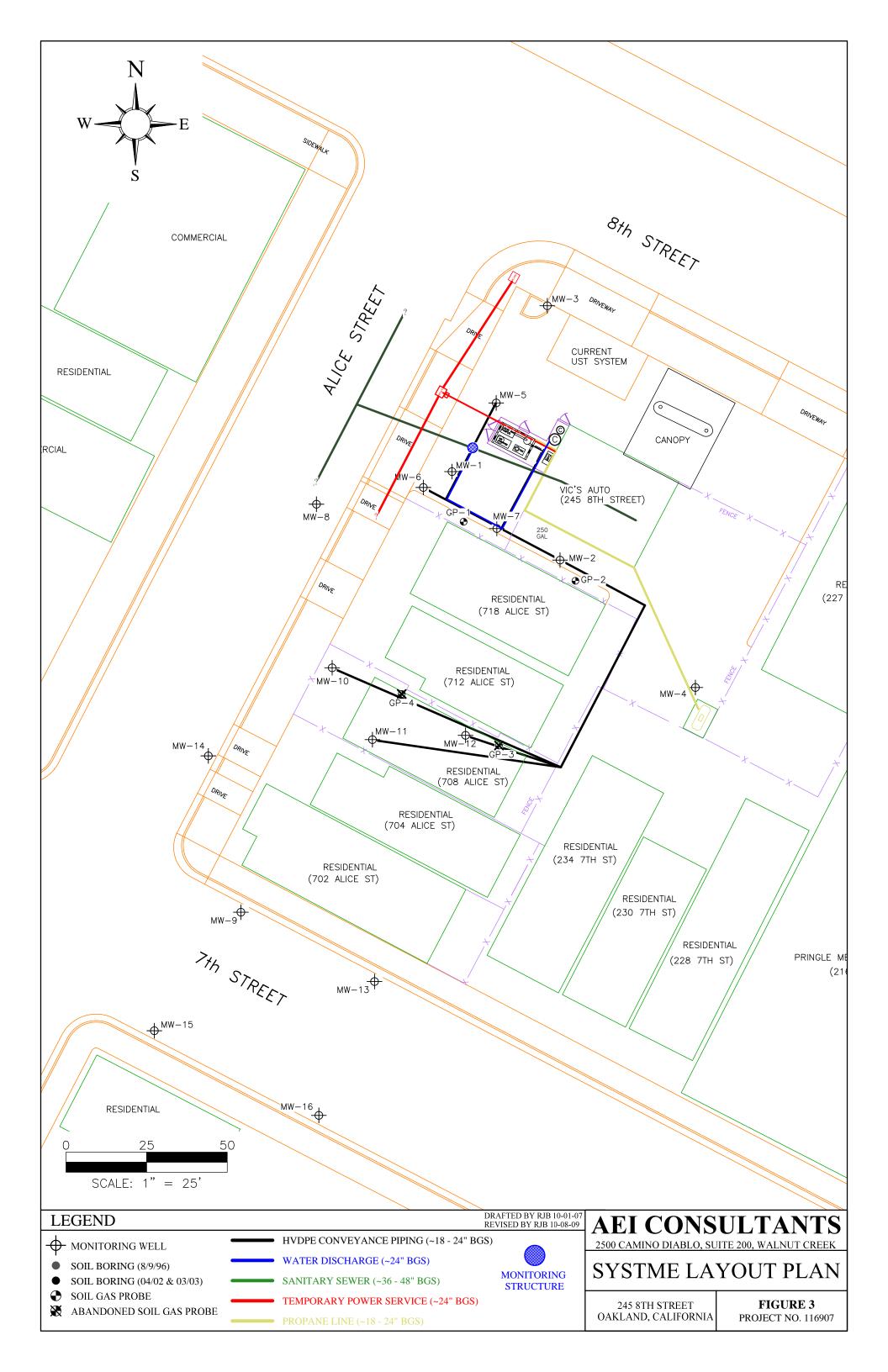
AEI CONSULTANTS

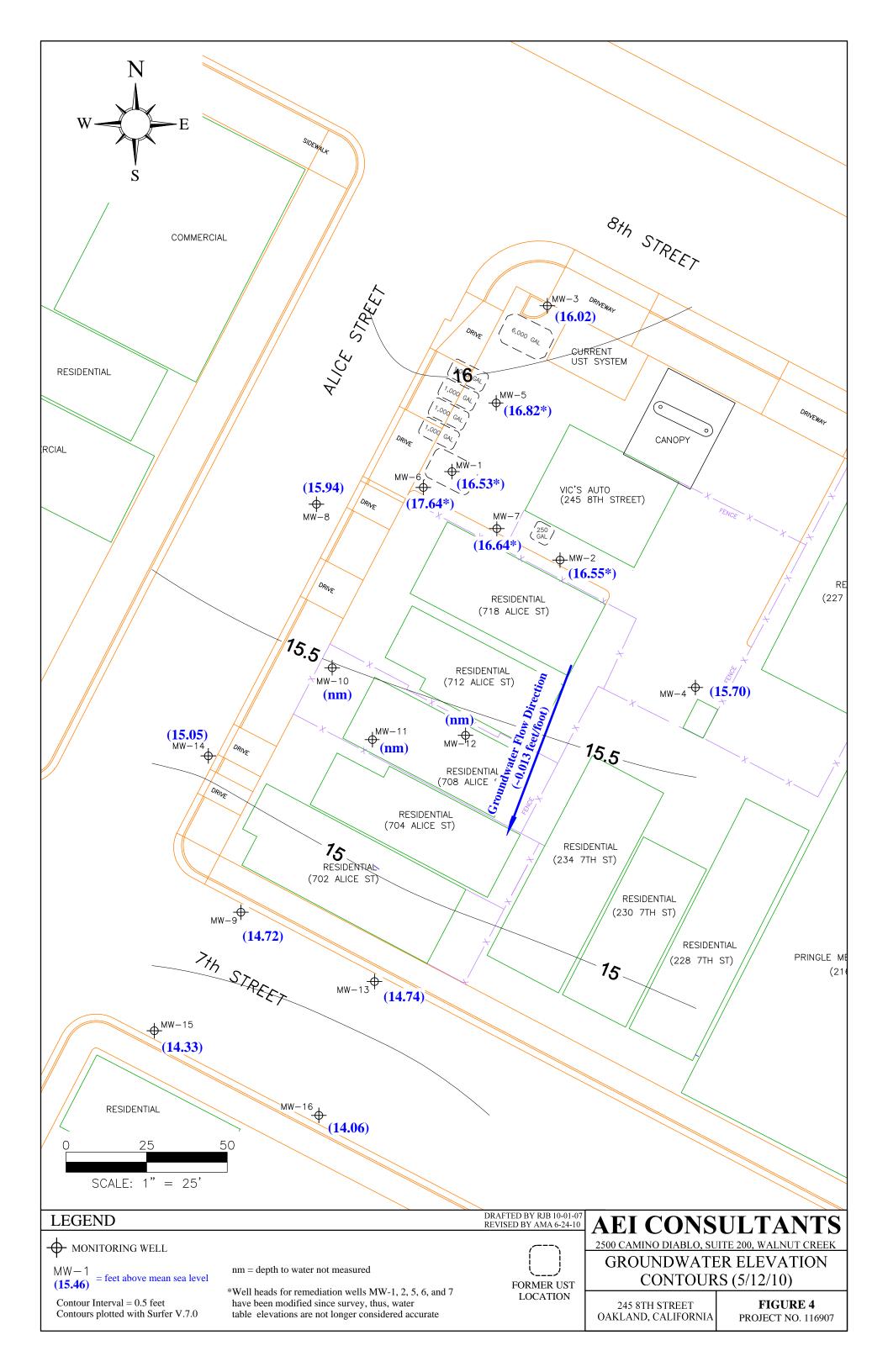
2500 CAMINO DIABLO BLVD, SUITE 200, WALNUT CREEK, CA

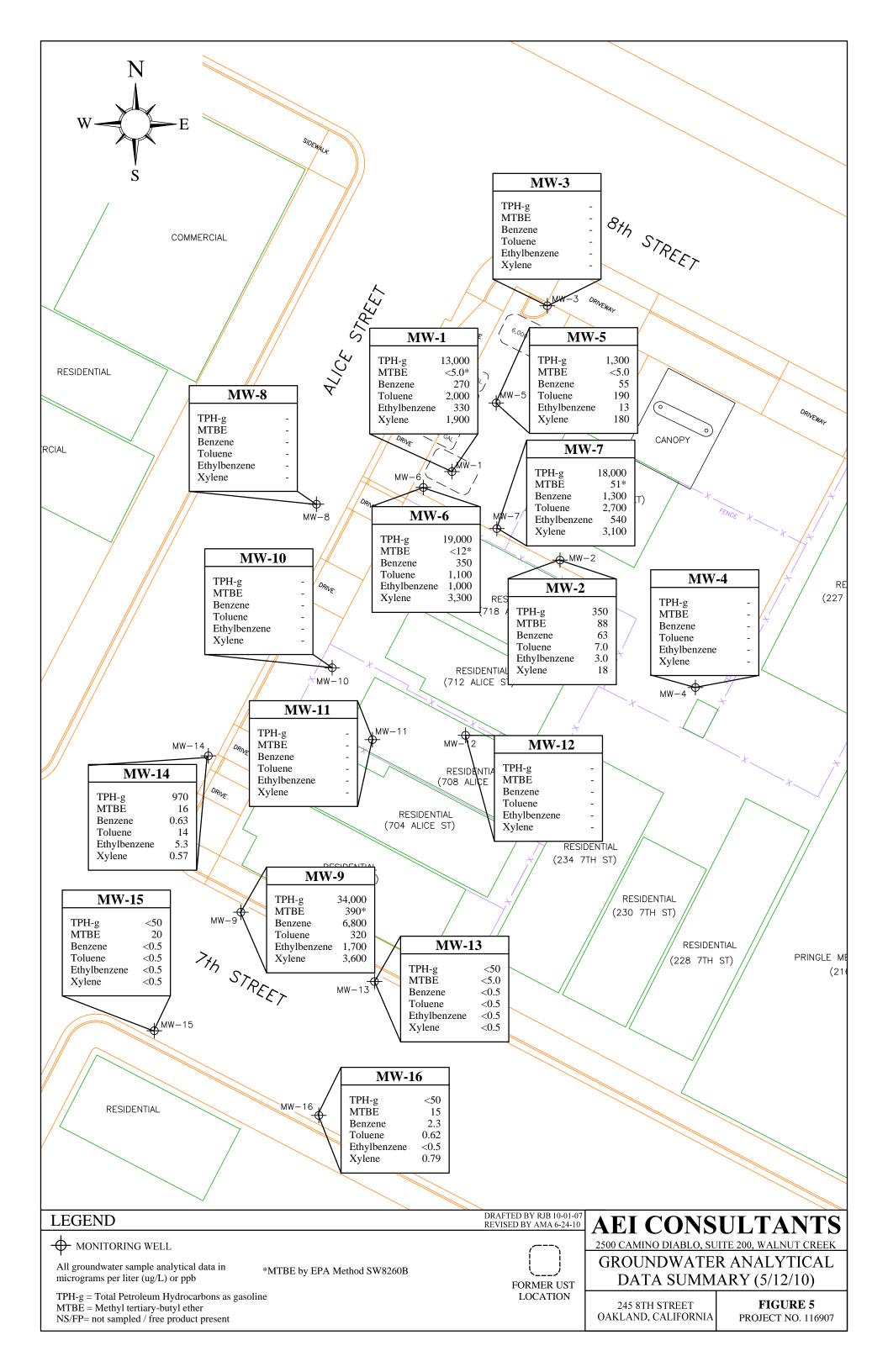
SITE LOCATION MAP

245 8th STREET OAKLAND, CALIFORNIA FIGURE 1 PROJECT No. 116907









TABLES



MW-1* (8-28) 10/10/01 01/09/02 04/24/02 07/24/02 11/05/02 02/04/03 05/02/03 08/04/03 11/03/03 02/09/02 05/10/02 08/09/02 11/09/02 05/09/03 08/05/05 11/09/05 01/09/05 01/09/05 01/09/05 02/09/06 05/04/06 08/04/06 01/08/06 05/29/07	27.73 27.73	16.52 15.45 12.61 13.35 14.19 14.85 14.91 14.43 15.24 16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	11.21 12.28 15.12 14.38 13.54 12.88 12.82 13.30 12.49 10.79 13.12 - 12.49 11.78 18.80 18.62 17.15	14.89 15.37 - - - - - 15.01 15.67 14.43 - 15.03 15.71 13.58 13.81 15.39	1.63 0.08 <0.01 <0.01 <0.01 <0.01 <0.01 0.08 0.23 1.27 0.18 - 0.21 0.24 0.17 0.12 0.01
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04/24/02 07/24/02 11/05/02 02/04/03 05/02/03 08/04/03 11/03/03 02/09/02 05/10/02 08/09/02 11/09/02 02/03/05 05/09/05 01/09/06 02/09/06 05/04/06 01/08/07 01/08/06 01/08/07 05/29/07	27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73	13.35 14.19 14.85 14.91 14.43 15.24 16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	14.38 13.54 12.88 12.82 13.30 12.49 10.79 13.12 - 12.49 11.78 18.80 18.62	15.67 14.43 - 15.03 15.71 13.58 13.81	<0.01 <0.01 <0.01 <0.01 0.08 0.23 1.27 0.18 - 0.21 0.24 0.17 0.12
07/24/02 11/05/02 02/04/03 05/02/03 08/04/03 11/03/03 02/09/04 05/10/04 08/09/04 11/09/04 02/03/05 05/09/05 01/09/06 05/04/06 01/08/06 01/08/07 05/29/07	27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73	14.19 14.85 14.91 14.43 15.24 16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	13.54 12.88 12.82 13.30 12.49 10.79 13.12 - 12.49 11.78 18.80 18.62	15.67 14.43 - 15.03 15.71 13.58 13.81	<0.01 <0.01 <0.01 0.08 0.23 1.27 0.18 - 0.21 0.24 0.17 0.12
11/05/02 02/04/03 05/02/03 08/04/03 11/03/03 11/03/03 02/09/04 05/10/04 08/09/04 11/09/05 05/09/05 08/05/05 11/09/05 05/04/06 08/04/06 11/08/06 02/08/07 05/29/07	27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 32.55 32.55 32.55	14.85 14.91 14.43 15.24 16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	12.88 12.82 13.30 12.49 10.79 13.12 - 12.49 11.78 18.80 18.62	15.67 14.43 - 15.03 15.71 13.58 13.81	<0.01 <0.01 0.08 0.23 1.27 0.18 - 0.21 0.24 0.17 0.12
02/04/03 05/02/03 08/04/03 11/03/03 11/03/03 02/09/04 05/10/04 08/09/04 11/09/04 02/03/05 05/09/05 01/09/05 02/09/06 05/04/06 01/08/05 05/29/05	27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 32.55 32.55	14.91 14.43 15.24 16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	12.82 13.30 12.49 10.79 13.12 - 12.49 11.78 18.80 18.62	15.67 14.43 - 15.03 15.71 13.58 13.81	<0.01 0.08 0.23 1.27 0.18 - 0.21 0.24 0.17 0.12
05/02/03 08/04/03 11/03/03 02/09/04 05/10/04 08/09/04 11/09/04 02/03/05 05/09/05 11/09/05 02/09/06 05/04/06 08/04/06 11/08/06 02/08/07 05/29/07	27.73 27.73 27.73 27.73 27.73 27.73 27.73 27.73 32.55 32.55 32.55	14.43 15.24 16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	13.30 12.49 10.79 13.12 - 12.49 11.78 18.80 18.62	15.67 14.43 - 15.03 15.71 13.58 13.81	0.08 0.23 1.27 0.18 - 0.21 0.24 0.17 0.12
08/04/03 11/03/03 02/09/04 05/10/04 08/09/04 11/09/04 02/03/05 05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 11/08/06 02/08/07 05/29/07	27.73 27.73 27.73 27.73 27.73 27.73 27.73 32.55 32.55 32.55	15.24 16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	12.49 10.79 13.12 - 12.49 11.78 18.80 18.62	15.67 14.43 - 15.03 15.71 13.58 13.81	0.23 1.27 0.18 - 0.21 0.24 0.17 0.12
11/03/03 02/09/04 05/10/04 08/09/04 11/09/04 02/03/05 05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 11/08/06 02/08/07 05/29/07	27.73 27.73 27.73 27.73 27.73 27.73 32.55 32.55 32.55	16.94 14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	10.79 13.12 - 12.49 11.78 18.80 18.62	15.67 14.43 - 15.03 15.71 13.58 13.81	1.27 0.18 - 0.21 0.24 0.17 0.12
02/09/04 05/10/04 08/09/04 11/09/04 02/03/05 05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 08/04/06 11/08/06 02/08/07 05/29/07	27.73 27.73 27.73 27.73 27.73 32.55 32.55 32.55	14.61 Obstructed 15.24 15.95 13.75 13.93 15.40	13.12 - 12.49 11.78 18.80 18.62	14.43 - 15.03 15.71 13.58 13.81	0.18 - 0.21 0.24 0.17 0.12
05/10/02 08/09/02 11/09/02 02/03/05 05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 11/08/06 02/08/07 05/29/07	27.73 27.73 27.73 32.55 32.55 32.55	Obstructed 15.24 15.95 13.75 13.93 15.40	- 12.49 11.78 18.80 18.62	15.03 15.71 13.58 13.81	0.21 0.24 0.17 0.12
08/09/04 11/09/04 02/03/05 05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 08/04/06 11/08/06 02/08/07 05/29/07	27.73 27.73 32.55 32.55 32.55	15.24 15.95 13.75 13.93 15.40	11.78 18.80 18.62	15.71 13.58 13.81	0.24 0.17 0.12
11/09/04 02/03/05 05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 08/04/06 11/08/06 02/08/07	27.73 32.55 32.55 32.55	15.95 13.75 13.93 15.40	11.78 18.80 18.62	15.71 13.58 13.81	0.24 0.17 0.12
02/03/05 05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 11/08/06 02/08/07 05/29/07	32.55 32.55 32.55	13.75 13.93 15.40	18.80 18.62	13.58 13.81	0.17 0.12
05/09/05 08/05/05 11/09/05 02/09/06 05/04/06 08/04/06 11/08/06 02/08/07 05/29/07	32.55 32.55	13.93 15.40	18.62	13.81	0.12
08/05/05 11/09/05 02/09/06 05/04/06 08/04/06 11/08/06 02/08/07 05/29/07	32.55	15.40			
02/09/06 05/04/06 08/04/06 11/08/06 02/08/07 05/29/07					
05/04/06 08/04/06 11/08/06 02/08/07 05/29/07	J2.JJ	15.76	16.79	15.75	0.01
08/04/06 11/08/06 02/08/07 05/29/07	32.55	13.52	19.03	13.50	0.02
11/08/06 02/08/07 05/29/07	32.55	12.47	20.08	12.46	0.01
02/08/07 05/29/07	32.55	15.11	17.44	15.09	0.02
05/29/07	32.55	16.03	16.52	16.02	0.01
■ · · · · · · · · · · · · · · · · · · ·	32.55	16.51	16.04	16.48	0.03
00/07/05	32.55	15.56	16.99	15.51	0.05
09/05/07	32.55	16.33	16.22	-	Sheen
12/12/07	32.55	17.62	14.93	-	Sheen
02/13/08	32.55	15.94	16.61	-	Sheen
05/15/08	32.55	16.64	15.91	-	-
08/05/08	32.55	16.99	15.56	-	-
11/07/08	32.55	17.40	15.15	-	-
02/05/09	32.55	16.89	15.66	-	-
05/05/09	32.55	15.69	16.86	-	-
08/21/09	32.55	17.09	15.46	-	-
11/23/09	32.55	16.92	15.63	-	-
02/26/10		14.77	17.78	-	-
05/12/10	32.55	16.02	16.53	-	-

Well ID (screen interval)	Date Collected	Well ^{1,2,5} Elevation (ft amsl)	Depth to ³ Water (ft)	Groundwater ⁴ Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MW-2*	06/29/01	28.16	16.14	12.02		
(8-28)	10/10/01	28.16 28.16	16.14	12.02	-	-
(8-28)	01/09/02	28.16	13.50	14.66	-	-
	04/24/02	28.16	14.40	13.76	-	<u>-</u>
	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	_	<u> </u>
	08/04/03	28.16	15.98	12.18	_	_
	11/03/03	28.16	16.60	11.56	_	Sheen
	02/09/04	28.16	15.22	12.94	_	Sheen
	05/10/04	28.16	15.34	12.82	_	Sheen
	08/09/04	28.16	15.92	12.24	_	Sheen
	11/09/04	28.16	16.51	11.65	_	Sheen
	02/03/05	33.24	14.44	18.80	_	Sheen
	05/09/05	33.24	14.67	18.57	_	Sheen
	08/05/05	33.24	16.27	16.97	_	Sheen
	11/09/05	33.24	16.53	16.71	_	Sheen
	02/09/06	33.24	14.36	18.88	_	Sheen
	05/04/06	33.24	13.46	19.78	-	Sheen
	08/04/06	33.24	15.95	17.29	-	Sheen
	11/08/06	33.24	16.86	16.38	-	Sheen
	02/08/07	33.24	17.13	16.11	-	Sheen
	05/29/07	33.24	16.51	16.73	-	Sheen
	09/05/07	33.24	17.48	15.76	-	-
	12/12/07	33.24	18.72	14.52	-	-
	02/13/08	33.24	16.91	16.33	-	-
	05/15/08	33.24	17.67	15.57	-	-
	08/05/08	33.24	17.94	15.30	-	-
	11/07/08	33.24	18.79	14.45	-	-
	02/05/09	33.24	17.98	15.26	-	-
	05/05/09	33.24	17.52	15.72	-	-
	08/21/09	33.24	18.02	15.22	-	-
	11/23/09	33.24	17.94	15.30	-	-
	02/26/10	33.24	15.79	17.45	-	-
	05/12/10	33.24	16.69	16.55	-	-

Well ID (screen interval)	Date Collected	Well ^{1,2,5} Elevation (ft amsl)	Depth to ³ Water (ft)	Groundwater ⁴ Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MANA 2	0.6/20/01	20.21	16.60	12.61		
MW-3 (10-25)	06/29/01 10/10/01	29.21 29.21	16.60 16.92	12.61 12.29	-	-
(10-23)	01/09/02	29.21 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	12.74	-	-
	05/02/03	29.21	15.45	13.76	-	i - !
	08/04/03	29.21	16.46	12.75	-	-
	11/03/03	29.21	17.15	12.75	_	_
	02/09/04	29.21	15.78	13.43	_	_
	05/10/04	29.21	15.77	13.44	_	_
	08/09/04	29.21	16.45	12.76	_	_
	11/09/04	29.21	17.26	11.95	_	_
	02/03/05	34.25	15.92	18.33	_	_
	05/09/05	34.25	15.03	19.22	_	_
	08/05/05	34.25	16.59	17.66	_	_
	11/09/05	34.25	16.82	17.43	_	-
	02/09/06	34.25	14.65	19.60	_	-
	05/04/06	34.25	13.61	20.64	_	-
	08/04/06	34.25	16.28	17.97	_	-
	11/08/06	34.25	17.28	16.97	_	-
	02/08/07	34.25	17.68	16.57	_	-
	05/29/07	34.25	17.37	16.88	-	-
	09/05/07	34.25	18.53	15.72	-	-
	12/12/07	34.25	19.61	14.64	-	-
	02/13/08	34.25	18.12	16.13	-	-
	05/15/08	34.25	18.64	15.61	-	-
	08/05/08	34.25	18.88	15.37	-	-
	11/07/08	34.25	19.60	14.65	-	-
	02/05/09	34.25	19.02	15.23	-	-
	05/05/09	34.25	17.78	16.47	-	-
	08/21/09	34.25	19.24	15.01	-	-
	11/23/09	34.25	19.04	15.21	-	-
	02/26/10	34.25	16.96	17.29	-	-
	05/12/10	34.25	18.23	16.02	-	-
				İ		

Well ID (screen interval)	Date Collected	Well ^{1,2,5} Elevation (ft amsl)	Depth to ³ Water (ft)	Groundwater ⁴ Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MANA A	06/20/01	20.29	17.71	11.67		
MW-4 (10-25)	06/29/01 10/10/01	29.38 29.38	17.71 18.00	11.67 11.38	-	-
(10-23)	01/09/02	29.38 29.38	15.02	14.36	-	-
	04/24/02	29.38 29.38	15.74	13.64	-	-
	07/24/02	29.38	16.69	12.69	-	-
	11/05/02	29.38 29.38	17.64	11.74	-	-
	02/04/03	29.38 29.38	16.02	13.36	-	-
	05/02/03	29.38	16.72	12.66	-	i - !
	08/04/03	29.38	17.51	11.87	-	<u>-</u>
	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	_	<u> </u>
	11/09/05	34.42	17.91	16.51	_	<u>-</u>
	02/09/06	34.42	15.62	18.80	-	_
	05/04/06	34.42	15.12	19.30	-	_
	08/04/06	34.42	17.39	17.03	_	-
	11/08/06	34.42	18.30	16.12	_	_
	02/08/07	34.42	18.57	15.85	_	_
	05/29/07	34.42	18.29	16.13	_	_
	09/05/07	34.42	19.27	15.15	_	_
	12/12/07	34.42	20.44	13.98	-	-
	02/13/08	34.42	18.52	15.90	-	-
	05/15/08	34.42	19.42	15.00	-	-
	08/05/08	34.42	19.67	14.75	-	-
	11/07/08	34.42	20.42	14.00	-	-
	02/05/09	34.42	19.72	14.70	-	-
	05/05/09	34.42	18.51	15.91	-	-
	08/21/09	34.42	19.70	14.72	-	-
	11/23/09	34.42	19.79	14.63	-	-
	02/26/10	34.42	17.52	16.90	-	-
	05/12/10	34.42	18.72	15.70	-	-

Well ID (screen interval)	Date Collected	Well ^{1,2,5} Elevation (ft amsl)	Depth to ³ Water (ft)	Groundwater ⁴ Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
NATE FO	02/02/05	22.22	14.22	10.10		
MW-5*	02/03/05	33.33 33.33	14.23 14.33	19.10 19.00	-	-
(12-22)	05/09/05 08/05/05	33.33 33.33	14.33	19.00 17.44	-	-
	11/09/05	33.33	16.18	17.44	-	- !
	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	_	<u> </u>
	09/05/07	33.33	16.95	16.38	_	_
	12/12/07	33.33	18.13	15.20	_	-
	02/13/08	33.33	16.58	16.75	-	-
	05/15/08	33.33	17.08	16.25	-	-
	08/05/08	33.33	17.42	15.91	-	-
	11/07/08	33.33	17.99	15.34	-	-
	02/05/09	33.33	17.42	15.91	-	-
	05/05/09	33.33	16.20	17.13	-	-
	08/21/09	33.33	17.66	15.67	-	-
	11/23/09	33.33	17.39	15.94	-	-
	02/26/10	33.33	15.41	17.92	-	-
	05/12/10	33.33	16.51	16.82	-	-
MW-6*	02/03/05	32.82	13.99	18.83	-	Sheen
(12-22)	05/09/05	32.82	13.61	19.21	-	Sheen
, ,	08/05/05	32.82	15.50	17.32	15.13	0.37
	11/09/05	32.82	15.87	16.95	15.50	0.37
	02/09/06	32.82	13.93	18.89	13.22	0.71
	05/04/06	32.82	12.88	19.94	12.13	0.75
	08/04/06	32.82	15.22	17.60	14.81	0.41
	11/08/06	32.82	16.16	16.66	15.78	0.38
	02/08/07	32.82	15.48	17.34	15.14	0.34
	05/29/07	32.82	15.35	17.47	15.04	0.31
	09/05/07	32.82	15.55	17.27	-	-
	12/12/07	32.82	17.22	15.60	-	Sheen
	02/13/08	32.82	15.54	17.28	-	Sheen
	05/15/08	32.82	16.25	16.57	-	-
	08/05/08	32.82	16.48	16.34	-	-
	11/07/08	32.82	17.33	15.49	-	-
	02/05/09	32.82	16.53	16.29	-	-
	05/05/09	32.82	15.46	17.36	-	-
	08/21/09	32.82	16.70	16.12	-	-
	11/23/09	32.82	16.53	16.29	-	-
	02/26/10	32.82	14.37	18.45	-	-
	05/12/10	32.82	15.18	17.64	-	-

Well ID (screen interval)	Date Collected	Well ^{1,2,5} Elevation (ft amsl)	Depth to ³ Water (ft)	Groundwater ⁴ Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MW-7*	02/03/05	33.07	14.17	18.90		Sheen
(12-22)	05/09/05	33.07	14.17	18.60	- 14.44	0.03
(12-22)	08/05/05	33.07	16.07	17.00	16.02	0.05
	11/09/05	33.07	16.47	16.60	16.35	0.03
	02/09/06	33.07	14.18	18.89	14.11	0.12
	05/04/06	33.07	13.12	19.95	13.11	0.07
	08/04/06	33.07	15.74	17.33	13.11	Sheen
	11/08/06	33.07	16.59	16.48	-	Sheen
				1	-	1
	02/08/07 05/29/07	33.07	16.23 16.13	16.84	-	Sheen
	•	33.07		16.94	-	Sheen
	09/05/07	33.07	16.40	16.67	-	Sheen
	12/12/07	33.07	18.02	15.05	-	Sheen
	02/13/08	33.07	16.27	16.80	-	Sheen
	05/15/08	33.07	17.01	16.06	-	-
	08/05/08	33.07	17.23	15.84	-	-
	11/07/08	33.07	18.18	14.89	-	-
	02/05/09	33.07	17.26	15.81	-	-
	05/05/09	33.07	16.13	16.94	-	-
	08/21/09	33.07	17.39	15.68	-	-
	11/23/09	33.07	17.33	15.74	-	-
	02/26/10	33.07	15.15	17.92	-	-
	05/12/10	33.07	16.43	16.64	-	-
MW-8	05/15/08	31.73	16.47	15.26	-	-
(12-22)	08/05/08	31.73	16.88	14.85	-	-
	11/07/08	31.73	17.28	14.45	-	-
	02/05/09	31.73	16.78	14.95	-	-
	05/05/09	31.73	16.05	15.68	-	-
	08/21/09	31.73	17.05	14.68	-	-
	11/23/09	31.73	16.72	15.01	-	-
	02/26/10	31.73	14.59	17.14	-	-
	05/12/10	31.73	15.79	15.94	-	-
MW-9	05/15/08	29.02	15.16	13.86		
(12-22)	08/05/08	29.02 29.02	15.16	13.64	-	-
(12-22)	11/07/08	29.02 29.02	15.38	I	-	-
	02/05/09	29.02 29.02		13.18 13.64	-	-
		29.02 29.02	15.38		-	-
	05/05/09 08/21/09		14.38	14.64	-	-
		29.02	15.41	13.61	-	-
	11/23/09	29.02	15.36	13.66	-	-
	02/26/10	29.02	13.51	15.51	-	-
	05/12/10	29.02	14.30	14.72	-	-

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

Well ID (screen interval)	Date Collected	Well ^{1,2,5} Elevation (ft amsl)	Depth to ³ Water (ft)	Groundwater ⁴ Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
NAVY 10	02/02/05	22.05	12.70	10.25		GI.
MW-12	02/03/05	32.05	13.70	18.35	-	Sheen
(12-22)	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 18.27	-	Sheen
	02/09/06 05/04/06	32.05 32.05	13.78 12.98		-	Sheen Sheen
	08/04/06	32.05 32.05	12.98 15.39	19.07	-	Sheen
	i	32.05 32.05	15.39 16.29	16.66 15.76	-	Sneen
	11/08/06			1	-	<u>-</u>
	02/08/07	32.05 32.05	16.54 16.27	15.51	-	<u>-</u>
	05/29/07	32.05 32.05		15.78	-	-
	09/05/07		17.24	14.81	-	-
	12/12/07	32.05	18.65	13.40	-	-
	02/14/08	32.05	16.50	15.55	-	-
	05/15/08	32.05	17.34	14.71	-	-
	08/05/08	32.05	17.61	14.41	-	- -
	11/07/08	32.05	nm	- }	-	-
	02/05/09	32.05	nm	-	-	-
	05/05/09	32.05	nm	-	-	-
	08/21/09	32.05	nm	i - i	-	-
	11/23/09	32.05	nm	: - <u> </u>	-	- !
	02/26/10	32.05	nm	-	-	<u>-</u>
	05/12/10	32.05	nm	-	-	-
MW-13	05/15/08	28.84	14.87	13.97		
(12-22)	08/05/08	28.84	15.10	13.74	_	_
(12-22)	11/07/08	28.84	15.61	13.23	-	<u> </u>
	02/05/09	28.84	15.09	13.75	-	-
	05/05/09	28.84	14.09	14.75	-	-
	08/21/09	28.84	15.11	13.73	-	-
	11/23/09	28.84	15.11	13.73	-	<u>-</u>
	02/26/10	28.84	13.11	15.52	-	-
	05/12/10	28.84	13.32 14.10	13.32 14.74	-	-
	03/12/10	20.04	14.10	14./4	-	-
MW-14	08/21/09	29.53	15.66	13.87	-	_
(12-22)	11/23/09	29.53 29.53	15.53	14.00	-	<u>-</u>
(12-22)	02/26/10	29.53	13.65	15.88		
	05/12/10	29.53 29.53	13.03 14.48	15.05		
	05/12/10	27.55	14.40	15.05		
MW-15	08/21/09	29.22	16.03	13.19	-	-
(12-22)	11/23/09	29.22	15.95	13.27		İ
()	02/26/10	29.22	14.30	14.92		
	05/12/10	29.22	14.89	14.33		
	! !					! !
MW-16	08/21/09	28.87	15.61	13.26	-	-
(12-22)	11/23/09	28.87	15.61	13.26		}
	02/26/10	28.87	13.81	15.06		!
	05/12/10	28.87	14.81	14.06		}

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

Well ID (screen interval) Date Collected	Well ^{1,2,5} Elevation (ft amsl)	Depth to ³ Water (ft)	Groundwater ⁴ Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
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NOTES:

- not applicable

ft = feet

ft amsl = feet above mean sea level

nm = not measured

LNAPL = light non-aqueous phase liquid

*Well head modified to serve as remediation well, top of casing elevation no longer considered surveyed

- 1) Monitoring well top of casing (TOC) elevations were resurveyed by Morrow Surveying on January 10, 2006 and February 7, 2006
- 2) Groudwater elevations for the February 3, 2005 and subsequent monitoring episodes use the new well survey data
- 3) Depth water is measured from the top of the well casing
- 4) When LNAPL is present at >0.10 ft, the groundwater elevations are assumed to be affected by the LNAPL
- 5) Monitoring well top of casing (TOC) elevations for MW-8, 9, 13, 14, 15 & 16 were surveyed by Morrow Surveying on September 30, 2009

TABLE 2: GROUNDWATER FLOW SUMMARY

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

Episode #	Date	Average Groundwater Elevation ¹ (feet amsl)	Change from Previous Episode (feet)	Flow direction (gradient)
1	06/29/01	12.10	_	SSE (0.0074)
2	10/10/01	11.80	-0.30	SSE (0.0074) 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 (0.01) 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 (0.000) SSE (0.008)
13	08/09/04	12.31	-0.11 -0.60	SSE (0.006) SSE (0.006)
14	11/09/04	11.70	-0.62	SSE (0.000) SSE (0.004)
15	02/03/05	18.75	-0.62 -	SSE (0.004) W (0.007)
	I		i i	
16 17	05/09/05	18.53	-0.22	S (0.010)
18	08/05/05 11/09/05	16.94 16.65	-1.59	S (0.010)
_			-0.28	S (0.010)
19	02/09/06	18.83	2.17	SSW (0.010)
20	05/04/06	19.72	0.90	SSW (0.012)
21	08/04/06	17.24	-2.48	SSW (0.010)
22	11/08/06	16.32	-0.93	SSW(0.0007)
23	02/08/07	16.25	-0.07	SSE (0.0009)
24	05/29/07	16.60	0.35	SSE (0.0009)
25*	09/05/07	15.77	-0.84	-
26*	12/12/07	14.38	-1.38	-
27*	02/13/08	16.24	1.86	-
28*	05/15/08	15.25	-1.00	-
29*	08/05/08	14.97	-0.27	-
30*	11/07/08	14.48	-0.49	-
31*	02/05/09	15.12	0.64	-
32*	05/05/09	16.15	1.03	-
33+	08/21/09	14.63	-1.51	SW (0.010)
34	11/23/09	14.74	0.11	SW (0.010)
35^	02/26/10	16.75	2.01	SSW (0.016)
36^^	05/17/10	15.07	-1.68	SSW (0.006)

NOTES:

- not applicable

ft amsl = feet above mean sea level

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

- * Flow direction not calculated due to onsite operation of dual-phase extraction remediation system
- + HVDPE System was shutdown for approximately three (3) months prior to sampling; therefore, groundwater elevation data was contoured. The groundwater elevation data and contours are shown on Figure 4.
- ^HVDPE System was shutdown for approximately four (4) months prior to sampling; therefore, groundwater elevation data was contoured. The groundwater elevation data and contours are shown on Figure 4.
- ^HVDPE System was shutdown for approximately seven (7) months prior to sampling; therefore, groundwater elevation data was contoured. In addition, average elevation and change from previous was not calculated for remediation wells MW-1, 2, 5, 6, and 7, since these well heads have been modified since their survey. The groundwater elevation data and contours are shown on Figure 4.

MW-1	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)
(8-28)	MW_1	06/29/01	1.63	ng/fn	ns/fn	ns/fn	ns/fn	ns/fn	ns/fn	_
01/09/02 <0.01 ns/fp n		:		-	-			i -		_
04/24/02 <0.01	(0-20)						-			_
07/24/02				-	-	-	-	_	-	_
11/05/02				-	-		-			_
02/04/03				-	-	-	-	-	-	_
05/02/03 0.08 ns/fp <				-	•		-			_
08/04/03				-	-	_	-	_	_	_
11/03/03					-					_
02/09/04 0.18 ns/fp ns					-		_		_	_
05/10/04 Obstructed 08/09/04 0.21 ns/ftp ns/f					-					_
08/09/04 0.21 ns/fp <			1	- -	- -	-	- -	- -	-	_
11/09/04				ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	_
02/03/05 0.17 ns/fp <				-	-		-			-
05/09/05 0.12 ns/fp ns				-	-	• •	-	•	_	-
08/05/05 0.01 ns/fp <				-	-			i -		-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					_	-	-		_	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		11/09/05		-	-	-	-			-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		02/09/06		-	-	-	-	•	-	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		05/04/06	0.01	-	ns/fp	-		-	-	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		08/04/06	0.02	-	ns/fp	-	ns/fp			-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		11/08/06	0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		02/08/07	0.03	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		05/29/07	0.05	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		09/05/07	Sheen	47,000	< 500	4,200	11,000	1,100	6,400	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		12/12/07	Sheen	80,000	<250	630	22,000	1,700	8,900	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		02/13/08	Sheen	22,000	<250	750	4,100	340	3,200	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		05/15/08	0.00	25,000	<600	580	9,200	970	4,200	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		08/05/08	0.00	110,000	<1,000	730	22,000	1,700	8,200	-
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		11/07/08	0.00	15,000	290	460	1,400	84	2,700	-
08/21/09 0.00 63,000 <50* 1,900 15,000 1,200 7,600 - 11/23/09 0.00 63,000 <17* 3,300 9,800 1,500 8,200 - 02/26/10 0.00 62,000 <25* 3,500 14,000 1,600 9,300 -						1,100	8,500	880	4,500	-
11/23/09 0.00 63,000 <17* 3,300 9,800 1,500 8,200 - 02/26/10 0.00 62,000 <25* 3,500 14,000 1,600 9,300 -						1,300	6,500	1,300	6,800	-
02/26/10 0.00 62,000 <25* 3,500 14,000 1,600 9,300 -		1	i i			i :		i '	i i	-
								1		-
05/12/10 0.00 13,000 <5.0* 270 2,000 330 1,900 -									I 1	-
		05/12/10	0.00	13,000	<5.0*	270	2,000	330	1,900	-

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	06/29/01	0.00	69,000	4,100/4,400*	7,200	6,100	1,500	7,000	
(8-28)	10/10/01	0.00	87,000	14,000	22,000	12,000	2,700	9,100	_
(0-20)	01/09/02	0.00	130,000	11,000	30,000	19,000	3,800	14,000	_
	04/24/02	Sheen	210,000	32,000	38,000	23,000	4,600	19,000	_
	07/24/02	Sheen	170,000	36,000	48,000	12,000	3,700	8,600	_
	11/05/02	Sheen	190,000	36,000	45,000	25,000	4,600	16,000	_
	02/04/03	Sheen	150,000	27,000	51,000	24,000	4,200	14,000	_
	05/02/03	Sheen	150,000	35,000	39,000	11,000	3,800	9,900	_
	08/04/03	Sheen	120,000	29,000	32,000	5,000	3,200	7,200	-
	11/03/03	Sheen	120,000	24,000	33,000	4,300	3,200	5,400	-
	02/09/04	Sheen	130,000	19,000	27,000	7,700	3,100	7,600	_
	05/10/04	Sheen	67,000	13,000	20,000	3,000	2,300	4,100	-
	08/09/04	Sheen	100,000	22,000	27,000	7,100	2,800	6,600	-
	11/09/04	Sheen	100,000	23,000	27,000	6,100	3,000	5,600	-
İ	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	-
İ	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< td=""></dl<>
	$02/08/07^1$	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	-
İ	09/05/07	Sheen	25,000	1,000	3,300	3,400	490	2,800	-
	12/12/07	0.00	5,500	870	1,100	440	28	550	-
	02/13/08	0.00	5,700	250	440	290	43	1,000	-
	05/15/08	0.00	490	68	110	11	0.90	42	-
	08/05/08	0.00	520	<25	26	57	7.6	70	-
	11/07/08	0.00	680	72	110	38	3.1	75	-
	02/05/09	0.00	1,000	82	130	50	15	120	-
	05/05/09	0.00	570	8.6*	22	33	9.2	73	-
	08/21/09	0.00	660	<10	13	41	13	48	-
	11/23/09	0.00	400	23*	20	10	1.0	33	-
	02/26/10	0.00	1,400	17*	56	83	18	230	-
	05/12/10	0.00	350	88	63	7.0	3.0	18	-

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)
3.533.4	0.6/0.0/0.1	0.00	5.50	.5.0	.0.5	2.1	2.2	1.0	
MW-3	06/29/01	0.00	550 470	<5.0	< 0.5	3.1	3.2	1.2	-
(10-25)	10/10/01	0.00		<5.0	0.77	5.3	3.3	5.9 25	-
	01/09/02	0.00 0.00	1,000	<5.0 <5.0	0.90	7.6	7.8 12	25 14	-
	04/24/02 07/24/02	0.00	1,500 1,200	<5.0 <5.0	0.64	7.2 17.0	12	14 25	-
	11/05/02	Ē		<3.0 <25	10 33	43.0	11	23 31	-
	02/04/03	0.00	1,800	<5.0		43.0 5.0			-
	02/04/03 05/02/03	0.00	450	<5.0 <5.0	<0.5		<0.5	0.77	-
	08/04/03	0.00 0.00	340 170	<5.0 <5.0	7.3 5.8	10.0 5.9	2.5 1.5	7.3 4.9	-
	11/03/03	0.00	54	<5.0 <5.0	3.8 <0.5		< 0.5	4.9 <0.5	-
	02/09/04		34 190	<5.0 <5.0		< 0.5	<0.5 <0.5	<0.5 <0.5	-
	02/09/04 05/10/04	0.00	280	<5.0 <5.0	<0.5 <0.5	3.6	<0.5 <0.5	<0.5 <0.5	-
	08/09/04	0.00	280 290	<5.0 <5.0	<0.5 <0.5	3.4		<0.5 <0.5	-
	11/09/04	0.00 0.00	290	<5.0 <5.0	<0.5 <0.5	3.8 4.0	<0.5	<u> </u>	-
	02/03/05	0.00	220 160	<5.0 <5.0	<0.5 13	30	<0.5 3	<0.5 21	-
	02/03/03	0.00	200	<5.0 <5.0	< 0.5	3.9	< 0.5	< 0.5	-
	03/09/03	0.00	<50	<5.0 <5.0	<0.5 <0.5	<0.5	<0.5 <0.5	<0.5 <0.5	-
	11/09/05	0.00	130	<5.0 <5.0	<0.5 <0.5	2.3	<0.5 <0.5	<0.5 <0.5	-
	02/09/05	0.00	270	<5.0 <5.0	<0.5 <0.5	2.3 5.6	<0.5 <0.5	<0.5 <0.5	-
	02/09/06	0.00	220	<5.0 <5.0	<0.5 <0.5	4.3	<0.5 <0.5	<0.5 <0.5	-
	03/04/06	0.00	93	<5.0 <5.0	<0.5 <0.5	4.3 1.5	<0.5 <0.5	<0.5 <0.5	-
	11/08/06	0.00	93 160	<5.0 <5.0	<0.5 <0.5	2.9	<0.5 <0.5	<0.5 <0.5	- <dl< td=""></dl<>
	i .	i			i i	i		i i	\DL
	$02/08/07^1$	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	05/29/07	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	09/05/07	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	12/12/07	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	02/13/08	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	<0.5	-
	05/15/08	0.00	< 50	< 5.0	0.99	< 0.5	< 0.5	0.68	-
	08/05/08	0.00	91	< 5.0	2.0	8.0	1.3	8.0	-
	11/07/08	0.00	150	<5.0	0.70	6.5	1.3	26	-
	02/05/09	0.00	<50	<5.0	1.7	< 0.5	< 0.5	< 0.5	-
	05/05/09	0.00	< 50	<5.0	< 0.5	0.76	< 0.5	< 0.5	-
	08/21/09	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	11/23/09	0.00	< 50	< 5.0	0.90	< 0.5	0.59	1.2	-
	02/26/10	-	-	-	-	-	-	-	-
	05/12/10	-	-	-	-	-	-	-	-

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	06/29/01	0.00	<50	<5.0	<0.5	<0.5	<0.5	<0.5	
(10-25)	10/10/01	0.00	<50 <50	<5.0	<0.5	<0.5	<0.5	<0.5	_
(10-23)	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< td=""></dl<>
	02/08/07	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	05/29/07	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	09/05/07	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	12/12/07	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	02/13/08	0.00	75	< 5.0	2.4	8.3	1.2	14	-
	05/15/08	0.00	< 50	< 5.0	0.65	< 0.5	< 0.5	0.52	-
	08/05/08	0.00	76	< 5.0	1.2	8.1	1.5	9.7	-
	11/07/08	0.00	100	< 5.0	2.8	7.7	1.1	15	-
	02/05/09	0.00	140	< 5.0	0.87	19	3.9	29	-
	05/05/09	0.00	85	< 5.0	1.2	8.0	2.5	19	-
	08/21/09	0.00	390	< 5.0	14	58	11	73	-
	11/23/09	0.00	< 50	< 5.0	2.6	< 0.5	1.5	2.3	-
	02/26/10	-	-	-	-	-	-	-	-
	05/12/10	-	-	-	-	-	-	-	-

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)
								I I I	
MW-5	02/03/05	0.00	78,000	<1,000	7,600	13,000	2,200	9,600	-
(12-22)	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< th=""></dl<>
	02/08/07	0.00	67,000	<800	5,100	10,000	1,800	10,000	-
	05/29/07	0.00	86,000	<1000	6,200	12,000	2,000	11,000	-
	09/05/07	0.00	36,000	<350	2,100	4,000	560	4,600	-
	12/12/07	0.00	8,200	<100	160	56	290	1,200	-
	02/13/08	0.00	4,600	< 50	77	440	41	1,300	-
	05/15/08	0.00	3,000	<10	59	330	47	670	-
	08/05/08	0.00	4,500	< 50	64	490	46	1,100	-
	11/07/08	0.00	5,000	<17	66	400	29	1,200	-
	02/05/09	0.00	2,800	<0.5*	49	120	22	570	-
	05/05/09	0.00	12,000	<5.0*	360	1,300	250	2,000	-
	08/21/09	0.00	11,000	<1.0*	450	610	400	2,300	-
	11/23/09	0.00	1,700	<0.5*	47	100	29	240	-
	02/26/10	0.00	3,100	<1.0*	55	220	27	520	-
	05/12/10	0.00	1,300	<5.0	55	190	13	180	-

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)
M	02/02/05	C1	120,000	1 000	2.400	22.000	2 400	15.000	
MW-6	02/03/05	Sheen	130,000	<1,000	2,400	33,000	2,400	15,000	-
(12-22)	05/09/05	Sheen	170,000	<4,000	11,000	43,000	3,100	16,000	-
	08/05/05	0.37	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/09/05	0.37	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/09/06	0.71	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/04/06	0.75	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	08/04/06	0.41	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/08/06	0.38	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/08/07	0.34	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	05/29/07	0.31	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	09/05/07	0.00	74,000	< 750	870	7,000	2,400	12,000	-
	12/12/07	Sheen	12,000	<10	556	560	550	1,800	-
	02/13/08	Sheen	27,000	<250	700	4,900	620	5,300	<dl< th=""></dl<>
	05/15/08	0.00	25,000	<150	410	2,500	1,000	3,700	-
	08/05/08	0.00	33,000	<350	480	5,500	1,400	6,800	-
	11/07/08 ²	0.00	54,000	< 5.0	610	7,000	1,700	8,900	-
	02/05/09	0.00	92,000	<50*	1,100	8,600	2,800	14,000	-
	05/05/09	0.00	58,000	<50*	560	4,300	2,400	13,000	-
	08/21/09	0.00	53,000	<5.0*	1,800	8,100	1,200	12,000	-
	11/23/09	0.00	28,000	<10*	270	710	1,200	5,500	-
	02/26/10	0.00	21,000	<10*	84	< 5.0	800	3,900	-
	05/12/10	0.00	19,000	<12*	350	1,100	1,000	3,300	-

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)
M33/ 7	02/03/05	Chaan	220,000	10 000	45,000	44.000	2.500	10.000	
MW-7 (12-22)	02/03/03	Sheen 0.03	220,000 ns/fp	18,000 ns/fp	45,000 ns/fp	44,000 ns/fp	3,500 ns/fp	18,000 ns/fp	-
(12-22)	08/05/05	0.05	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	11/09/05	0.03	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	-
	02/09/06	0.12	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	<u>-</u>
	05/04/06	0.07	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< th=""></dl<>
	02/08/07	Sheen	230,000	15,000	41,000	37,000	3,700	20,000	\DL
	05/29/07	Sheen	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	_
	09/05/07	Sheen	14,000	<450	41	210	99	1,600	_
	12/12/07	Sheen	9,200	<500	1,100	870	66	1,100	_
	02/13/08	0.00	17,000	590	2,800	2,700	300	1,900	_
	05/15/08	0.00	10,000	230	1,700	1,900	200	950	_
	08/05/08	0.00	6,100	<150	1,100	1,100	120	740	_
	11/07/08	0.00	4,200	<50	580	570	44	400	_
	02/05/09	0.00	7,800	26*	1,100	810	190	690	_
	05/05/09	0.00	7,200	77*	1,200	1,200	150	860	_
	08/21/09	0.00	28,000	390*	6,200	3,200	450	3,100	-
	11/23/09	0.00	17,000	32*	430	1,600	730	2,800	_
	02/26/10	0.00	21,000	29*	1,500	1,500	870	3,300	-
	05/12/10	0.00	18,000	51*	1,300	2,700	540	3,100	-
MW-8	05/15/08	0.00	90	<5.0	0.62	2.4	<0.5	1.0	_
(12-22)	08/05/08	0.00	81	<5.0	0.66	7.2	1.2	9.1	<u>-</u>
(12-22)	11/07/08	0.00	430	<5.0	2.9	26	6.1	86	_
	02/05/09	0.00	<50	< 5.0	0.98	1.3	< 0.5	< 0.5	_
	05/05/09	0.00	94	<5.0	0.91	7.1	2.2	17	_
	08/21/09	0.00	480	< 5.0	30	100	17	130	_
	11/23/09	0.00	62	< 5.0	5.3	2.0	2.4	3.3	_
	02/26/10	_	- -	-	-	-	-, .	-	-
	05/12/10	-	-	-	-	-	-	-	-
MW-9	05/15/08	0.00	60,000	960	14,000	410	1,500	3,500	_
(12-22)	08/05/08	0.00	42,000	<1,200	13,000	400	1,800	4,800	_
(12 22)	$11/07/08^2$		i .		i '		i	ì	
		0.00	53,000	400 360*	13,000	350 310	1,800	3,100	-
	02/05/09 05/05/09	0.00	32,000	360* 730*	11,000	310 520	1,600	2,700	-
	05/05/09 08/21/09	0.00 0.00	44,000 48,000	730* 900*	14,000 15,000	520 550	1,900 2,000	3,400	-
	11/23/09	0.00	48,000 39,000	750	13,000	390 390	2,000 1,800	3,300 2,400	-
	02/26/10	0.00	44,000	750*	12,000	390 360	1,800	3,800	_
	05/12/10 05/12/10	0.00	34,000	390*	6,800	320	1,900 1,700	3,600 3,600	-

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)
3.5777.40	00/00/05	0.00	26.000	.	4.700	7.200	660	2.400	
MW-10	02/03/05	0.00	36,000	<500	4,700	7,200	660	3,400	-
(12-22)	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	- D.
	11/08/06	0.00	57,000	< 500	2,500	7,600	1,600	5,700	<dl< th=""></dl<>
	02/08/07	0.00	69,000	<1,000	4,400	14,000	2,200	8,800	-
	05/29/07	0.00	100,000	<1,000	5,300	19,000	2,600	12,000	-
	09/05/07	0.00	87,000	<1,000	6,100	20,000	2,400	12,000	-
	12/12/07	Sheen	4,700	< 50	95	280	110	730	-
	02/13/08	0.00	4,500	<250	190	370	65	880	-
	05/15/08	0.00	4,800	< 50	130	320	110	710	-
	08/05/08	0.00	3,500	<120	230	180	74	190	-
	11/07/08 ³	-	-	-	-	-	-	-	-
	02/05/09	-	-	-	-	-	-	-	-
	05/05/09	-	-	-	-	-	-	-	-
	08/21/09	-	-	-	-	-	-	-	-
	11/23/09	-	-	-	! } -	-	-	- -	-
	02/26/10	-	-	-	-	-	-	-	-
	05/12/10	-	-	-	-	-	-	-	-
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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)
		I I I	I I I						
MW-11	02/03/05	Sheen	170,000	<3,000	23,000	35,000	3,100	16,000	-
(12-22)	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< th=""></dl<>
	02/08/07	0.00	230,000	19,000	43,000	44,000	3,900	20,000	-
	05/29/07	0.00	230,000	19,000	35,000	39,000	3,600	20,000	-
	09/05/07	0.00	200,000	19,000	34,000	36,000	3,700	23,000	-
	12/12/07	0.00	81,000	4,000	9,400	9,500	1,700	9,700	-
	02/13/08	0.00	36,000	4,200	5,700	4,000	560	5,300	-
	05/15/08	0.00	15,000	2,300	2,800	1,400	120	1,900	-
	08/05/08	0.00	12,000	1,100	1,800	760	98	630	-
	11/07/08 ³	-	-	-	-	-	-	-	-
	02/05/09	-	-	-	-	-	-	-	-
	05/05/09	-	-	-	-	-	-	-	-
	08/21/09	i -	i -	-	-	-	-	-	-
	11/23/09	-	i ! -	-	-	-	-	-	-
	02/26/10	-	-	-	-	-	-	-	-
	05/12/10	-	-	-	-	-	-	-	-

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)
3.6337.42	02/02/05	C1	250,000	100.000	52 000	41.000	2 400	15.000	
MW-12	02/03/05	Sheen	250,000	100,000	52,000	41,000	3,400	15,000	-
(12-22)	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< th=""></dl<>
	02/08/07	0.00	150,000	34,000	38,000	19,000	3,300	12,000	-
	05/29/07	0.00	150,000	30,000	30,000	15,000	3,100	13,000	-
	09/05/07	0.00	160,000	38,000	33,000	21,000	3,200	14,000	-
	12/12/07	0.00	58,000	6,700	10,000	7,100	1,200	4,900	-
	02/13/08	0.00	17,000	3,000	3,600	2,300	440	1,800	-
	05/15/08	0.00	7,800	1,900	2,000	500	130	640	-
	08/05/08	0.00	3,900	800	730	130	61	200	-
	11/07/08 ³	-	-	-	-	-	-	-	-
	02/05/09	-	-	-	-	-	-	-	-
	05/05/09	-	-	-	-	-	-	-	-
	08/21/09	-	-	-	-	-	-	-	-
	11/23/09	-	-	-	-	-	-	-	-
	02/26/10	-	_	-	-	-	-	-	-
	05/12/10	-	-	-	-	-	-	-	-

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-13	05/15/08	0.00	<250	6,700	18	<2.5	<2.5	<2.5	-
(12-22)	08/05/08	0.00	<250	3,400	<2.5	5.7	<2.5	4.3	-
	11/07/08	0.00	61	380	2.8	1.4	0.55	0.87	-
	02/05/09	0.00	< 50	14	< 0.5	< 0.5	< 0.5	< 0.5	-
	05/05/09	0.00	< 50	< 5.0	0.53	3.2	1.1	7.5	-
	08/21/09	0.00	85	< 5.0	2.0	10	2.2	13	-
	11/23/09	0.00	< 50	< 5.0	< 0.5	< 0.5	< 0.5	< 0.5	-
	02/26/10	0.00	500	< 5.0	9.8	58	20	110	-
	05/12/10	0.00	< 50	<5.0	<0.5	<0.5	<0.5	<0.5	-
MW-14	08/21/09	0.00	3,000	<1.0*	11	41	92	40	-
(12 - 22)	11/23/09	0.00	1,600	< 5.0	6.1	16	33	4.9	-
,	02/26/10	0.00	1,800	< 5.0	4.7	24	18	11	-
	05/12/10	0.00	970	16	0.63	14	5.3	0.57	-
MW-15	08/21/09	0.00	190	23	23	15	6.6	25	_
(12 - 22)	11/23/09	0.00	280	19	65	4.6	20	28	-
(12 - 22)	02/26/10	0.00	96	27	9.9	3.7	3.1	9.2	_
	05/12/10	0.00	<50	20	<0.5	<0.5	<0.5	<0.5	_
	03/12/10	0.00	130	20	10.5	10.5	10.5	10.5	_
MW-16	08/21/09	0.00	860	20	80	110	26	130	-
(12 - 22)	11/23/09	0.00	870	31	280	13	46	63	-
` ′	02/26/10	0.00	240	21	46	28	16	59	-
	05/12/10	0.00	<50	15	2.3	0.62	<0.5	0.79	-

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

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

- not sampled/analyzed

ft = feet

ns/fp = not sampled / free product present

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

TPH-g by EPA Method SW8015Cm

BTEX & MTBE by EPA Method SW8021B

TPH-g = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary-butyl ether

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

DL = detection limit

* = MTBE by EPA Method 8260

- 1) Analytical results for MW-2 and MW-3 reversed from lab data based on historical concentration trends observed
- 2) Groundwate sample re-analyzed for MTBE-only by EPA Method SW8260B
- 3) Wellheads removed and wells now located ~4' below grade beneath new residential construction; routine sampling is no longer possible

TABLE 4: SOIL GAS ANALYTICAL DATA SUMMARY

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-1-5	08/04/06	5	331	<8.0	<7.1	<8.4	<9.7	<9.7	<17	17	23
GP-1-5D ₁	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 ₁	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	<1,500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-1-5	02/14/08	5	<1,800	<48	<6.5	<7.7	<8.8	<27	<96	<14	<10,000
GP-1-5	05/08/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-1-5	08/15/08	5	<1800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-1-5 ²	11/07/08	5	-	-	-	-	-	-	-	-	-
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	<1,500	<48	< 6.5	<7.7	<8.8	<27	<96	<14	<25
GP-1-10	02/14/08	10	<1,800	<48	< 6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-1-10	05/08/08	10	<1,800	<7.3	< 6.5	<7.7	<8.8	<27	-	<14	<25
GP-1-10	08/15/08	10	<1,800	<7.3	< 6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-1-10 ²	11/07/08	10	-	-	-	-	-	-	-	-	-
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	<1,500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-2-5	02/14/08	5	<1,800	<48	<6.5	<7.7	<8.8	<27	<14	<14	<10,000
GP-2-5	05/08/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-2-5	08/15/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	39	<10,000
GP-2-5 ²	11/07/08	5	-	-	-	-	-	-	-	-	-
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	<1,500	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-2-10	02/14/08	10	<1,800	<48	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-2-10	05/08/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-2-10	08/15/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	48	<10,000
GP-2-10 ²	11/07/08	10	-	-	-	-	-	-	-	-	-

TABLE 4: SOIL GAS ANALYTICAL DATA SUMMARY

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-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	<5.0 <5.2	<5.2	<9.1	<8.2	<12
GP-3-5	03/06/07*	5	-	-	-	-			~9.1 -	-0.2	-
GP-3-5	05/17/07	5	582	<4.0	<3.5	<4.1	<4.8	<4.8	17	<7.5	<11
$GP-3-5D_f$	05/17/07	5	582	<4.0	<3.5	<4.1	<4.8	<4.8	<8.3	16	<11
GP-3-5D _f	12/12/07	5	<1,500	<48	<6.5	<7.7	< 8.8	<27	<96	<14	<25
GP-3-5	02/14/08	5	<1,800	<48	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-3-5	05/08/08	5	<1,800	<7.3	<6.5	<7.7	<8.8	<27	_	<14	<25
GP-3-5	08/15/08	5	<1,800	<7.3	<6.5	<7.7	< 8.8	<27	_	<14	<10,000
GP-3-5 ^{1,2}	11/07/08	5	1,000			j			_	į	10,000
GP-3-3	11/0//08	3	-	-	-	-	-	-	-	-	-
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	<1,500	<48	< 6.5	<7.7	<8.8	<27	<96	<14	-
GP-3-10	02/14/08	10	<1,800	<48	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-3-10	05/08/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-3-10	08/15/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-3-10 ^{1,2}	11/07/08	10	-	-	-	-	-	-	-	-	-
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 ₁	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
$GP-4-5D_f$	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	<1,500	<48	< 6.5	<7.7	<8.8	<27	<96	<14	<25
$GP-4-5D_{\mathrm{f}}$	12/12/07	5	<1,500	<48	< 6.5	<7.7	<8.8	<27	<96	<14	<25
GP-4-5	02/14/08	5	<1,800	<48	< 6.5	<7.7	<8.8	<27	<96	<14	<10,000
GP-4-5	05/08/08	5	<1,800	<7.3	< 6.5	<7.7	<8.8	<27	-	<14	<25
GP-4-5	08/15/08	5	<1,800	<7.3	< 6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-4-5 ^{1,2}	11/07/08	5	-	-	-	-	-	-	-	-	-
GP-4-10	08/04/06	10	564	<4.1	6.1	17	5.7	16	12	<7.8	<11
$GP-4-10D_f$	08/05/06	10	529	<3.8	4.2	18	<4.6	17	18	<7.2	<10
GP-4-10D _f	11/08/06	10	900	<4.0	<3.5	4.1	<4.8	5.2	<8.3	<7.5	<11
GP-4-10D ₁	11/08/06	10	880	<1.8	<1.6	<1.9	<2.2	<2.2	<3.8	<3.4	<4.9
GP-4-10	03/06/07*	10	-	-	-	-	-	-	-	-	
GP-4-10	05/17/07^	10	-	-	-	-	-	-	-	_	_
GP-4-10	12/12/07	10	1,600	<48	<6.5	<7.7	<8.8	<27	<96	<14	<25
GP-4-10	02/14/08	10	-	-	-	-	-	-	-	-	-
GP-4-10	05/08/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<25
GP-4-10	08/15/08	10	<1,800	<7.3	<6.5	<7.7	<8.8	<27	-	<14	<10,000
GP-4-10 ^{1,2}	11/07/08	10	-	-	-	-	-	-	-	-	-

TABLE 4: SOIL GAS ANALYTICAL DATA SUMMARY

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

Well ID	Date D	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)
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NOTES:

- not sampled/analyzed

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

ft bgs = feet below ground surface

 μ g/m3 = micrograms per cubic meter

TPH-g = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary-butyl ether

 $\label{eq:pce} PCE = tetrachloroethene$

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_f = after the probe/sample ID indicates a duplicate sample collected in the field

 D_l = after the probe/sample ID indicates a duplicate sample prepared and analyzed by the lab

- 1) On August 21, 2008, GP-3 and GP-4 were decommissioned during the installation of the HVDPE conveyance piping laterals
- 2) Per concurrence from ACHCSA in a letter dated October 3, 2008, quarterly soil gas sampling has been temporarily suspended during operation of the HVDPE system

TPH-g by modified EPA Method TO-3 BTEX, MTBE, Ethanol, PCE, 2-propanol by modified EPA Method TO-15

APPENDIX A MONITORING WELL FIELD SAMPLING FORMS



Monitoring Well Number: MW-1

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA									
Well Casing Diameter (2"/4"/6")		4							
Wellhead Condition	OK .								
Elevation of Top of Casing (feet above msl)	32.55*								
Depth of Well		28.00							
Depth to Water (from top of casing)	16.02								
Depth to Free Product (from top of casing)	-								
Water Elevation (feet above msl)		16.53*							
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	Initi	ally dark brown, clears after 14 gallons							
Free Product Present?	No	Thickness (ft): -							

GROUNDWATER SAMPLES							
Number of Samples/Container Size				Three (3) 40mL VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
11:40	2	18.64	513	2.25	6.83	-2.1	Dark brown
11:41	4	18.56	510	0.91	6.78	-3.9	Dark brown
11:47	6	18.41	546	0.62	6.78	-10.1	Light brown
11:49	8	18.54	489	1.35	6.82	-12.0	Light brown
11:53	10	19.04	427	6.53	7.00	-11.0	Light brown
11:59	14	19.09	419	7.18	6.88	10.2	Clear
12:05	18	19.10	414	7.29	6.83	18.8	Clear
12:10	22	19.13	414	7.28	6.76	25.9	Clear
12:12	24	19.16	414	7.31	6.79	29.7	Clear

*Well head modified to serve as remediation well, top of casing elevation not considered surveyed as result					

Monitoring Well Number: MW-2

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA					
Well Casing Diameter (2"/4"/6")		2			
Wellhead Condition	ОК				
Elevation of Top of Casing (feet above msl)		33.24*			
Depth of Well		28.00			
Depth to Water (from top of casing)	16.69				
Water Elevation (feet above msl)	16.55*				
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)	5.4				
Actual Volume Purged (gallons) 6.0					
Appearance of Purge Water	Initially yellowish brown, clears after 2 gallons				
Free Product Present?	No	Thickness (ft): -			

GROUNDWATER SAMPLES							
Number of Samples/Container Size			Three (3) 40mL VOAs				
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
9:31	1	17.97	324	5.60	6.77	92.1	Yellowish brown
9:32	2	18.14	325	2.50	6.65	84.0	Yellowish brown
9:33	3	18.23	330	1.08	6.61	85.1	Clear
9:33	4	18.28	334	0.79	6.59	88.8	Clear
9:34	5	18.32	334	0.68	6.58	93.1	Clear
9:34	6	18.35	333	0.61	6.58	96.8	Clear

*Well head modified to serve as remediation well, top of casing elevation not considered surveyed as a result					

Monitoring Well Number: MW-3

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA				
Well Casing Diameter (2"/4"/6")		4		
Wellhead Condition	ОК			
Elevation of Top of Casing (feet above msl)		34.25		
Depth of Well		25.00		
Depth to Water (from top of casing)	18.23			
Water Elevation (feet above msl)	16.02			
Well Volumes Purged	-			
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	16			
Actual Volume Purged (gallons)				
Appearance of Purge Water				
Free Product Present?		Thickness (ft):		

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

Gauged; not sampled		

Monitoring Well Number: MW-4

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
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)	18.72				
Water Elevation (feet above msl)	15.70				
Well Volumes Purged		-			
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)					
Actual Volume Purged (gallons)					
Appearance of Purge Water					
Free Product Present?		Thickness (ft):			

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

Gauged; not sampled		

Monitoring Well Number: MW-5

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
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)	16.51				
Water Elevation (feet above msl)	16.82*				
Well Volumes Purged	3				
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	10.7				
Actual Volume Purged (gallons)	11.0				
Appearance of Purge Water	Clear				
Free Product Present?	? No Thickness (ft): -				

GROUNDWATER SAMPLES							
Number of Samples/Container Size			Three (3) 40n	nL VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
9:50	2	18.57	307	3.63	6.78	46.6	Clear
9:53	4	18.61	297	2.37	6.76	38.7	Clear
10:01	6	19.25	263	2.05	6.79	77.1	Clear
10:11	8	19.61	247	1.51	6.82	78.9	Clear
10:25	10	19.72	243	1.21	6.78	81.5	Clear
10:30	11	20.00	243	1.20	6.78	84.7	Clear
		_					

Dry @ 5 gallons (9:55), dry @ 7 gallons (10:05), dry @ 8 gallons (10:11), dry @ 10 gallons (10:25), dry @ 11 gallons	
(10:30)	
*Well head modified to serve as remediation well, top of casing elevation not considered surveyed as a result	

Monitoring Well Number: MW-6

Р	roject Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
,	Job Number:	116907	Name of Sampler:	A. Hawkins
Pro	oject 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)	15.18					
Depth to Free Product (from top of casing)	-					
Water Elevation (feet above msl)	17.64*					
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)	13.3					
Actual Volume Purged (gallons)	13.5					
Appearance of Purge Water	Initially dark brown, clears after 10 gallons					
Free Product Present?	? No Thickness (ft): -					

	GROUNDWATER SAMPLES						
Number of Samples/Container Size			Three (3) 40r	nL VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
10:40	2	18	378	7.78	6.84	42.8	Dark brown
10:42	4	17.85	351	0.39	6.65	28.3	Light brown
10:43	6	17.93	364	0.38	6.63	21.3	Clear
10:45	8	18.09	383	3.71	6.74	15.3	Light brown
10:50	10	18.58	398	4.82	6.68	25.9	Clear
10:52	12	18.63	405	4.84	6.68	27.7	Clear
10:56	13.5	18.67	413	5.23	6.68	30.6	Clear

Monitoring Well Number: MW-7

Project Nam	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Numbe	r: 116907	Name of Sampler:	A. Hawkins
Project Addres	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)	16.43					
Depth to Free Product (from top of casing)	-					
Water Elevation (feet above msl)	16.64					
Well Volumes Purged	3					
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	10.9					
Actual Volume Purged (gallons)	11.0					
Appearance of Purge Water	Initially dark brown, clears after 6 gallons					
Free Product Present?	? No Thickness (ft): -					

GROUNDWATER SAMPLES							
Number of Samples/Container Size			Three (3) 40mL VOAs				
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
11:06	2	18.66	377	0.88	6.77	8.4	Dark brown
11:08	4	18.59	384	0.59	6.76	0.8	Light brown
11:16	6	19.75	378	5.41	6.81	22.3	Clear
11:21	8	19.95	372	5.49	6.80	32.2	Clear
11:28	10	20.04	370	5.55	6.80	39.6	Clear
11:32	11	20.00	368	5.57	6.77	43.4	Clear

*Well head modified to serve as remediation well, top of casing elevation not considered surveyed as a result					

Monitoring Well Number: MW-8

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
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)		31.73				
Depth of Well		22.00				
Depth to Water (from top of casing)	15.79					
Depth to Free Product (from top of casing)	-					
Water Elevation (feet above msl)	15.94					
Well Volumes Purged	-					
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)						
Actual Volume Purged (gallons)						
Appearance of Purge Water						
Free Product Present?		Thickness (ft):				

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

Gauged; not sampled	

Monitoring Well Number: MW-9

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA					
Well Casing Diameter (2"/4"/6")		2"			
Wellhead Condition	ОК				
Elevation of Top of Casing (feet above msl)		29.02			
Depth of Well		22.73			
Depth to Water (from top of casing)		14.30			
Depth to Free Product (from top of casing)	-				
Water Elevation (feet above msl)	14.72				
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)	4.0				
Actual Volume Purged (gallons)	4.5				
Appearance of Purge Water	Clear				
Free Product Present?	P No Thickness (ft): -				

GROUNDWATER SAMPLES							
Number of Samples/Container Size				Three (3) 40mL VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
12:26	1	18.97	360	3.61	6.80	29.1	Clear
12:27	2	18.80	363	2.38	6.74	25.7	Clear
12:27	3	18.77	379	1.43	6.69	21.9	Clear
12:28	4	18.77	396	1.02	6.70	17.3	Clear

Monitoring Well Number: MW-10

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA					
Well Casing Diameter (2"/4"/6")		4			
Wellhead Condition	OK	▼			
Elevation of Top of Casing (feet above msl)		31.17			
Depth of Well		22.00			
Depth to Water (from top of casing)	-				
Water Elevation (feet above msl)	-				
Well Volumes Purged					
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)					
Actual Volume Purged (gallons)					
Appearance of Purge Water					
Free Product Present?		Thickness (ft):			

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

Plumbed to HVDPE system from beaneath building slab as of August 2008 / Well not used for groundwater monitoring.							

Monitoring Well Number: MW-11

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA							
Well Casing Diameter (2"/4"/6")		4					
Wellhead Condition	OK	<u></u>					
Elevation of Top of Casing (feet above msl)		31.78					
Depth of Well		22.00					
Depth to Water (from top of casing)	-						
Water Elevation (feet above msl)		-					
Well Volumes Purged							
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)							
Actual Volume Purged (gallons)							
Appearance of Purge Water							
Free Product Present?		Thickness (ft):					

	GROUNDWATER SAMPLES						
Number of Sample	es/Container S	Size					
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments

Plumbed to HVDPE system from beaneath building slab as of August 2008 / Well not used for groundwater monitoring.	

Monitoring Well Number: MW-12

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
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)	-						
Water Elevation (feet above msl)	-						
Well Volumes Purged							
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)							
Actual Volume Purged (gallons)							
Appearance of Purge Water							
Free Product Present?		Thickness (ft):					

	GROUNDWATER SAMPLES						
Number of Sampl	es/Container S	Size					
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments

Plumbed to HVDPE system from beaneath building slab as of August 2008 / Well not used for groundwater monitoring.	

Monitoring Well Number: MW-13

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
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)		28.84					
Depth of Well		22.00					
Depth to Water (from top of casing)	to Water (from top of casing) 14.10						
Water Elevation (feet above msl)	14.74						
Well Volumes Purged	3						
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	3.8						
Actual Volume Purged (gallons)	4.0						
Appearance of Purge Water	Initially brown, clears after 2 gallons						
Free Product Present?	ent? No Thickness (ft): -						

GROUNDWATER SAMPLES							
Number of Samples/Container Size				Three (3) 40mL VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
8:52	1	18.15	391	5.75	7.05	158.7	Brown
8:56	2	18.27	422	3.93	6.90	160.4	Clear
8:56	3	18.39	413	3.05	6.84	161.6	Clear
8:57	4	18.45	414	3.04	6.70	163.1	Clear

Monitoring Well Number: MW-14

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
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)		29.53		
Depth of Well	22.00			
Depth to Water (from top of casing)	14.48			
Water Elevation (feet above msl)	15.05			
Well Volumes Purged	3			
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	3.6			
Actual Volume Purged (gallons)	4.0			
Appearance of Purge Water	Brown			
Free Product Present?	No	Thickness (ft):	-	

GROUNDWATER SAMPLES							
Number of Samples/Container Size				Three (3) 40mL VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
9:10	1	17.17	328	6.11	7.08	183.3	Bornw
9:11	2	17.35	316	3.70	6.88	177.1	Light brown
9:12	3	17.53	302	2.41	6.72	160.1	Light brown
9:12	4	17.55	300	2.40	6.60	159.2	Light brown
				· · · · · · · · · · · · · · · · · · ·			

Monitoring Well Number: MW-15

Project Name:	Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Number:	116907	Name of Sampler:	A. Hawkins
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)		29.22		
Depth of Well	epth of Well 22.00			
Depth to Water (from top of casing)	14.89			
Water Elevation (feet above msl)	14.33			
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)	3.4			
Actual Volume Purged (gallons)	3.5			
Appearance of Purge Water	Initially brown, clears after 2 gallons			
Free Product Present?	No	Thickness (ft): -		

GROUNDWATER SAMPLES							
Number of Samples/Container Size				Three (3) 40mL VOAs			
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments
7:36	1	16.72	747	4.34	7.81	228.2	Brown
7:37	2	17.71	495	1.70	7.46	223.6	Clear
7:38	3	17.92	500	1.49	7.41	222.2	Clear
7:38	3.5	18.03	492	1.39	7.33	225.1	Clear

Monitoring Well Number: MW-16

Project Na	e: Vic's Automotive (Q2, 2010)	Date of Sampling:	5/12/2010
Job Numl	er: 116907	Name of Sampler:	A. Hawkins
Project Addre	ss: 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)		28.87		
Depth of Well	22.00			
Depth to Water (from top of casing)	14.81			
Water Elevation (feet above msl)	14.06			
Well Volumes Purged		3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	3.5			
Actual Volume Purged (gallons)	3.2			
Appearance of Purge Water	Initially dark brown, clears after 3.2 gallons			
Free Product Present?	No	Thickness (ft): -		

	GROUNDWATER SAMPLES											
Number of Sampl	les/Container S	Size		Three (3) 40n	nL VOAs							
Time	Vol Removed (gal)	Temperature (deg C)	Conductivity	DO	PH	ORP (meV)	Comments					
7:50	1	17.74	571	5.43	7.35	174.5	Dark brown					
8:00	2	18.54	584	5.82	7.41	163.0	Light brown					
8:30	3	18.63	582	6.00	7.15	144.0	Light brown					
8:37	3.2	18.90	500	6.22	7.10	140.0	Clear					

Dry @ 1 gallon, dry @ 2 gallons		

APPENDIX B

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION



McCampbell Analytical, Inc	c.
"When Quality Counts"	

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

AEI Consultants	Client Project ID: #116907; Vic's Auto (Q2, 2010)	Date Sampled: 05/12/10
2500 Camino Diablo, Ste. #200		Date Received: 05/12/10
2500 Camino Biaolo, Sic. #200	Client Contact: Ricky Bradford	Date Reported: 05/18/10
Walnut Creek, CA 94597	Client P.O.: #WC082403	Date Completed: 05/18/10

WorkOrder: 1005300

May 18, 2010

Enclosed within are:

- 1) The results of the 10 analyzed samples from your project: #116907; Vic's Auto (Q2, 2010),
- 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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Applytical Inc

McCampbell Analytical, Inc.

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Oh low		5/12/10	4:30,	10	-	u	1			0	r			1	10	CE/t	1/0	0	1	.0	11	1		Р	RES	ERV	AT		VOA	S	0&G	1	META	LS	OTHER
Relinquished By:		Date:	Time:	Rec	eived B	y:					GOOD CONDITION PRESERVATION O&G METAL																								
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McCampbell Analytical, Inc.

1534 Willow Pass Rd

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

	g, CA 94565-1701 52-9262					Work	Order	: 1005	300	(ClientC	Code: Al	EL				
		WaterTrax	WriteOn	✓ EDF		Excel		Fax	[✓ Email		Hard	Сору	Thir	dParty	☐ J-1	flag
	ants no Diablo, Ste. #200 ek, CA 94597	cc: PO: ;	#WC082403	iconsultants.com s Auto (Q2, 2010)			AE 25 Wa	enise M El Cons 600 Can alnut Cr nockel @	ultants nino Dia reek, C <i>i</i>	4 94597	7		Dat	uested e Rece e Prin	ived:	5 o 05/12/2 05/12/2	
									Req	uested	Tests	(See leg	end b	elow)			
Lab ID	Client ID		Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1005300-001	MW-1		Water	5/12/2010 12:25	ПП	Α	Α										
1005300-002	MW-2		Water	5/12/2010 9:38	Ħ	A			1								
1005300-003	MW-5		Water	5/12/2010 10:36	ΤĒ	Α											
1005300-004	MW-6		Water	5/12/2010 11:05	ΤĒ	Α											
1005300-005	MW-7		Water	5/12/2010 11:45	ΤĒ	Α											
1005300-006	MW-9		Water	5/12/2010 12:45		Α											
1005300-007	MW-13		Water	5/12/2010 9:00		Α											
1005300-008	MW-14		Water	5/12/2010 9:15		Α											
1005300-009	MW-15		Water	5/12/2010 7:45		Α											
1005300-010	MW-16		Water	5/12/2010 8:40		Α											
Test Legend: 1	TEX_W 2 7 12	PREDF RE	PORT	8				4					=	5 10			
												Pr	epare	d by: S	amanth	a Arbu	ckle

Comments:

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

Sample Receipt Checklist

Client Name:	AEI Consultants			Date ar	nd Time Received:	5/12/2010	6:18:12 PM
Project Name:	#116907; Vic's Auto (Q2, 2010)			Checkl	ist completed and re	eviewed by:	Samantha Arbuckle
WorkOrder N°:	1005300 Matrix <u>Water</u>			Carrier	: Client Drop-In		
	<u>Cha</u>	in of Cu	ıstody (C	COC) Informat	tion		
Chain of custody	present?	Yes	V	No 🗆			
Chain of custody	signed when relinquished and received?	Yes	V	No 🗆			
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌			
Sample IDs noted	d by Client on COC?	Yes	V	No 🗆			
Date and Time of	collection noted by Client on COC?	Yes	✓	No \square			
Sampler's name r	noted on COC?	Yes	✓	No \square			
		Sample	Receipt	Information			
Custody seals in	tact on shipping container/cooler?	Yes		No 🗆		NA 🔽	
Shipping containe	er/cooler in good condition?	Yes	V	No 🗆			
Samples in prope	er containers/bottles?	Yes	✓	No 🗆			
Sample containe	ers intact?	Yes	✓	No \square			
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌			
	Sample Pres	servatio	n and Ho	old Time (HT)	Information		
All samples recei	ived within holding time?	Yes	✓	No 🗌			
Container/Temp B	Blank temperature	Coole	er Temp:	1.9°C		NA 🗆	
Water - VOA vial	ls have zero headspace / no bubbles?	Yes		No \square	No VOA vials submi	itted 🗹	
Sample labels ch	necked for correct preservation?	Yes	~	No 🗌			
Metal - pH accep	stable upon receipt (pH<2)?	Yes		No 🗆		NA 🗹	
Samples Receive	ed on Ice?	Yes	✓	No 🗆			
	(Ice T	ype: WE	T ICE)			
* NOTE: If the "N	No" box is checked, see comments below	/. 					
Client contacted:	Date conta	acted:			Contacted	by:	
Comments:							

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AEI Consultants

Client Project ID: #116907; Vic's Auto
(Q2, 2010)

Date Sampled: 05/12/10

Date Received: 05/12/10

Client Contact: Ricky Bradford

Date Extracted: 05/14/10-05/15/10

Walnut Creek, CA 94597

Client P.O.: #WC082403

Date Analyzed: 05/14/10-05/15/10

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1005300 Lab ID Client ID Matrix TPH(g) MTBE Benzene Toluene Ethylbenzene **Xylenes** Comments 001A MW-1 W 13,000 ND<50 270 2000 330 1900 10 109 002A MW-2 W 350 7.0 3.0 107 88 63 18 1 d1 003A W 1300 ND 55 190 13 180 105 MW-5 1 d1004A MW-6 W 19,000 ND<100 350 1100 1000 3300 20 112 d1 005A MW-7 W 18,000 ND<150 1300 2700 540 3100 20 106 d1 006A MW-9 W 34,000 ND<750 6800 320 1700 3600 50 103 d1 007A MW-13 W ND ND ND ND ND ND 1 105 MW-14 008A W 970 16 0.63 14 5.3 0.57 1 101 d1 009A MW-15 W ND ND ND ND ND 99 010A MW-16 W ND 15 2.3 0.62 ND 0.79 Reporting Limit for DF = 1; W 0.5 0.5 0.5 0.5 50 5.0 μg/L ND means not detected at or 1.0 0.05 0.005 0.005 0.005 0.005 mg/Kg above the reporting limit

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

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

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

d1) weakly modified or unmodified gasoline is significant

W.O. Sample Matrix: Water

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BatchID: 50599

WorkOrder 1005300

QC SUMMARY REPORT FOR SW8021B/8015Bm

QC Matrix: Water

EPA Method SW8021B/8015Bm	Extra	ction SW	5030B					5	Spiked Sar	nple ID	: 1005300-0	07A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	1
7 thatyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btexf)	ND	60	112	111	0.295	99.9	101	1.34	70 - 130	20	70 - 130	20
MTBE	ND	10	101	106	4.37	103	105	2.37	70 - 130	20	70 - 130	20
Benzene	ND	10	77.2	82.4	6.24	83.9	82.4	1.80	70 - 130	20	70 - 130	20
Toluene	ND	10	79.3	84.2	5.96	82.6	80.7	2.27	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	80.3	85.4	6.19	82.1	80.4	2.02	70 - 130	20	70 - 130	20
Xylenes	ND	30	80.2	85.3	6.08	81.4	80	1.75	70 - 130	20	70 - 130	20
%SS:	105	10	91	91	0	94	95	0.882	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 50599 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1005300-001A	05/12/10 12:25 PM	05/14/10	05/14/10 12:22 AM	1005300-002A	05/12/10 9:38 AM	05/14/10	05/14/10 1:27 AM
1005300-003A	05/12/10 10:36 AM	05/14/10	05/14/10 2:00 AM	1005300-004A	05/12/10 11:05 AM	05/14/10	05/14/10 2:32 AM
1005300-005A	05/12/10 11:45 AM	05/14/10	05/14/10 3:37 AM	1005300-006A	05/12/10 12:45 PM	05/14/10	05/14/10 4:09 AM
1005300-007A	05/12/10 9:00 AM	05/15/10	05/15/10 4:32 AM	1005300-008A	05/12/10 9:15 AM	05/15/10	05/15/10 5:31 AM
1005300-009A	05/12/10 7:45 AM	05/14/10	05/14/10 5:45 AM	1005300-010A	05/12/10 8:40 AM	05/14/10	05/14/10 6:17 AM

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

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

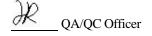
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

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



McCampbell Analytical, Inc.
"When Quality Counts"

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

AEI Consultants	Client Project ID: #116907; Vic's Auto (Q2, 2010)	Date Sampled: 05/12/10
2500 Camino Diablo, Ste. #200		Date Received: 05/12/10
2500 Cammo Blacto, Ste. 11200	Client Contact: Ricky Bradford	Date Reported: 05/25/10
Walnut Creek, CA 94597	Client P.O.: #WC082403	Date Completed: 05/25/10

WorkOrder: 1005300 A

May 25, 2010

Dear Ricky:

Enclosed within are:

- 1) The results of the 4 analyzed samples from your project: #116907; Vic's Auto (Q2, 2010),
- 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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

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McCAMPBELL ANALYTICAL INC.										CHAIN OF CUSTODY RECORD																									
1538 Willow Pass Road, Pittsburg, CA 94565											1	TU	RN	Al	RO	UN	ND	TI	MI	C					_			•							
Telen	hone: (925) 252	2-9262			F	ax:	(925	0 25	52-9	269			01	E	EDF	Do	anie	od?		Av	ne	_	No	F	RUSI		24		4 d?	48 H			HR No	5 D	AY
Report To: Ricky Bradford Bill To: AEI Consultants									-	E	DF	Re	quii	eu.	management of	-	_	_	ues	t	I I)F	Keq	ine		OH		-	Com	ment	s				
	Company: AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597										Н	Т	T	Т	Т	2 8.0		343	1	T	T	Т			П	5			\dashv						
P.O. # WC082403																										dul					9				
E-Mail: rbradford@aeiconsultatns.com											_															3									
Telephone: (925) 944-2899, ext. 148 Fax: (925) 944-2895											(8021B)															01/									
Project No: 11					ect Naı	me:	Vic'	's A	uto	(Q2,	, 20	110)		08/0	3														19					7	
The second secon	on: 245 8th Stre		ind, CA)460)7						_		_	3015															15					Jo	
Sampler Signa	ture:		TOTA	_	_	_	_			L	4FT	НОП	D	SW															8093			- 1		Page 1 of 2	
		SAM	PLING	2	iers		MAT	FRI	X			ERV		EX	50	1													W82					Ра	
SAMPLE ID	FIELD POINT NAME	Date	Time	# of Containers	Type Containers	Water	Soil	All	Other	Ice	HCI	HNO ₃	Other	TPH-g & MBT	-	THE PROPERTY.													MTBE Only (SW8260B)						
MW-1	MW-1	517-TC	1225	3	VOA	Х	\top	T		Х	Х			Х	ζ.	\top					T	T	T	T					X			9	DP	E We	:11
MW-2	MW-2	1	0938	3	VOA	Х				X	X			X	<						T												DP	E We	:11
-MW-3	-MW-3		100				\top	\top	\top						\top						T	T	T	T								\neg	DTV	V On	ly!
MW-4	MW-4						T	T							\top			П			T	T		T		T						\neg	DTV	V On	ly!
MW-5	MW-5		1036	3	VOA	Х				X	X			Х	2																	\neg	DP	E We	11
MW-6	MW-6		1105	3	VOA	Х		T		X	X			Х	ζ.														X			\neg	DP	E We	:11
MW-7	MW-7		1145	_	VOA	Х		\top	T	X	X			Х	ζ						T					Т			X			\neg	DP	E We	11
- MW-8	- MW-8																				T			T				4				\exists	DTV	V On	ly!
MW-9	MW-9		1245	3	VOA	X			\top	X	X			Х	ζ.									T					X			\top			
MW-10	MW-10			3	VOA	X			\top	X	X			X	ζ.	\top					T			T							\Box	\neg	Not S	amp	led
MW-11	MW-11			3	VOA	X				X	X			X	ξ.			П				T		T								\exists	Not S	amp	led
MW-12	MW-12			3	VOA	X	\top			X	X			X	ζ.			-			T			T									Not S	amp	led
MW-13	MW-13	4	0900	3	VOA	Х	\top			X	Х			Х										T		Т						\top			
Relinquished By:	Relinquished By: Date: 5/12/10 4:30 Market By: 1 Market By:				7	/	161	4.0	10	51.	90	,	1				DOE				OAS	0.	&G	М	ETALS	ОТЕ	IER								
Relinquished By: Date: Time: Receive			ceived B	ly:	4								GO HE	AD	CO! SPA LOR	CE	ABS	SEN		AB		AP	PRO	PR	IATI ERS VED	E	LAB	7	ΛΑŁ	1			_		
										_	_									-															

McCampbell Analytical, Inc.

1534 Willow Pass Rd

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsbur	rg, CA 94565-1701 52-9262				•	WorkC	Order:	100530	A		Client(Code:	AEL				
		WaterTrax	Write	On 🔽 EDF		Exce	I	Fax		Email		Hard	Сору	Thi	rdParty	☐ J-1	flag
Report to: Ricky Bradford AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 (408) 559-7600 FAX (408) 559-7601		cc: PO: #W	VC082403	eiconsultants.com s Auto (Q2, 2010)			AE 25 Wa	enise Me I Consu 00 Cam alnut Cr nockel@	ultants nino Dia eek, C	4 94597	7)	Dat Dat	uested te Rece te Add te Prin	eived: -On:	05/12 05/19	days 2/2010 2/2010 2/2010
Lab ID	Client ID		Matrix	Collection Date	Uald	1	2	3	Req 4	uested 5	Tests 6	(See le	gend be	elow) 9	10	11	12
Lab ID	Client ID		Watrix	Collection Date	поіа	1		<u> </u>	4	J	0		0		10		
1005300-001	MW-1		Water	5/12/2010 12:25		В											
1005300-004	MW-6		Water	5/12/2010 11:05		В											
1005300-005 1005300-006	MW-7 MW-9		Water	5/12/2010 11:45 5/12/2010 12:45		B B								<u> </u>		<u> </u>	<u> </u>
Test Legend: 1	3E_W 2 7 12			8				9					=	5 10			
												_					

Prepared by: Samantha Arbuckle

Comments: MTBE by 8260 added on MW-1,6,7,9 5/19/10 5day

1534 Willow Pass Road, Pittsburg, CA 94565-1701

"When Ouality Counts" Telephone: 877-252-9262 Fax: 925-252-9269 **AEI Consultants** Client Project ID: #116907; Vic's Auto Date Sampled: 05/12/10 (Q2, 2010)Date Received: 05/12/10 2500 Camino Diablo, Ste. #200 Date Extracted: 05/21/10-05/24/10 Client Contact: Ricky Bradford

Walnut Creek, CA 94597 Client P.O.: #WC082403 Date Analyzed 05/21/10-05/24/10 Methyl tert-Butyl Ether* Extraction method SW5030B Analytical methods SW8260B Work Order: 1005300 Lab ID Client ID Matrix Methyl-t-butyl ether (MTBE) Comments W 001B MW-1 ND<5.0 10 118 a3 004BW 25 129 MW-6 ND<12 a3 005B W 20 MW-751 128 W 006B MW-9 390 33 127

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

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

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

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

a3) sample diluted due to high organic content.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 50734 WorkOrder 1005300

EPA Method SW8260B	Extra	ction SW	5030B	B Spiked Sample ID: 1005447-00									
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)				
Analyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
Methyl-t-butyl ether (MTBE)	2.0	10	103	121	14.0	111	110	0.775	70 - 130	30	70 - 130	30	
%SS1:	118	25	112	123	9.51	115	113	1.39	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 50734 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1005300-001B	05/12/10 12:25 PM	05/21/10	05/21/10 4:05 PM	1005300-004B	05/12/10 11:05 AM	05/24/10	05/24/10 3:54 PM
1005300-005B	05/12/10 11:45 AM	05/21/10	05/21/10 11:43 PM	1005300-006B	05/12/10 12:45 PM	05/21/10	05/21/10 6:00 PM

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

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

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

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.

