

August 25, 2006

Mr. Don Hwang  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

Subject: **Project Update and Letter of Transmittal**  
Former Val Strough Chevrolet  
327 34<sup>th</sup> Street, Oakland, California  
Site ID #3035, RO#0000134

Dear Mr. Hwang:

LRM Consulting, Inc. (LRM) has prepared this correspondence regarding the status of activities at the referenced site. Specifically, the following notifies you of the recent change in project consultant and of the shutdown of the site remediation system by ETIC Engineering, Inc. (ETIC), and requests a technical meeting with the Alameda County Health Care Services Agency (ACHCSA) to discuss project direction and your recent comments on the 3 March 2006 *Work Plan for Well Installation and Remediation Enhancements* (Work Plan) by ETIC. Lastly, accompanying this correspondence is the *Second Quarter 2006 Groundwater Monitoring Report*.

**Consultant Change:** Last week, this project was transferred from ETIC to LRM. Please copy future correspondence related to this site to Khaled Rahman, P.G., C.Hg., the LRM project contact, at the letterhead address.

**Remediation System Shutdown:** Operation of the dual phase extraction (DPE) system was ceased by ETIC on 30 June 2006 due to frequent shutdowns caused by reported overheating of the electrical phase-converter since operation of the system was resumed on 22 May 2006. A review of the system performance suggests that continued operation of the remediation system in its current configuration is not recommended as indicated by:

- Declining total petroleum hydrocarbon as gasoline (TPH-g) concentration trends have been observed in extracted vapor and groundwater samples;
- Correspondingly, asymptotic TPH-g mass removal rates have been reached; and
- TPH-g concentrations did not increase (rebound) following the nearly four-month-long hiatus in system operation earlier this year (late January to late May 2006).

The system has remained shutdown pending approval to proceed with reconfiguration activities as proposed in ETIC's 3 March 2006 Work Plan. This Work Plan was met with significant comments in a 19 July 2006 ACHCSA letter. Consequently, additional investigation and/or remediation using the reconfigured system as proposed or with other modifications will be evaluated in consultation with your office.

**Technical Meeting Request:** Based on LRM's review of the available site data, the response of the hydrocarbon concentrations to past DPE operations, and the ACHCSA's comments on ETIC's Work Plan, LRM is of the opinion that a technical meeting is beneficial to discussing the project direction. As mentioned above, TPH-g mass removal rates are near asymptotic levels and operation of the remediation system in its current configuration is not efficient, nor likely to result in significant mass removal. Moreover, the groundwater monitoring results for the site suggest that the petroleum hydrocarbon plume is stable and entirely contained within the property boundaries despite the historical gasoline storage activities from approximately 1975 until underground storage tank removal in 1993. However, it is evident from DPE operations that a shallow residual source area may be present near the former underground storage tanks and dispenser, causing higher hydrocarbon concentrations in extraction well MW2. Investigation of this residual source area is recommended to determine the appropriate corrective action (e.g., risk assessment with monitoring, and/or reconfiguration and operation of the remediation system) for the site. A technical meeting is accordingly requested to discuss the above issues in advance of a work plan by LRM to perform the referenced investigation. We are available on 29 August and 6-8 September. Please let us know of your availability so we can coordinate accordingly.

We appreciate your assistance with this project. If you have any questions or require further information, please contact me at (510) 387-9552.

Sincerely,  
LRM CONSULTING, INC.



Khaled B. Rahman, P.G., C.Hg.  
Senior Geologist

Enclosure: Second Quarter 2006 Groundwater Monitoring Report

cc: Donna Dragos, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Alameda, California 94502-6577 (w/o enclosure)  
Jonathan Redding, Esq., Wendel Rosen Black & Dean, 1111 Broadway, 24th Floor, Oakland, California 94607  
Greggory Brandt, Esq., Wendel Rosen Black & Dean, 1111 Broadway, 24th Floor, Oakland, California 94607  
Don Strough, Strough Family Trust, P.O. Box 489, Orinda, California 94563

**LRM**

CONSULTING, INC.

---

**Second Quarter 2006  
Groundwater Monitoring Report**

**Former Val Strough Chevrolet  
327 34<sup>th</sup> Street  
Oakland, California**


25 August 2006

Prepared for:

Mr. Don Strough  
Strough Family Trust of 1983  
P.O. Box 489  
Orinda, California 94563

Prepared by:

LRM Consulting, Inc.  
1534 Plaza Lane, # 145  
Burlingame, California 94010



---

Khaled B. Rahman, P.G., C.H.g  
Senior Geologist

8/25/06

Date

**TABLE OF CONTENTS**

TABLE OF CONTENTS ..... i

SITE CONTACTS ..... iii

1.0 INTRODUCTION .....1

    1.1 GENERAL SITE INFORMATION .....1

2.0 SITE BACKGROUND .....2

    2.1 SITE DESCRIPTION .....2

    2.2 SUMMARY OF PREVIOUS INVESTIGATIONS AND MONITORING ACTIVITIES .....3

3.0 PROTOCOLS FOR GROUNDWATER MONITORING .....6

    3.1 GROUNDWATER GAUGING .....6

    3.2 WELL PURGING .....6

    3.3 GROUNDWATER SAMPLING .....6

4.0 MONITORING RESULTS .....7

    4.1 SEPARATE-PHASE HYDROCARBON MONITORING .....7

    4.2 GROUNDWATER ELEVATION AND HYDRAULIC GRADIENT .....7

    4.3 GROUNDWATER ANALYTICAL RESULTS .....7

5.0 STATUS OF DPE SYSTEM OPERATION .....9

6.0 PLANNED ACTIVITIES .....10

7.0 REFERENCES .....11

## List of Figures

Figure 1 – Site Location Map

Figure 2 – June 2006 Groundwater Contour Map and Rose Diagram

Figure 3 – June 2006 Groundwater Analytical Data

Figure 4 – Influent TPH-g Concentrations and Estimated Mass Removal by Groundwater  
Extraction System

Figure 5 – Influent TPH-g Concentrations and Estimated Mass Removal by Vapor  
Extraction System

## List of Tables

Table 1 – Well Construction Details

Table 2 – Cumulative Groundwater Elevation and Analytical Data

Table 3 – Historical Grab Groundwater Analytical Data

Table 4 – DPE System – Groundwater Analytical Results

Table 5 – DPE System – Vapor Analytical Results

Table 6 – DPE System Operation and Performance Data – Groundwater

Table 7 – DPE System Operation and Performance Data – Vapor

Table 8 – Groundwater Monitoring Schedule

## List of Appendixes

Appendix A – Protocols for Groundwater Monitoring

Appendix B – Field Documents

Appendix C – Laboratory Analytical Reports and Chain-of-Custody Documentation

**SITE CONTACTS**

Site Name: Former Val Strough Chevrolet

Site Address: 327 34<sup>th</sup> Street  
Oakland, California

Consultant: LRM Consulting, Inc.  
1534 Plaza Lane, #145  
Burlingame, CA 94010  
(510) 387-9552

Project Manager: Khaled Rahman, P.G., C.Hg.

Regulatory Oversight: Don Hwang  
Alameda County Health Care Services Agency (ACHCSA)  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577  
(510) 567-6746

## 1.0 INTRODUCTION

At the request of the Strough Family Trust of 1983, LRM Consulting, Inc. (LRM) has prepared this *Second Quarter 2006 Groundwater Monitoring Report* for the former Val Strough Chevrolet site located in Oakland, California. This report documents the procedures and findings of the 19 June 2006 groundwater monitoring event, which was performed by the site's previous consultant, ETIC Engineering, Inc. (ETIC), and includes a brief summary of dual phase extraction (DPE) system operation by ETIC at the site. The draft version of this report was prepared by ETIC and finalized by LRM.

Groundwater monitoring data and well construction details are shown on the figures and presented in the tables generated by ETIC and included herein. Groundwater monitoring protocols, field data, and analytical results are provided in the appendixes.

### 1.1 GENERAL SITE INFORMATION

<b>Site name:</b>	Former Val Strough Chevrolet
<b>Site address:</b>	327 34 <sup>th</sup> Street, Oakland, California
<b>Current property owner:</b>	Strough Family Trust of 1983
<b>Current site use:</b>	Automotive Dealership and Service Center
<b>Current phase of project:</b>	Groundwater monitoring and remediation
<b>Tanks at site:</b>	Two former tanks (1 gasoline, 1 waste-oil) removed in 1993
<b>Number of wells:</b>	7 (all onsite)
<b>Site ID #:</b>	3035
<b>RO #:</b>	0000134

## 2.0 SITE BACKGROUND

### 2.1 SITE DESCRIPTION

**Site Location and Land Use:** The former Val Strough Chevrolet site is currently an active Honda automobile dealership and service center located on the southwestern corner of the intersection of Broadway (Auto Row) and 34<sup>th</sup> Street (Figure 1). The property is located south of Interstate 580. Land use in the area is primarily commercial.

The site is situated approximately 2 miles east of San Francisco Bay at approximately 61 feet above mean sea level (msl) (EDR, 2003). The land surface in the vicinity slopes toward the south. The nearest surface water body is Lake Merritt, located approximately 1 mile south of the site (Figure 1).

**Site Features:** The site consists of a multi-level building and an adjacent parking lot (Figure 2). The former fuel dispenser and underground storage tanks (USTs) were located in the northwestern portion of the site. Seven groundwater monitoring wells are located at the site. Construction details for the wells are presented in Table 1.

**Underground Utilities:** A box culvert for a former tributary of Glen Echo Creek is located approximately 17 feet below ground surface (bgs) in the eastern portion of the site (Figure 2). The culvert consists of a reinforced concrete box measuring 5 feet by 6 feet. During the winter of 1983, a section of the culvert collapsed and was replaced with a 5-foot-diameter pipeline.

Sanitary sewer, electrical, and natural gas utilities are generally present at depths less than two feet bgs at the site. Approximately 40 feet north of the site, along the northern edge of 34<sup>th</sup> Street, a storm sewer pipeline flows toward the east and into the box culvert. Sanitary sewer lines run parallel to both 34<sup>th</sup> Street and Broadway, north and east of the site, respectively. A lateral pipeline located along the western edge of the site connects to the sanitary sewer line below 34<sup>th</sup> Street. Natural gas service is located on the east side of the property. Water service appears to enter the site from the north.

**Water Supply Well Search:** A 2003 report compiled by EDR indicates that there are no federal U.S. Geological Survey wells and no public water supply wells located within a 1-mile radius of the site. No water supply wells were identified by the Alameda County Department of Public Works within a ½-mile radius of the site (ETIC, 2003).



## 2.2 SUMMARY OF PREVIOUS INVESTIGATIONS AND MONITORING ACTIVITIES

As presented in previous reports, the USTs were removed and multiple investigations, including the installation of seven groundwater monitoring wells, were conducted. In addition, a routine groundwater monitoring program has been in place since 1993. The following paragraphs summarize the findings of these activities.

**Site Hydrogeology:** In general, the site is underlain by silt and clay to depths ranging from approximately 15 to 20 feet bgs. Silty sand and fine-grained sand interbedded with thin clay intervals are encountered from approximately 20 feet bgs to the total explored depth of 35 feet bgs.

The depth to groundwater beneath the site has ranged from approximately 12.5 to 23 feet bgs. As shown in the modified rose diagram on Figure 2, the direction of groundwater flow is generally toward the southwest to south-southwest, with an average hydraulic gradient of approximately 0.02 to 0.03 foot/foot.

**Primary Sources:** Two USTs (one gasoline installed in approximately 1975 and one waste-oil installed in approximately 1949) were located beneath the sidewalk on the northern side of the property. A fuel dispenser was located inside the building (Figure 2). These primary sources of petroleum hydrocarbons were removed from the site in 1993.

**Constituents of Potential Concern:** Based on the type of fuel stored in the USTs and the results of previous subsurface investigations, the constituents of potential concern (COPCs) at the site include total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl t-butyl ether (MTBE). TPH as diesel (TPH-d) and TPH as motor oil (TPH-mo) are not routinely detected in groundwater samples and are considered secondary COPCs for the site.

**Residual Source Area:** Elevated concentrations of TPH-g, BTEX, and MTBE are present in soil in the vadose zone and upper portion of the aquifer near the former USTs and fuel dispenser. Separate phase petroleum hydrocarbons (SPH) have been intermittently detected in wells MW2 and MW3. These data indicate that most of the residual petroleum hydrocarbon mass is present near the former USTs and fuel dispenser, herein referred to as the source area.

**Petroleum Hydrocarbon Distribution in Groundwater:** The highest concentrations of petroleum hydrocarbons have been detected in samples collected from wells MW2 and MW3. Generally lower levels of petroleum hydrocarbons have been detected in samples collected from well MW4.

The extent of dissolved-phase petroleum hydrocarbons in groundwater is largely defined by concentrations detected in downgradient and cross-gradient monitoring wells MW5, MW6, and MW7. Historically, TPH-g, BTEX, and MTBE concentrations in samples from wells MW5, MW6, and MW7 are relatively low and stable (Table 2). In addition, fuel oxygenates (tertiary amyl methyl ether, ethyl tertiary butyl ether, di-isopropyl ether, tertiary butyl alcohol and ethanol) and lead scavengers (ethylene dibromide and ethylene dichloride) were detected near laboratory reporting limits or were not detected in groundwater samples collected from borings HP1 and HP3, drilled on 18 December 2003 (Table 3). These data suggest that the petroleum hydrocarbon plume is stable.

***DPE Pilot Test:*** In March 2004, ETIC performed a DPE pilot test at the site. As summarized in the June 2004 *Dual Phase Extraction Pilot Test and Interim Remedial Action Plan* (DPE and IRAP Report), vacuum was applied to source area wells MW2 and MW3 while water and vacuum levels were measured in nearby monitoring wells. The DPE pilot test induced more than 1 foot of drawdown up to 50 feet from the extraction wells and an estimated radius of vacuum influence of 55 to 70 feet. Based on vapor flow rates and petroleum hydrocarbon concentrations in the vapor stream during the short-term pilot test, removal rates of approximately 90 pounds of petroleum hydrocarbons per day were estimated. These data suggested that DPE from wells MW2 and MW3 can successfully remove petroleum hydrocarbons from the site subsurface and induce vacuum influence across the source area.

***Interim Remedial Action:*** The DPE and IRAP Report (ETIC, 2004) described the planned reduction of residual petroleum hydrocarbon mass in the source area through temporary DPE system installation and operation. The remediation technology consists of a liquid ring pump which applies high vacuum to source area wells MW2 and MW3 to extract soil vapor and groundwater simultaneously. A knockout vessel is used to separate the soil vapor and water streams. Extracted vapor is treated using a thermal oxidizer (with propane as a supplemental fuel), and extracted water is treated using aqueous-phase granular activated carbon. The DPE unit was shut down on 30 January 2006 to accommodate system upgrades.

***20 August 2004 ACHCSA Correspondence:*** In a 20 August 2004 correspondence, the ACHCSA provided general concurrence with the scope of work presented in the DPE Report and IRAP and requested that additional activities be performed, including preparation of a work plan for source characterization and shallow soil remediation. In the 26 October 2004 *Technical Memorandum*, ETIC presented an evaluation of site data concluding that the source area was adequately characterized and that the planned DPE interim remedial action would address the shallow soil remediation requested by the ACHCSA.

***4 February 2005 ACHCSA Correspondence:*** In a 4 February 2005 correspondence, the ACHCSA provided concurrence with initiation of DPE interim remedial activities and requested an Addendum to the Interim Remedial Action Plan for verification monitoring of remediation effectiveness. The following summarizes ETIC's response to this request.

During operation of the remediation system, petroleum hydrocarbon concentrations in vapor and water were anticipated to decline, resulting in reduction in mass removal rates. As mass removal rates approached asymptotic levels, operation of the DPE system would cease temporarily (2 to 4 weeks) to allow the subsurface to re-equilibrate. Following re-equilibration, the site data would be evaluated and if warranted the system would be restarted and operated until mass removal rates again approach asymptotic levels. This process could be repeated. As described in ETIC's 24 June 2004 DPE Report and IRAP, the effectiveness of interim remedial action activities would be evaluated through multiple lines of evidence. The following provides a brief summary of procedures to measure the progress of remediation:

- Extracted water entering and exiting the carbon vessels will be analyzed to comply with EBMUD permit conditions and to evaluate carbon breakthrough. These data will also be used with groundwater extraction rates to evaluate mass removal rates in the aqueous phase.
- Extracted vapors entering and exiting the thermal oxidizer will be monitored using a photoionization detector (PID) on a weekly basis to comply with Bay Area Air Quality Management District (BAAQMD) permit conditions and determine the effectiveness of the treatment system. These data, along with monthly laboratory analyses of vapor samples, will be used with vapor extraction rates to evaluate mass removal rates in the vapor phase.
- Groundwater monitoring at the site, including the extraction wells, will continue on a quarterly basis. Additional groundwater samples from these extraction wells will be collected intermittently to evaluate the effectiveness of the DPE system. The absence of SPH and declining hydrocarbon concentrations in these wells will also be used to evaluate the system effectiveness.

***Proposed Remediation System Enhancements:*** Review of system performance indicates declining concentration trends, asymptotic mass removal rates and absence of rebound during a 4-month-long hiatus in system operation. These findings suggest that continued operation of the dual-phase extraction system in its current configuration is not recommended. Proposed modifications to the system were described in ETIC's March 2006 *Work Plan for Well Installation and Remediation Enhancements*, which was met with significant comment in a 19 July 2006 ACHCSA letter. Consequently, additional investigation and/or remediation using the reconfigured system as proposed or with other modifications will be evaluated in consultation with your office. A technical meeting with ACHCSA is requested to review the site conditions and evaluate future investigation and/or remediation activities.

### **3.0 PROTOCOLS FOR GROUNDWATER MONITORING**

The following sections of this report present information relevant to the methods employed during the collection of groundwater samples from site wells. The scope of work for the quarterly groundwater monitoring event at the site included:

- Checking all wells for SPH.
- Gauging the depth to groundwater in all wells.
- Purging the monitoring wells to be sampled.
- Collecting and analyzing groundwater samples from the wells where no SPH is detected.
- Calculating the hydraulic gradient and flow direction.
- Evaluating the data and preparing a written report summarizing the results of the monitoring event.

#### **3.1 GROUNDWATER GAUGING**

The monitoring wells were opened prior to gauging to allow the groundwater level to equilibrate with atmospheric pressure. The depth to groundwater and depth to SPH, if present, were then measured to the nearest 0.01 feet using an electronic water level meter or optical interface probe. The measurements were made from a fixed reference point at the top of the well casing.

The groundwater elevation map (Figure 2) for this monitoring event was constructed using depth-to-groundwater measurements collected during the current sampling event. Depth-to-groundwater measurements and calculated groundwater elevations are presented in Table 2. Field data forms are presented in Appendix B.

#### **3.2 WELL PURGING**

Approximately three well casing volumes of water were purged from wells MW2, MW3 and MW4, using a disposable bailer. Field parameters including temperature, pH, specific conductance, and dissolved oxygen were measured during purging of all three wells. Groundwater monitoring protocols are presented in Appendix A.

#### **3.3 GROUNDWATER SAMPLING**

After purging, groundwater in each well was sampled using dedicated tubing and a WaTerra inertial pump, or a disposable bailer. Sample containers were sealed, labeled, stored in a cooler and transported under chain-of-custody protocol to Kiff Analytical LLC (Kiff), a state-certified analytical laboratory in Davis, California. Groundwater analytical results and chain-of-custody documentation are presented in Appendix C.

## 4.0 MONITORING RESULTS

### 4.1 SEPARATE-PHASE HYDROCARBON MONITORING

The wells were monitored for the presence of SPH using a disposable bailer and/or interface probe. A hydrocarbon sheen was observed in well MW2. SPH was not detected in monitoring wells MW1, MW3, MW4, MW5, MW6, or MW7 during this monitoring event.

### 4.2 GROUNDWATER ELEVATION AND HYDRAULIC GRADIENT

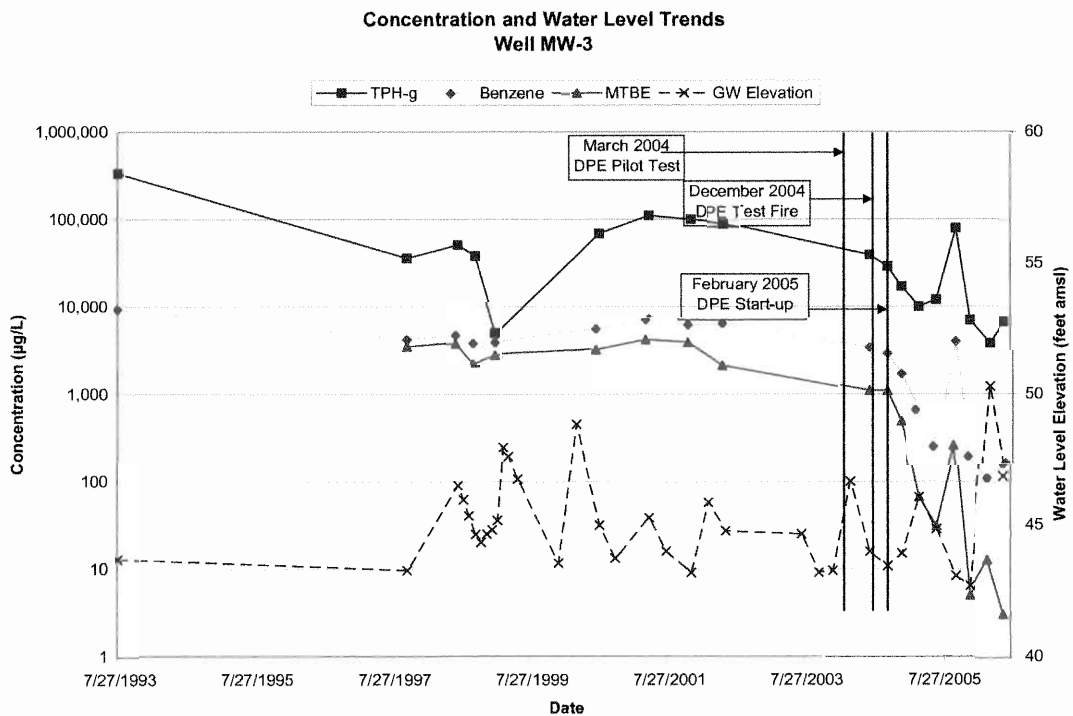
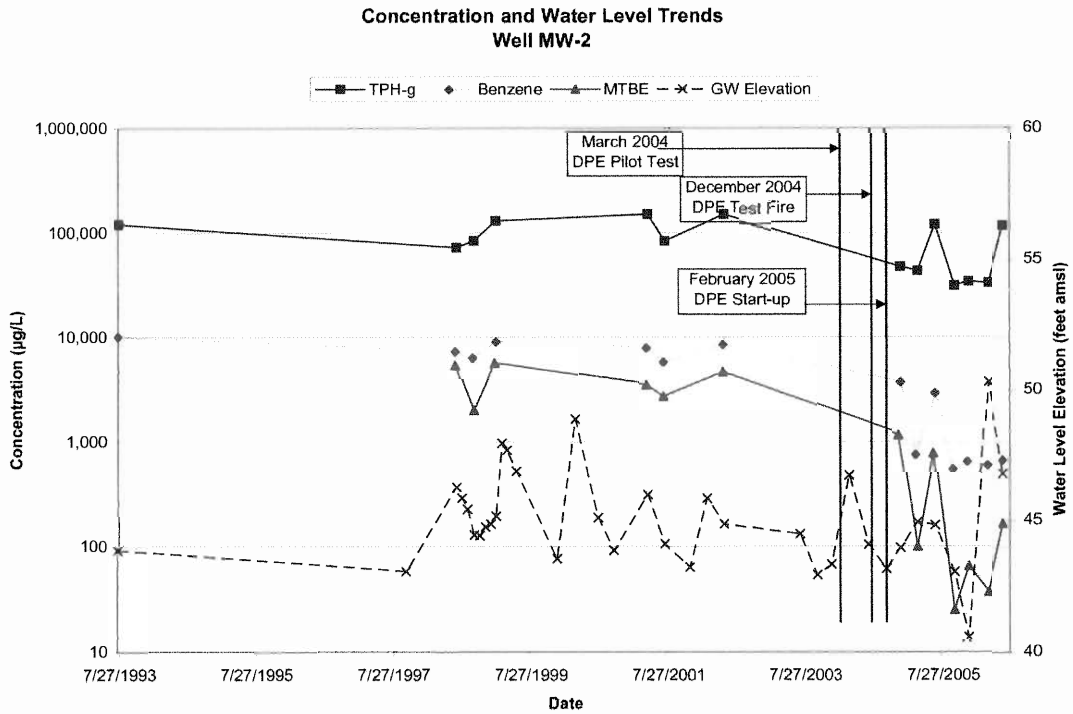
Groundwater elevations in the site wells during this monitoring event ranged from 43.14 feet above msl in well MW6 to 46.88 feet above msl in well MW3 (Figure 2). At the time of gauging, dual-phase extraction was being applied to well MW2. The hydraulic gradient is approximately 0.03 ft/ft and flow direction is generally towards the south-southeast. At the request of the ACHCSA, a rose diagram depicting historical hydraulic gradients and groundwater flow directions are also presented on Figure 2.

### 4.3 GROUNDWATER ANALYTICAL RESULTS

On 19 June 2006, groundwater samples were collected from wells MW2 through MW4 and analyzed by Kiff for TPH-g, BTEX, and MTBE by EPA Method 8260B and for TPH-d and TPH-mo by modified EPA Method 8015. Analytical results for this event are presented on Figure 3, and historical results are presented in Table 2. Copies of the chain-of-custody and laboratory analytical reports for the groundwater samples are presented in Appendix C.

Laboratory analytical results are summarized below. Importantly, the results of this sampling reflect residual hydrocarbon mass pulled toward well MW2 as a result of restarting DPE operations between 22 May and 30 June 2006.

- TPH-g was detected in the samples collected from well MW2 at 120,000 micrograms per liter ( $\mu\text{g/L}$ ), well MW3 at 7,000  $\mu\text{g/L}$ , and well MW4 at 8,800  $\mu\text{g/L}$ . The concentration of TPH-g increased in wells MW2, MW3, and MW4 compared to the previous sampling event.
- Benzene was detected in the samples collected from well MW2 at 680  $\mu\text{g/L}$ , well MW3 at 160  $\mu\text{g/L}$ , and well MW4 at 100  $\mu\text{g/L}$ . The concentrations of benzene increased in wells MW2, MW3, and MW4 compared to the previous sampling event.
- MTBE was detected in the samples collected from well MW2 at 170  $\mu\text{g/L}$ , MW3 at 3.1  $\mu\text{g/L}$ , MW4 at 55  $\mu\text{g/L}$ . The concentration of MTBE decreased in wells MW3 and MW4, and increased in well MW2 compared to the previous sampling event.
- TPH-d was not detected in groundwater samples collected from any well this quarter.
- TPH-mo was detected at a concentration of 1,900  $\mu\text{g/L}$  in well MW2, TPH-mo was not detected in groundwater samples collected from wells MW3 and MW4 this quarter.
- Concentration trends in wells MW2 and MW3 are presented in the following graphs.



## 5.0 STATUS OF DPE SYSTEM OPERATION

The current DPE system has extracted significant quantities of petroleum hydrocarbons; however, the system does not operate efficiently while simultaneously extracting from both wells MW2 and MW3. Well MW3 was taken offline 15 July 2005 to increase the hydrocarbon mass recovery and system operational up-time. The DPE system was shut down on 30 January 2006 to accommodate system upgrades. The remediation system was restarted on 22 May 2006 and was operated through 30 June 2006. The DPE system was shut down on 30 June 2006 due to recurring system shutdown resulting from overheating of the electrical phase-converter.

The existing configuration of the DPE system has removed significant quantities of petroleum hydrocarbons from the subsurface. However, influent concentrations did not “rebound” when the system was restarted in May 2006 after having been off for nearly four months (Figures 4 and 5). The concentrations of TPH-g and BTEX in groundwater at well MW2 increased in June 2006 (compared to March 2006). The increase is likely due to operation of the system in its current configuration and pulling residual hydrocarbons present near the former release area toward well MW2. The curves representing the cumulative mass of TPH-g removed shown on Figures 4 and 5 illustrate asymptotic removal rates (flattening of the curves) and diminishing returns for operating the system in its current configuration.

## **6.0 PLANNED ACTIVITIES**

Groundwater will be monitored in accordance with the schedule presented in Table 8. Based on the operational behavior of the DPE system, the absence of rebounding hydrocarbon concentrations following DPE system shutdown, and the observed increase in hydrocarbon concentrations in well MW2 after restart of the DPE system, LRM recommends further investigation of the extent and magnitude of residual hydrocarbons in the area targeted by the DPE system (i.e., former release area in the vicinity of well MW2). Through this investigation, LRM plans to determine the need, extent, and nature of corrective action, including additional remediation and/or monitoring. LRM recommends meeting with the ACHSCA to discuss the site conceptual model, the DPE operation results, and its proposed approach to the referenced investigation. The agreed-upon approach to investigation will be subsequently documented in a Work Plan to ACHSCA.

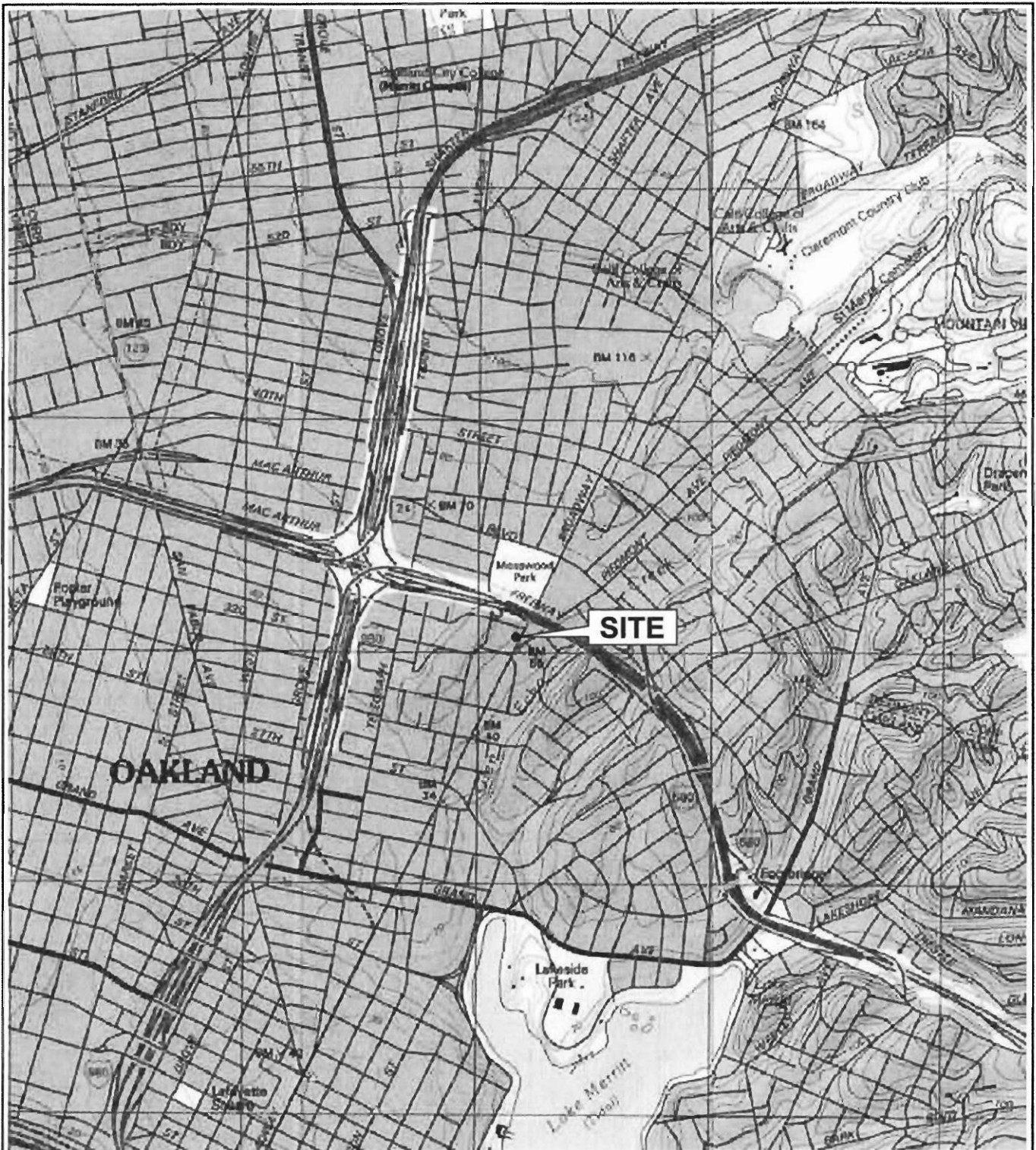


## 7.0 REFERENCES

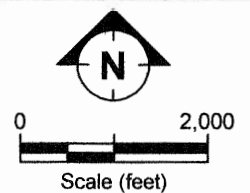
- Alameda County Health Care Services Agency. 2004. Fuel Leak Case No. RO0000134, Val Strough Chevrolet, 327-34<sup>th</sup> St., Oakland, California. August 20.
- Alameda County Health Care Services Agency. 2005. Fuel Leak Case No. RO0000134, Val Strough Chevrolet, 327-34<sup>th</sup> St., Oakland, California. February 4.
- Alameda County Health Care Services Agency. 2006. Fuel Leak Case No. RO0000134, Val Strough Chevrolet, 327-34<sup>th</sup> St., Oakland, California. July 19.
- Environmental Data Resources (EDR). 2003. EDR Radius Map with GeoCheck, Strough Family Trust, 327 34<sup>th</sup> Street, Oakland, California. September 10.
- ETIC Engineering, Inc. 2003. Supplemental Site Investigation Workplan, Fuel Case No. RO0000134, Val Strough Chevrolet, 327 34<sup>th</sup> Street, Oakland, California. September 17.
- ETIC Engineering, Inc. 2003. Third Quarter 2003 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. October.
- ETIC Engineering, Inc. 2004. Supplemental Site Investigation Report and Dual-Phase Extraction Pilot Test Workplan, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. February.
- ETIC Engineering, Inc. 2004. First Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. May.
- ETIC Engineering, Inc. 2004. Dual Phase Extraction Pilot Test Report and Interim Remedial Action Plan, Strough Family Trust of 1983, Former Val Strough Chevrolet, 327 34<sup>th</sup> Street, Oakland, California. June.
- ETIC Engineering, Inc. 2004. Second Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. August.
- ETIC Engineering, Inc. 2004. Response to Technical Comments, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. October.
- ETIC Engineering, Inc. 2004. Third Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. October.
- ETIC Engineering, Inc. 2004. Fourth Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. March.

- ETIC Engineering, Inc. 2005. First Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. May.
- ETIC Engineering, Inc. 2005. Second Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. July.
- ETIC Engineering, Inc. 2005. Third Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. November.
- ETIC Engineering, Inc. 2006. Fourth Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. March.
- ETIC Engineering, Inc. 2006. Fourth Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. March.
- ETIC Engineering, Inc. 2006. Work Plan for Well Installation and Remediation Enhancements, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. March.
- ETIC Engineering, Inc. 2006. First Quarter 2006 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34<sup>th</sup> Street, Oakland, California. June.

**Figures**



Prepared by ETIC Engineering, Inc.

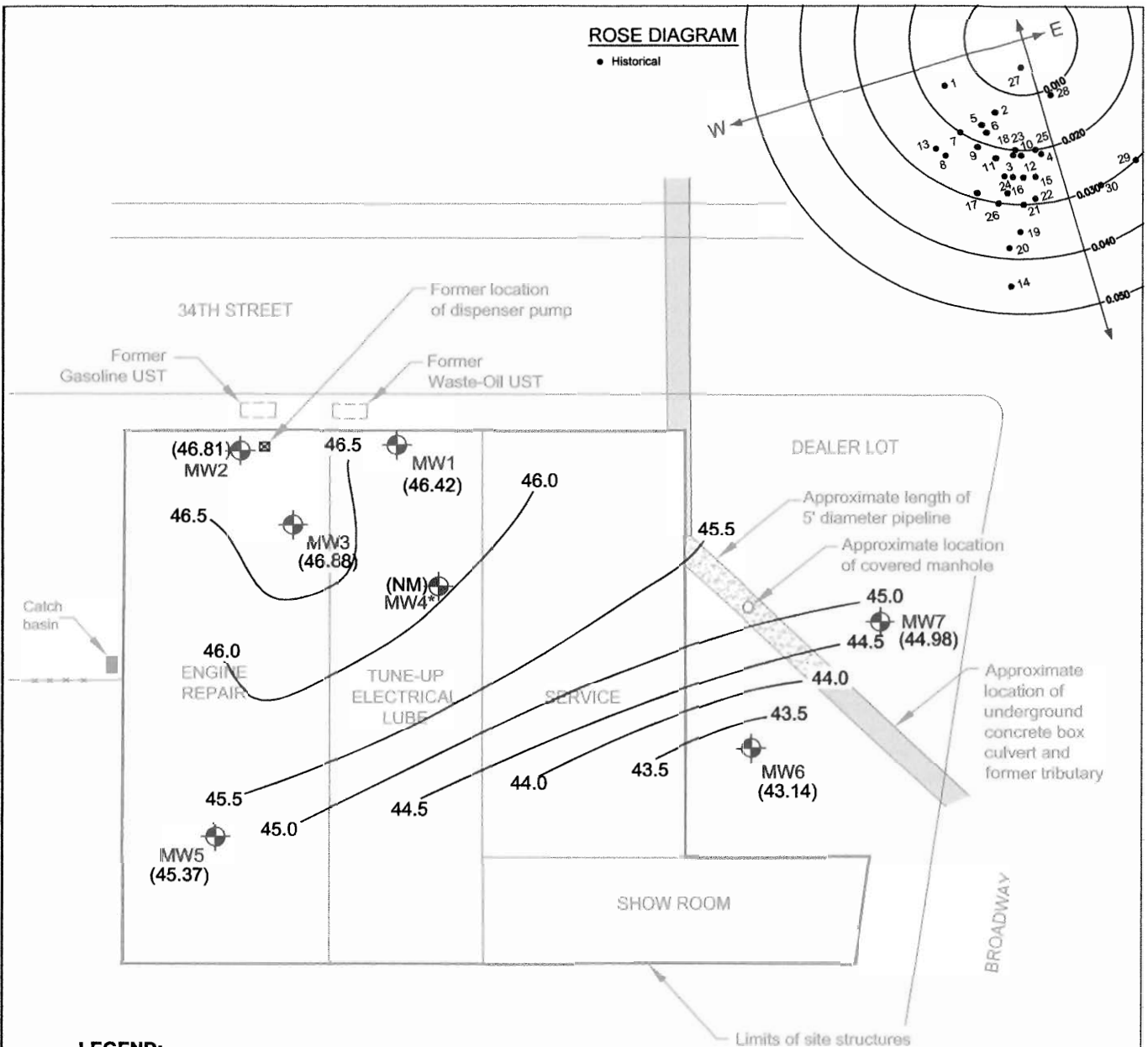


**LRM**  
CONSULTING, INC.

SITE LOCATION MAP  
VAL STROUGH CHEVROLET  
327 34TH STREET  
OAKLAND, CALIFORNIA

FIGURE:

**1**



**LEGEND:**

Groundwater monitoring well

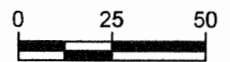
(46.81) Groundwater elevation (feet above mean sea level)

Groundwater elevation contour (feet above mean sea level)

\* Not Surveyed

NM Not Measured

**Note:** MW2 is used as a dual-phase extraction well.



Scale (feet)

Prepared by ETIC Engineering, Inc.

**LRM**  
CONSULTING, INC.

GROUNDWATER CONTOUR MAP AND ROSE DIAGRAM  
FORMER VAL STROUGH CHEVROLET  
327 34TH STREET, OAKLAND, CALIFORNIA  
19 JUNE 2006

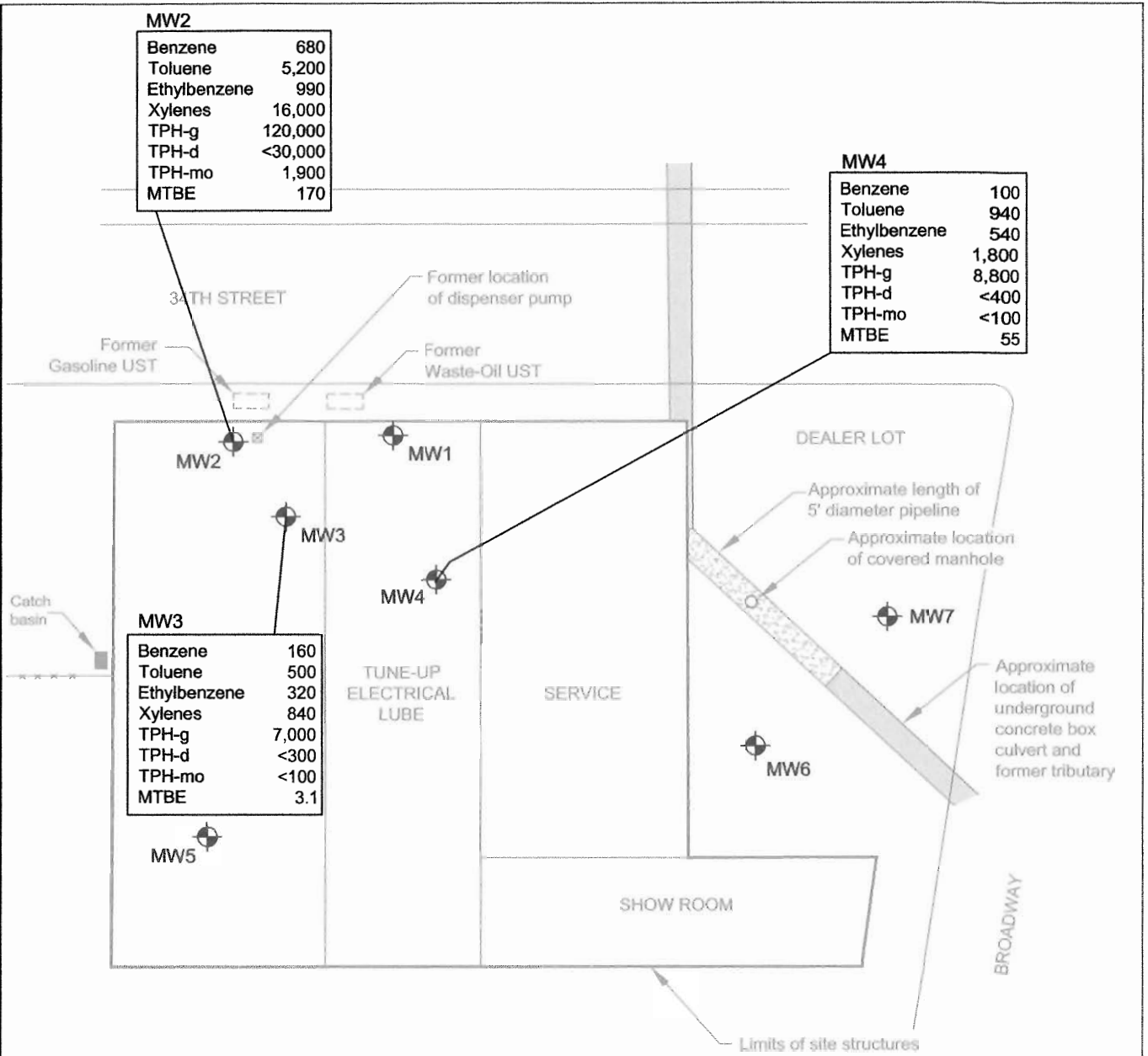
FIGURE:

**2**


MW2	
Benzene	680
Toluene	5,200
Ethylbenzene	990
Xylenes	16,000
TPH-g	120,000
TPH-d	<30,000
TPH-mo	1,900
MTBE	170

MW4	
Benzene	100
Toluene	940
Ethylbenzene	540
Xylenes	1,800
TPH-g	8,800
TPH-d	<400
TPH-mo	<100
MTBE	55

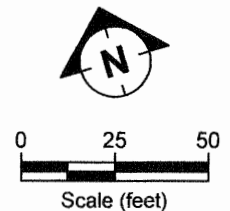
MW3	
Benzene	160
Toluene	500
Ethylbenzene	320
Xylenes	840
TPH-g	7,000
TPH-d	<300
TPH-mo	<100
MTBE	3.1



**LEGEND:**

-  Groundwater monitoring well
- TPH-g** Total Petroleum Hydrocarbons as gasoline
- TPH-d** Total Petroleum Hydrocarbons as diesel
- TPH-mo** Total Petroleum Hydrocarbons as motor oil
- MTBE** Methyl Tertiary Butyl Ether

All concentrations are reported in micrograms per liter (ug/L)



Prepared by ETIC Engineering, Inc.

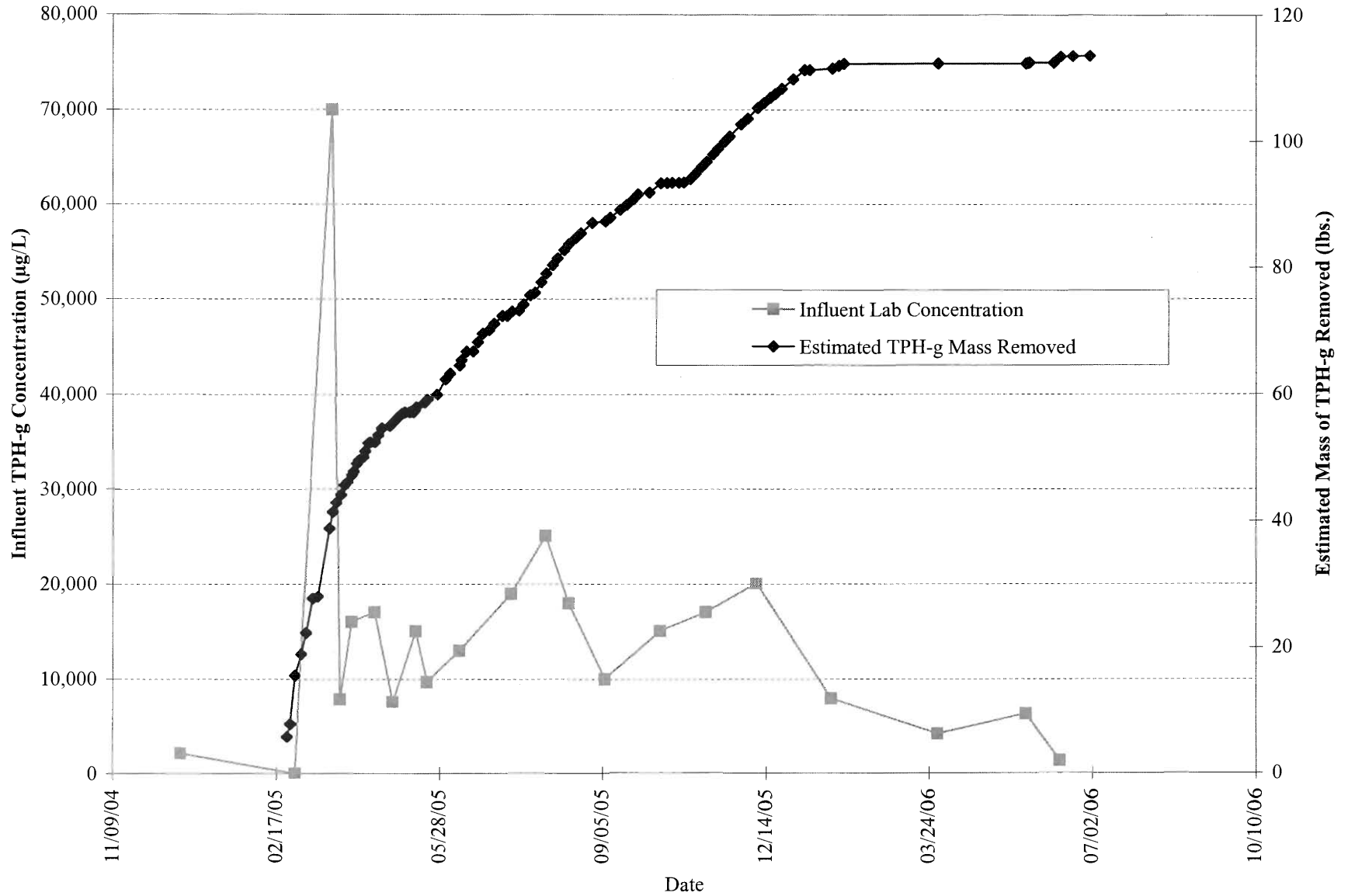
**LRM**  
CONSULTING, INC.

GROUNDWATER ANALYTICAL DATA  
FORMER VAL STROUGH CHEVROLET  
327 34TH STREET, OAKLAND, CALIFORNIA  
19 JUNE 2006

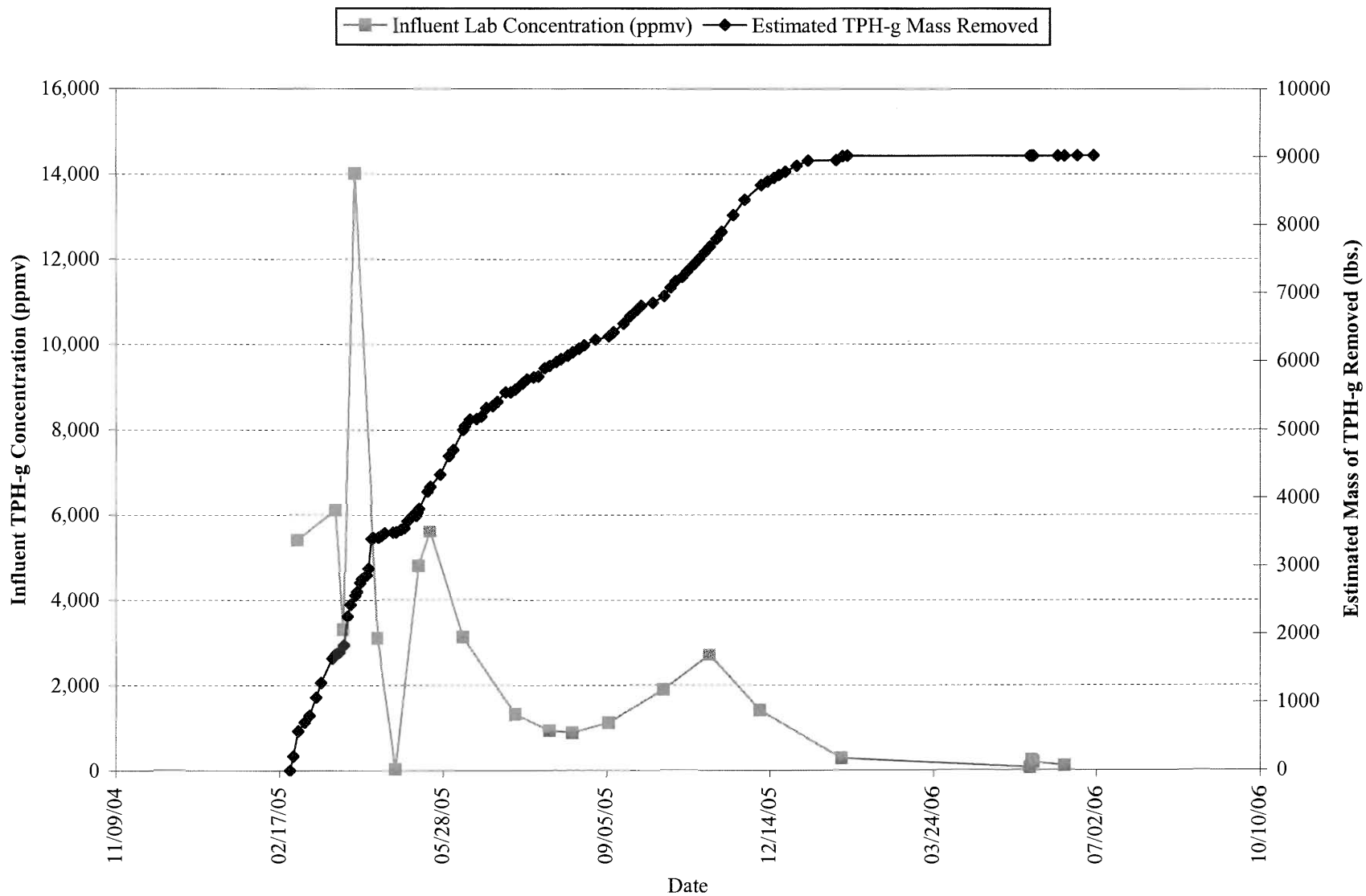
FIGURE:

**3**

**Figure 4: Influent TPH-g Concentration and Estimated Mass Removed by Groundwater Extraction System  
Strough Family Trust, 327 34th Street, Oakland, California**



**Figure 5: Influent TPH-g Concentrations and Estimated Mass Removed by Vapor Extraction System  
Strough Family Trust, 327 34th Street, Oakland, California**





**Tables**

TABLE 1 WELL CONSTRUCTION DETAILS  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORNIA

Well ID	Well Installation Date	Top-of-Casing Elevation* (feet)	Casing Material	Total Depth of Borehole (ft bgs)	Casing Diameter (inches)	Screened Interval (ft bgs)	Slot Size (inches)	Filter Pack Interval (ft bgs)	Filter Pack Material
MW1	07/19/93	64.69	PVC	32	2	17-32	0.020	15-32	Gravel Pack
MW2	07/20/93	65.95	PVC	33	2	18-33	0.020	16-33	Gravel Pack
MW3	07/20/93	65.99	PVC	34	2	18-34	0.020	16-34	Gravel Pack
MW4	06/26/98	63.35†	PVC	31	2	15-31	0.020	13-31.5	Lonestar #3 Sand
MW5	06/26/98	65.59	PVC	31	2	15-31	0.020	13-31.5	Lonestar #3 Sand
MW6	07/17/00	59.60	PVC	31.5	2	10-30	0.020	8-30	Lonestar #3 Sand
MW7	07/17/00	59.47	PVC	36.5	2	15-35	0.020	13-35	Lonestar #3 Sand

\* Elevations based on a survey conducted August 2002 and referenced benchmark with known elevation (NGVD 29) of 60.40 feet above mean sea level.

† The casing elevation is uncertain.

PVC Polyvinyl chloride.

ft bgs Feet below ground surface.



TABLE 2 CUMULATIVE GROUNDWATER ELEVATION AND ANALYTICAL DATA  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	GW Elevation (feet)	SPH Thickness (feet)	Concentration (µg/L)								Concentration (mg/L)										
						Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	TPH-mo	MTBE	CO <sub>2</sub> (lab)	DO (field)	Eh (mv) (field)	pH (field)	Fe(II)	Mn	SO <sub>4</sub>	N-NH <sub>3</sub>	N-NO <sub>3</sub>	o-PO <sub>4</sub>	
MW2	12/28/98	101.27	a 21.10	80.17	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	01/25/99	101.27	a 20.80	80.47	0.01	9,000	26,000	3,800	27,500	130,000	--	--	5,800	386	0.3	--	6.69	--	--	--	--	--	--	--
MW2	02/26/99	101.27	a 18.00	83.27	sheen	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	03/24/99	101.27	a 18.27	83.00	trace	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	05/12/99	101.27	a 19.08	82.19	trace	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	12/15-16/99	101.27	a 22.42	78.85	0.025	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2	03/20/00	101.27	a 17.09	84.18	0.026	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	07/20/00	101.27	a 20.86	80.41	0.017	*	*	*	*	*	*	*	*	*	0.88	*	6.37	*	*	*	*	*	*	*
MW2	10/11/00	101.27	a 22.10	79.17	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	04/10-11/01	101.27	a 19.98	81.29	0.00	8,000	22,000	2,600	23,500	150,000	1,500	<600	3,600	168	NR	--	NR	3.1	2.5	16	0.14	0.19	<0.20	
MW2	07/10/01	101.27	a 21.85	79.42	0.00	5,900	15,000	2,300	12,100	83,000	5,700	<1,500	2,800	--	--	--	--	--	--	--	--	--	--	--
MW2	11/20/01	65.95	b 22.75	43.20	0.00	--	--	--	--	--	--	--	--	120	NR	--	6.15	1.8	2	16	<0.10	--	<0.20	
MW2	02/19/02	65.95	b 20.12	45.83	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	05/21/02	65.95	b 21.10	44.85	0.00	8,600	25,000	3,500	26,000	150,000	31,000	<3,000	4,800	160	0.88	--	5.99	3.9	1.7	13	<0.10	0.54	<0.20	
MW2	06/27/03	65.95	b 21.48	44.47	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	09/29/03	65.95	b 23.04	42.91	0.48	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2 <sup>f</sup>	12/12/03	65.95	b 22.75	43.31	0.16	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2 <sup>f</sup>	03/15/04	65.95	b 19.24	46.72	0.01	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2 <sup>f</sup>	06/24/04	65.95	b 22.10	44.06	0.31	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2 <sup>f</sup>	09/29/04	65.95	b 22.81	43.14	sheen	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2 <sup>f</sup>	12/13/04	65.95	b 22.06	43.95	0.08	3,700	12,000	1,900	10,000	47,000	2,600	<500	1,200	*	0.27	*	6.63	*	*	*	*	*	*	*
MW2 <sup>f</sup>	03/14/05	65.95	b 25.00	40.95	0.00	780	3,700	920	6,400	43,000	43,000	h <5,000	<200	*	*	*	*	*	*	*	*	*	*	*
MW2	06/15/05	65.95	b 21.14	44.81	0.00	2,900	15,000	2,400	22,000	120,000	13,000	<2,500	810	--	3.05	-147.6	--	--	--	--	--	--	--	--
MW2	07/18/05	65.95	NM	NC	NM	2,700	13,000	1,800	15,000	120,000	17,000	--	530	--	--	--	--	--	--	--	--	--	--	--
MW2	09/26/05	65.95	22.93	43.02	0.00	570	4,000	620	6,200	31,000	63,000	28,000	k <50	--	--	--	--	--	--	--	--	--	--	--
MW2	12/12/05	65.95	25.40	40.55	0.00	670	5,300	1,100	9,800	34,000	2,800	<500	65	--	--	--	--	--	--	--	--	--	--	--
MW2	03/29/06	65.95	15.66	50.29	sheen	620	2,800	540	4,700	33,000	<4,000	<100	37	--	7.59	--	6.9	--	--	--	--	--	--	--
MW2	06/19/06	65.95	19.14	46.81	sheen	680	5,200	990	16,000	120,000	<30,000	1,900	170	--	1.78	--	6.21	--	--	--	--	--	--	--
MW3	07/27/93	101.29	a 22.28	79.01	0.02	9,100	24,000	5,300	33,000	330,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	10/02/97	101.29	a 22.71	78.58	0.03	4,200	11,000	1,800	10,600	36,000	--	--	3,500	--	--	--	--	--	--	--	--	--	--	--
MW3	06/30/98	101.29	a 19.47	81.82	0.00	4,800	11,000	1,200	7,100	51,000	--	--	3,900	300	2	--	6.03	1.4	9.8	13	1.4	<0.10	2.4	
MW3	07/29/98	101.29	a 20.01	81.28	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	08/26/98	101.29	a 20.62	80.67	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	10/01/98	101.29	a 21.33	79.96	0.00	3,900	8,500	1,200	6,000	38,000	--	--	2,300	240	2	--	6.65	--	--	--	--	--	--	--
MW3	10/30/98	101.29	a 21.62	79.67	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	11/30/98	101.29	a 21.31	79.98	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	12/28/98	101.29	a 21.15	80.14	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	01/25/99	101.29	a 20.79	80.50	0.00	4,000	10,000	1,200	6,700	5,100	--	--	2,900	238	1	--	7.01	--	--	--	--	--	--	--
MW3	02/26/99	101.29	a 18.02	83.27	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	03/24/99	101.29	a 18.37	82.92	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	05/12/99	101.29	a 19.22	82.07	0.0083	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	12/15-16/99	101.29	a 22.43	78.86	0.00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW3	03/20/00	101.29	a 17.14	84.15	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	07/20/00	101.29	a 20.98	80.31	0.00	5,700	14,000	1,600	9,300	69,000	2,900	<300	3,300	128	2.05	--	6.73	3.9	6.6	20	<0.10	0.55	<0.20	
MW3	10/11/00	101.29	a 22.24	79.05	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	04/10-11/01	101.29	a 20.70	80.59	0.00	7,200	<0.001	2,300	12,900	110,000	4,700	<1,500	4,300	137	NR	--	NR	1	6	8.2	<0.10	0.13	<0.20	
MW3	07/10/01	101.29	a 21.97	79.32	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	11/20/01	65.99	b 22.80	43.19	0.00	6,300	16,000	2,400	14,900	100,000	5,900	<900	4,000	120	2.93	--	6.67	0.84	12	31	<0.10	--	<0.20	







TABLE 2 CUMULATIVE GROUNDWATER ELEVATION AND ANALYTICAL DATA  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORNIA

Well Number	Date	Casing Elevation (feet)	Depth to Water (feet)	GW Elevation (feet)	SPH Thickness (feet)	Concentration (µg/L)								Concentration (mg/L)					
						Benzene	Toluene	Ethyl-benzene	Xylenes	TPH-g	TPH-d	TPH-mo	MTBE	CO <sub>2</sub> (lab)	DO (field)	Eh (mv) (field)	pH (field)	Fe(II)	Mn
SPH	Separate-phase hydrocarbons.																		
CO <sub>2</sub>	Carbon dioxide.																		
DO	Dissolved oxygen.																		
Fe(II)	Ferrous iron.																		
Mn	Manganese.																		
SO <sub>4</sub>	Sulfate.																		
N-NH <sub>3</sub>	Ammonia.																		
N-NO <sub>3</sub>	Nitrate.																		
o-PO <sub>4</sub>	Ortho-Phosphate.																		
GW	Groundwater.																		
TPH-g	Total Petroleum Hydrocarbons as gasoline.																		
TPH-d	Total Petroleum Hydrocarbons as diesel.																		
TPH-mo	Total Petroleum Hydrocarbons as motor oil.																		
MTBE	Methyl tertiary butyl ether.																		
NC	Not calculated.																		
NM	Not measured.																		
NR	Not reported.																		
µg/L	Micrograms per liter.																		
mg/L	Milligrams per liter.																		
*	SPH present; not sampled.																		
**	Well MW4 elevation modified due to site renovation activities. Not Surveyed.																		
--	Not analyzed or not sampled.																		
<	Less than the laboratory reporting limits.																		
a	Elevations are referenced to monitoring well MW1, with assumed datum of 100.00 feet.																		
b	Elevations based on a survey conducted August 2002 and referenced benchmark with known elevation (NGVD 29) of 60.40 feet above mean sea level.																		
c	Analysis not conducted due to broken sample containers.																		
d	Hydrocarbon reported in the gasoline range does not match laboratory gasoline standard.																		
e	Groundwater elevation in wells with LPH are corrected by multiplying the specific gravity of gasoline (0.69) by the LPH thickness and adding this value to the water elevation.																		
f	Hydrocarbon reported is in the early diesel range, and does not match the laboratory diesel standard.																		
g	Sample contained discrete peak in gasoline range and identified by lab as MTBE.																		
h	Quantity of unknown hydrocarbon(s) in sample based on diesel.																		
i	The concentration reported reflect(s) individual or discrete unidentified peaks not matching a typical fuel pattern.																		
j	Depth to groundwater is based on the depth of the stingers.																		
k	Quantity of unknown hydrocarbon(s) in sample based on motor oil.																		



TABLE 3 HISTORICAL GRAB GROUNDWATER ANALYTICAL DATA  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORNIA

Boring ID	Date	Depth (feet)	Concentrations (µg/L)													
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	TPH-mo	TBA	MTBE	DIPE	ETBE	TAME	1,2-DCA	EDB
HP1	12/18/2003	26-30	<5.0	<5.0	<5.0	11	410	180	<500	<50	480	<10	<5.0	<5.0	<5.0	<5.0
HP3	12/18/2003	32-36	<0.50	<0.50	<0.50	<1.0	<50	75	<500	<5.0	0.55	<1.0	<0.50	<0.50	1.3	<0.50

TPH-g Total Petroleum Hydrocarbons as gasoline.  
 TPH-d Total Petroleum Hydrocarbons as diesel.  
 TPH-mo Total Petroleum Hydrocarbons as motor oil.  
 TBA t-butyl alcohol.  
 MTBE Methyl tertiary butyl ether.  
 DIPE di-isopropyl ether.  
 ETBE ethyl t-butyl ether.  
 TAME t-amyl methyl ether.  
 1,2-DCA 1,2-dichloroethane.  
 EDB ethylene dibromide.  
 < less than the laboratory reporting limits.

**TABLE 4 DPE SYSTEM - GROUNDWATER ANALYTICAL RESULTS  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORNIA**

Sample Location	Sample Date	Concentrations (µg/L)						
		TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Influent	01/23/06	7,900	< 3,000	78	350	18	1,400	58
	03/29/06	4,200	< 1,500	110	410	60	690	38
	05/22/06	6,300	< 2,000	210	680	100	860	120
	06/12/06	1,300	< 800	17	72	4.1	200	27
Midfluent	01/23/06	< 50	< 50	< 0.50	< 0.50	< 0.50	1.1	< 0.50
	03/29/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	05/22/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	06/12/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Effluent	01/23/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	03/29/06	110	72	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	05/22/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	06/12/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

µg/L - micrograms per liter

TPH-g - Total Petroleum Hydrocarbons as gasoline

TPH-d - Total Petroleum Hydrocarbons as diesel

MTBE - Methyl tert-butyl ether

NA- Not analyzed

Reviewer:
Date:

**TABLE 5 DPE SYSTEM - VAPOR ANALYTICAL RESULTS  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA**

Sample Location	Date	Concentration (ppmv) by EPA Method 8015M/8020						POC Abatement Efficiency Based on Lab results
		TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	
Influent								
	02/28/05	5,400	77	260	45	270		
	03/23/05	6,100	92	340	54	340		
	03/28/05	3,300	40	170	25	140		
	04/04/05	14,000	150	730	120	730		
	04/18/05	3,100	46	160	27	170		
	04/29/05	37	0.77	2.5	0.34	2.2		
	05/13/05	4,800	72	300	62	380		
	05/20/05	5,600	61	310	60	450		
	06/09/05	3,121	34	138	18	144		
	07/11/05	1,300	15	50	5.7	52		
	08/01/05	920	14	50	5.9	41		
	08/15/05	870	10	42	4.0	37		
	09/06/05	1,100	10	52	4.3	41		
	10/10/05	1,900	18	86	7.9	68		
	11/07/05	2,700	19	150	17	190		
	12/08/05	1,400	58	470	63	550		
	01/27/06	270	7.7	28	2.2	16		
	05/22/06	60	2.4	6.2	1.0	8.9	0.32	
	05/23/06	230	7.6	27	4.4	29	0.58	
	05/24/06	180	5.8	22	3.4	26	0.43	
	06/12/06	100	2.2	9.6	1.1	12	0.21	
Intermediate								
	05/22/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	
	05/23/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	
	05/24/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	
	06/12/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	
Effluent								
	05/22/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	91.7%
	05/23/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	97.8%
	05/24/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	97.2%
	06/12/06	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	95.0%

Note: When analyte is not detected, laboratory reporting limit is used for destruction efficiency calculations.

TPHg - Total petroleum hydrocarbons as gasoline

ppmv- Parts Per Million by Volume

POC- Precursor Organic Compound

Reviewer:
Date:

**TABLE 6 DPE SYSTEM OPERATION AND PERFORMANCE DATA - GROUNDWATER  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORNIA**

Date	Days Operational	Percent Operational	Cumulative Total (gallons)	Average		Influent Conc. (µg/L)	Influent Conc. (µg/L)	Est. Pounds Removed*	Cumulative Pounds Removed	Cumulative Pounds Removed
				Operational Flow rate (gpm)	Influent Conc. TPH-g					
12/20/04	0.0	0%	0	0.0	2,100	440	0.00	0.00	0.00	0.00
02/23/05	0.0	0%	19,148	0.0			5.75	5.75	0.08	0.08
02/25/05	2.0	99%	25,840	2.3			2.01	7.77	0.03	0.11
02/28/05	3.0	100%	51,770	5.9	NA	550	7.79	15.56	0.12	0.23
03/04/05	1.5	38%	63,010	5.1			3.38	18.94	0.04	0.27
03/07/05	1.4	48%	73,950	5.3			3.29	22.23	0.04	0.31
03/11/05	4.0	98%	92,050	3.2			5.44	27.67	0.07	0.38
03/14/05	3.1	100%	93,080	0.2			0.31	27.98	0.00	0.38
03/21/05	5.1	73%	128,800	4.9			10.74	38.71	0.14	0.52
03/21/05	0.0	0%	128,810	0.0			0.00	38.71	0.00	0.52
03/23/05	0.6	30%	133,270	5.3	70,000	360	2.60	41.32	0.01	0.53
03/25/05	0.6	26%	137,720	5.4			1.45	42.76	0.01	0.54
03/28/05	2.6	94%	156,980	5.2	7,900	240	1.27	44.03	0.04	0.58
03/30/05	2.2	98%	172,040	4.8			1.50	45.53	0.02	0.61
04/01/05	1.7	95%	177,610	2.3			0.55	46.09	0.01	0.61
04/04/05	1.3	45%	186,830	4.8	16,000	150	1.23	47.32	0.01	0.63
04/05/05	0.5	51%	190,620	5.1			0.52	47.84	0.01	0.64
04/07/05	1.3	64%	199,220	4.7			1.18	49.02	0.03	0.67
04/08/05	0.5	53%	203,140	5.0			0.54	49.56	0.01	0.68
04/11/05	0.5	18%	206,960	4.9			0.53	50.08	0.01	0.69
04/12/05	0.9	96%	213,660	4.9			0.92	51.01	0.02	0.71
04/14/05	2.1	100%	222,830	3.1			1.26	52.27	0.03	0.74
04/15/05	0.1	14%	223,760	4.7			0.13	52.40	0.00	0.74
04/18/05	0.0	1%	223,960	6.7	17,000	610	0.03	52.42	0.00	0.74
04/18/05	0.0	0%	223,960	0.0			0.00	52.42	0.00	0.74
04/20/05	1.5	76%	234,520	4.9			1.08	53.51	0.04	0.78
04/22/05	2.0	99%	244,950	3.7			1.07	54.58	0.03	0.81
04/27/05	0.7	13%	249,050	4.3			0.42	55.00	0.01	0.83
04/29/05	1.5	76%	257,120	3.7	7,600	190	0.51	55.51	0.01	0.84
05/02/05	1.3	44%	265,580	4.4			0.80	56.30	0.01	0.85
05/04/05	0.8	41%	270,850	4.5			0.50	56.80	0.01	0.86

**TABLE 6 DPE SYSTEM OPERATION AND PERFORMANCE DATA - GROUNDWATER  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA**

Date	Days Operational	Percent Operational	Cumulative Total (gallons)	Average Operational Flow rate (gpm)	Influent Conc. (µg/L) TPH-g	Influent Conc. (µg/L) Benzene	Est. Pounds Removed* TPH-g	Cumulative Pounds Removed TPH-g	Est. Pounds Removed* Benzene	Cumulative Pounds Removed Benzene
05/06/05	1.9	99%	273,650	1.0			0.26	57.07	0.00	0.86
05/09/05	1.5	47%	273,980	0.2			0.03	57.10	0.00	0.86
05/11/05	0.0	1%	274,000	1.1			0.00	57.10	0.00	0.86
05/12/05	0.7	100%	276,900	2.7			0.27	57.37	0.00	0.87
05/13/05	1.0	59%	278,000	2.7	15,000	130	0.50	57.87	0.00	0.87
05/18/05	2.5	47%	285,030	2.0			0.72	58.60	0.01	0.88
05/20/05	1.0	61%	291,370	4.2	9,700	210	0.51	59.11	0.01	0.89
05/26/05	3.4	57%	299,570	1.7			0.78	59.88	0.02	0.91
05/31/05	5.2	99%	325,600	3.5			2.46	62.35	0.06	0.97
06/03/05	1.8	65%	334,930	3.7			0.88	63.23	0.02	1.00
06/09/05	4.2	70%	347,080	2.0	13,000	360	1.32	64.55	0.04	1.03
06/10/05	1.1	100%	353,340	3.8			0.84	65.38	0.03	1.06
06/13/05	1.9	63%	363,280	3.6			1.33	66.71	0.05	1.11
06/17/05	0.3	7%	363,650	0.9			0.05	66.76	0.00	1.11
06/20/05	1.8	62%	374,370	4.1			1.43	68.19	0.05	1.16
06/23/05	2.2	77%	384,660	3.2			1.37	69.56	0.05	1.21
06/27/05	1.2	30%	389,010	2.6			0.58	70.14	0.02	1.23
06/30/05	1.3	45%	396,470	3.9			1.00	71.14	0.03	1.26
07/05/05	3.2	64%	405,550	2.0			1.21	72.35	0.04	1.31
07/08/05	0.1	2%	405,910	3.8			0.05	72.39	0.00	1.31
07/11/05	1.5	52%	410,020	1.9	19,000	760	0.65	73.05	0.03	1.33
07/15/05	4.0	94%	410,880	0.2			0.16	73.20	0.00	1.34
07/18/05	2.2	79%	416,100	1.6			0.96	74.16	0.03	1.36
07/22/05	3.3	80%	423,910	1.6			1.43	75.59	0.04	1.41
07/25/05	1.0	36%	426,060	1.5			0.39	75.99	0.01	1.42
07/29/05	4.0	99%	435,140	1.6			1.67	77.65	0.05	1.46
08/01/05	3.0	100%	441,790	1.5	25,000	490	1.39	79.04	0.03	1.49
08/05/05	3.4	82%	449,130	1.5			1.32	80.35	0.03	1.52
08/08/05	2.8	97%	455,200	1.5			1.09	81.44	0.03	1.55
08/12/05	3.3	81%	462,270	1.5			1.27	82.71	0.03	1.58
08/15/05	3.0	100%	468,700	1.5	18,000	540	0.96	83.67	0.03	1.61

**TABLE 6 DPE SYSTEM OPERATION AND PERFORMANCE DATA - GROUNDWATER  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA**

Date	Days Operational	Percent Operational	Cumulative Total (gallons)	Average Operational Flow rate (gpm)	Influent Conc. (µg/L) TPH-g	Influent Conc. (µg/L) Benzene	Est. Pounds Removed* TPH-g	Cumulative Pounds Removed TPH-g	Est. Pounds Removed* Benzene	Cumulative Pounds Removed Benzene
08/19/05	3.9	99%	476,890	1.4			0.96	84.63	0.03	1.64
08/22/05	3.1	100%	483,190	1.4			0.74	85.37	0.02	1.66
08/29/05	7.0	100%	497,280	1.4			1.64	87.01	0.05	1.71
09/06/05	8.1	99%	499,380	0.2	10,000	310	0.25	87.26	0.01	1.72
09/09/05	2.8	99%	505,100	1.4			0.60	87.85	0.02	1.73
09/15/05	6.2	99%	517,140	1.4			1.25	89.11	0.03	1.77
09/19/05	4.0	100%	524,690	1.3			0.79	89.89	0.02	1.79
09/23/05	4.0	98%	533,140	1.5			0.88	90.77	0.02	1.81
09/26/05	2.1	74%	540,516	2.5			0.77	91.54	0.02	1.83
10/03/05	2.1	30%	543,336	0.9			0.29	91.84	0.01	1.84
10/10/05	4.9	70%	557,440	2.0	15,000	380	1.47	93.31	0.04	1.88
10/14/05	3.9	100%	557,860	0.1			0.06	93.36	0.00	1.88
10/17/05	3.1	100%	557,980	0.0			0.02	93.38	0.00	1.89
10/21/05	2.3	56%	558,100	0.0			0.02	93.39	0.00	1.89
10/24/05	3.2	100%	558,340	0.1			0.03	93.43	0.00	1.89
10/28/05	3.7	94%	562,391	0.8			0.54	93.97	0.01	1.90
10/31/05	3.1	100%	569,085	1.5			0.89	94.86	0.02	1.92
11/04/05	3.9	100%	577,073	1.4			1.07	95.92	0.02	1.94
11/07/05	3.1	100%	583,268	1.4	17,000	330	0.83	96.75	0.02	1.96
11/11/05	4.0	100%	590,939	1.3			1.18	97.93	0.02	1.98
11/14/05	3.1	100%	596,620	1.3			0.88	98.81	0.01	1.99
11/18/05	4.0	100%	603,850	1.3			1.12	99.93	0.02	2.01
11/21/05	3.0	99%	609,160	1.2			0.82	100.74	0.01	2.02
11/28/05	7.0	100%	621,840	1.3			1.96	102.70	0.03	2.05
12/02/05	3.2	80%	627,560	1.2			0.88	103.58	0.01	2.07
12/08/05	6.1	100%	638,590	1.2	20,000	260	1.70	105.28	0.03	2.10
12/12/05	3.9	100%	645,340	1.2			0.79	106.07	0.01	2.11
12/16/05	3.9	98%	652,310	1.3			0.81	106.88	0.01	2.12
12/19/05	3.0	99%	657,670	1.2			0.62	107.50	0.01	2.12
12/23/05	4.0	100%	664,650	1.2			0.81	108.31	0.01	2.13
12/30/05	7.0	100%	677,540	1.3			1.50	109.81	0.02	2.15

**TABLE 6 DPE SYSTEM OPERATION AND PERFORMANCE DATA - GROUNDWATER  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA**

Date	Days Operational	Percent Operational	Cumulative Total (gallons)	Average	Influent Conc.	Influent Conc.	Est. Pounds Removed*	Cumulative	Est. Pounds Removed*	Cumulative
				Operational Flow rate (gpm)	(µg/L) TPH-g	(µg/L) Benzene		Pounds Removed TPH-g		Pounds Removed Benzene
01/06/06	6.1	88%	690,030	1.4			1.45	111.27	0.02	2.17
01/09/06	0.1	4%	690,040	0.1			0.00	111.27	0.00	2.17
01/23/06	0.6	5%	691,940	2.0	7,900	78	0.22	111.49	0.00	2.17
01/27/06	3.9	98%	700,350	1.5			0.42	111.91	0.01	2.18
01/30/06	3.1	100%	707,110	1.5			0.34	112.25	0.01	2.18
03/29/06	1.1	2%	708,670	1.0	4,200	110	0.05	112.31	0.00	2.18
05/22/06	0.2	0%	708,950	0.8	6,300	210	0.01	112.32	0.00	2.18
05/23/06	0.8	85%	711,211	1.9			0.07	112.39	0.00	2.19
05/24/06	1.0	96%	714,250	2.2			0.10	112.49	0.00	2.19
06/08/06	0.1	0%	714,360	1.2			0.00	112.49	0.00	2.19
06/12/06	4.1	100%	725,143	1.8	1,300	17	0.96	113.45	0.01	2.20
06/20/06	7.9	100%	734,150	0.8			0.10	113.55	0.00	2.20
06/30/06	1.7	16%	736,605	1.0			0.03	113.57	0.00	2.20
<b>Total</b>	<b>268</b>		<b>736,605</b>	<b>1.9</b>			<b>113.57</b>		<b>2.20</b>	

Gallons discharged from 2/23/05 to 3/30/05 **172,040**

Gallons discharged from 3/30/05 to 6/30/05 **224,430**

Gallons discharged from 7/1/05 to 12/30/05 **281,070**

Gallons discharged from 1/1/06 to 6/30/06 **59,065**

Note: When analyte is not detected, laboratory reporting limit is used for concentration and mass removed calculations.

\* Est. Mass TPH Removed (pounds) = Average influent conc. (µg/L) \* period flow total (gallons) \* 1 lb/454 g \* 1/1,000,000 \* 3.785 L/gallon

Note: Extraction from well MW3 was discontinued on 15 July 2005.

TPH - Total Petroleum Hydrocarbons (measured as Total Petroleum Hydrocarbons as both gasoline and diesel as analyzed by EPA Method 8015 modified).

gpm - Gallons per minute.

µg/L - Micrograms per liter.

NM - Not Measured.

Reviewer:
Date:

**TABLE 7 DPE SYSTEM OPERATION AND PERFORMANCE DATA - VAPOR  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA**

Date	Days Operational	Percent Operational	Throughput Cu-ft	Average Flow rate (CFM)	Influent Field FID/PID Concentration (ppmv)	Influent Lab Concentration TPH-g (ppmv)	Influent Lab Concentration Benzene (ppmv)	Estimated Pounds TPH-g Removed	Estimated Pounds TPH-g Emitted	Estimated Pounds Benzene Removed	Estimated Pounds Benzene Emitted
02/23/05	0.0	0%	0	55	4,000			0.0	0.00	0.00	0.00
02/25/05	2.0	99%	149,448	52	4,000			211.7	0.06	2.56	0.00
02/28/05	3.0	100%	257,712	59	3,996	5,400	77	365.0	0.05	4.42	0.00
03/04/05	1.5	38%	85,878	39	NM			129.5	0.00	1.47	0.00
03/07/05	1.4	48%	65,583	32	3,996			98.9	0.00	1.12	0.00
03/11/05	4.0	98%	176,347	31	NM			265.9	0.01	3.02	0.00
03/14/05	3.1	100%	144,576	32	4,026			218.0	0.01	2.48	0.00
03/21/05	5.1	73%	233,645	32	NM			352.4	0.01	4.01	0.00
03/21/05	0.0	0%	0	0	0			0.0	0.00	0.00	0.00
03/23/05	0.6	30%	38,493	46	4,000	6,100	92	61.6	0.01	0.72	0.00
03/25/05	0.6	26%	26,082	32	4,000			32.2	0.02	0.35	0.00
03/28/05	2.6	94%	117,558	32	4,000	3,300	40	101.7	0.14	0.95	0.00
03/30/05	2.2	98%	185,496	59	NM	0	150	420.8	0.22	3.58	0.01
04/01/05	1.7	95%	76,923	32	4,000			174.5	0.09	1.48	0.00
04/04/05	1.3	45%	60,480	32	4,000			137.2	0.06	1.17	0.00
04/05/05	0.5	51%	23,247	32	4,000			52.1	0.02	0.46	0.00
04/07/05	1.3	64%	57,834	32	4,000			129.7	0.07	1.15	0.00
04/08/05	0.5	53%	24,759	32	4,000			55.5	0.03	0.49	0.00
04/11/05	0.5	18%	24,759	32	4,000			55.5	0.03	0.49	0.00
04/12/05	0.9	96%	43,092	32	4,000			96.6	0.04	0.86	0.00
04/14/05	2.1	100%	196,812	66	4,000			441.3	0.30	3.91	0.01
04/15/05	0.1	14%	6,237	32	4,000			14.0	0.01	0.12	0.00
04/18/05	0.0	1%	945	32	4,000	3,100	46	2.1	0.00	0.02	0.00
04/18/05	0.0	0%	0	32	4,000			0.0	0.00	0.00	0.00
04/20/05	1.5	76%	69,312	32	4,000			28.5	0.12	0.33	0.00
04/22/05	2.0	99%	91,008	32	1,978			37.4	0.16	0.43	0.00
04/27/05	0.7	13%	30,051	32	4,000			12.4	0.03	0.14	0.00
04/29/05	1.5	76%	68,418	32	3,984	37	0.77	0.7	0.06	0.01	0.00
05/02/05	1.3	44%	60,480	32	4,000			38.4	0.18	0.45	0.00
05/04/05	0.8	41%	36,666	32	NM			23.3	0.09	0.27	0.00
05/06/05	1.9	99%	163,548	59	3,982			103.7	0.05	1.21	0.00
05/09/05	1.5	47%	123,900	59	NM			78.6	0.04	0.91	0.00
05/11/05	0.0	1%	567	32	904			0.4	0.00	0.00	0.00
05/12/05	0.7	100%	70,092	66	NM			44.5	0.01	0.52	0.00
05/13/05	1.0	59%	45,927	32	824	4,800	72	57.8	0.00	0.67	0.00
05/18/05	2.5	47%	185,016	52	789			252.3	0.05	2.50	0.01
05/20/05	1.0	61%	47,628	32	884	5,600	61	70.0	0.01	0.59	0.00



**TABLE 7 DPE SYSTEM OPERATION AND PERFORMANCE DATA - VAPOR  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA**

Date	Days Operational	Percent Operational	Throughput Cu-ft	Average Flow rate (CFM)	Influent Field FID/PID Concentration (ppmv)	Influent Lab Concentration TPH-g (ppmv)	Influent Lab Concentration Benzene (ppmv)	Estimated Pounds TPH-g Removed	Estimated Pounds TPH-g Emitted	Estimated Pounds Benzene Removed	Estimated Pounds Benzene Emitted
05/26/05	3.4	57%	156,114	32	816			178.5	0.00	1.51	0.00
05/31/05	5.2	99%	237,195	32	920			271.3	0.00	2.30	0.01
06/03/05	1.8	65%	80,514	32	782			92.1	0.01	0.78	0.00
06/09/05	4.2	70%	360,018	59	1,059	3,121	34	294.7	0.03	2.52	0.01
06/10/05	1.1	100%	97,350	59	971			56.4	0.00	0.49	0.00
06/13/05	1.9	63%	160,716	59	NM			93.2	0.01	0.81	0.00
06/17/05	0.3	7%	13,230	32	1,126			7.7	0.00	0.07	0.00
06/20/05	1.8	62%	63,504	24	1,218			36.8	0.01	0.32	0.00
06/23/05	2.2	77%	211,860	66	598			122.8	0.09	1.06	0.01
06/27/05	1.2	30%	53,487	32	741			31.0	0.03	0.27	0.00
06/30/05	1.3	45%	99,247	52	621			57.5	0.02	0.50	0.00
07/05/05	3.2	64%	241,145	52	NM			139.8	0.02	1.21	0.01
07/08/05	0.1	2%	5,664	59	NM			3.3	0.00	0.03	0.00
07/11/05	1.5	52%	113,568	52	179	1,300	15	38.7	0.01	0.35	0.00
07/15/05	4.0	94%	296,400	52	127			86.3	0.00	0.87	0.01
07/18/05	2.2	79%	209,088	66	191			60.9	0.00	0.62	0.01
07/22/05	3.3	80%	114,336	24	2,656			33.3	0.00	0.34	0.00
07/25/05	1.0	36%	38,064	26	891			11.1	0.00	0.11	0.00
07/29/05	4.0	99%	428,850	75	1,850			124.8	0.00	1.26	0.01
08/01/05	3.0	100%	126,846	29	436	920	14	30.6	0.00	0.36	0.00
08/05/05	3.4	82%	241,500	50	718			56.7	0.00	0.59	0.01
08/08/05	2.8	97%	183,816	46	396			43.1	0.00	0.45	0.01
08/12/05	3.3	81%	215,556	46	1,160			50.6	0.00	0.52	0.01
08/15/05	3.0	100%	205,860	47	417	870	10	47.0	0.00	0.42	0.01
08/19/05	3.9	99%	209,124	37	1,445			54.0	0.00	0.42	0.01
08/22/05	3.1	100%	183,270	41	440			47.3	0.00	0.37	0.01
08/29/05	7.0	100%	322,752	32	491			83.4	0.00	0.66	0.01
09/06/05	8.1	99%	197,880	17	521	1,100	10	51.1	0.00	0.40	0.01
09/09/05	2.8	99%	149,577	37	482			58.8	0.00	0.42	0.00
09/15/05	6.2	99%	320,112	36	516			125.9	0.00	0.91	0.01
09/19/05	4.0	100%	273,600	48	289			107.6	0.00	0.78	0.01
09/23/05	4.0	98%	230,160	40	300			90.5	0.00	0.65	0.01
09/26/05	2.1	74%	164,010	55	590			64.5	0.00	0.47	0.00
10/03/05	2.1	30%	110,160	36	328			43.3	0.12	0.31	0.00
10/10/05	4.9	70%	254,880	36	4,903	1,900	18	100.3	0.27	0.72	0.01
10/14/05	3.9	100%	204,765	37	9			123.5	0.00	0.77	0.01
10/17/05	3.1	100%	160,746	37	9			97.0	0.05	0.60	0.00
10/21/05	2.3	56%	100,116	31	9			60.4	0.07	0.38	0.00
10/24/05	3.2	100%	143,957	31	9			86.8	0.11	0.54	0.00
10/28/05	3.7	94%	159,485	30	934			96.2	0.12	0.60	0.00
10/31/05	3.1	100%	135,719	30	912			81.9	0.11	0.51	0.00

**TABLE 7 DPE SYSTEM OPERATION AND PERFORMANCE DATA - VAPOR  
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA**

Date	Days Operational	Percent Operational	Throughput Cu-ft	Average Flow rate (CFM)	Influent Field FID/PID Concentration (ppmv)	Influent Lab Concentration TPH-g (ppmv)	Influent Lab Concentration Benzene (ppmv)	Estimated Pounds TPH-g Removed	Estimated Pounds TPH-g Emitted	Estimated Pounds Benzene Removed	Estimated Pounds Benzene Emitted
11/04/05	3.9	100%	164,280	30	804			99.1	0.05	0.62	0.01
11/07/05	3.1	100%	133,726	30	915	2,700	19	80.7	0.00	0.50	0.00
11/11/05	4.0	100%	207,612	37	833			111.6	0.00	1.62	0.01
11/14/05	3.1	100%	193,776	44	832			104.2	0.00	1.51	0.01
11/21/05	7.0	100%	453,870	45	1,044			244.0	0.00	3.55	0.01
11/28/05	7.0	100%	421,344	42	1,135			226.5	0.09	3.29	0.01
12/08/05	9.3	92%	591,910	44	930	1,400	58	217.3	0.20	4.62	0.02
12/12/05	3.9	100%	242,953	43	866			53.2	0.10	1.62	0.01
12/16/05	3.9	98%	233,604	42	430			51.2	0.07	1.56	0.01
12/19/05	3.0	99%	185,760	43	430			40.7	0.00	1.24	0.00
12/23/05	4.0	100%	234,270	41	430			51.3	0.00	1.56	0.01
12/30/05	7.0	100%	394,992	39	430			86.5	0.06	2.63	0.01
01/06/06	6.1	88%	336,105	39	260			73.6	0.05	2.24	0.01
01/23/06	0.8	5%	47,730	43	51			10.5	0.03	0.32	0.00
01/27/06	3.9	98%	249,216	44	50	270	7.7	54.6	0.26	1.66	0.01
01/30/06	3.1	100%	180,564	41	50			7.8	0.14	0.19	0.00
The catalytic oxidizer was shut down on 1/30/06 and replaced with a vapor phase carbon unit. The system was restarted on 5/22/06.											
05/22/06	0.2	0%	1,062	3	160	60	2.4	0.0	0.00	0.00	0.00
05/23/06	0.8	85%	3,582	3	226	230	7.6	0.1	0.00	0.00	0.00
05/24/06	1.0	96%	5,544	4	178	180	5.8	0.3	0.00	0.01	0.00
06/08/06	0.1	0%	270	3	128	0	0.0	0.0	0.00	0.00	0.00
06/12/06	4.1	100%	20,685	4	91	100	2.2	1.1	0.00	0.02	0.00
06/20/06	7.9	99%	34,038	3	200	0	0.0	1.8	0.00	0.02	0.00
<b>Cumulative Total/Average</b>	<b>265.3</b>			<b>38</b>				<b>9,021</b>		<b>98.9</b>	

Note: When analyte is not detected, laboratory reporting limit is used for concentration and mass removed calculations.

<sup>a</sup> Est. pounds/day removed/emitted TPH-g = Average Combined well conc. (ppmv) \* 4.2(µg/L/ppmv) \* Average combined well flowrate (CFM) \* 1440 min/day \* 1 g/1,000,000 µg \* 0.002205 lbs/g \* 28.32 L/ft<sup>3</sup>

<sup>b</sup> Est. pounds/day removed/emitted Benzene = Average Combined well conc. (ppmv) \* 3.25(µg/L/ppmv) \* Average combined well flowrate (CFM) \* 1440 min/day \* 1 g/1,000,000 µg \* 0.002205 lbs/g \* 28.32 L/ft<sup>3</sup>

Cumulative Total - Total as measured since system start-up.

CFM - Cubic feet per minute.

TPH-g - Total Petroleum Hydrocarbons as gasoline.

ppmv - Parts Per Million by Volume.

\* Extraction from well MW3 was discontinued on 15 July 2005.

Reviewer:
Date:

TABLE 8 GROUNDWATER MONITORING SCHEDULE  
 FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORNIA

Well Number	Groundwater Gauging Frequency	Groundwater Sampling and Analysis Frequency		
		BTEX and TPH-g	MTBE	TEPH
MW1	Q	S	S	S
MW2	Q	Q	Q	Q
MW3	Q	Q	Q	Q
MW4	Q	Q	Q	Q
MW5	Q	A	A	A
MW6	Q	S	S	S
MW7	Q	A	A	A

Q = Quarterly.

S = Semiannual.

A = Annual.

BTEX = Benzene, toluene, ethylbenzene, total xylenes.

MTBE = Methyl tertiary butyl ether.

TPH-g = Total Petroleum Hydrocarbons as gasoline.

TEPH = Total Extractable Petroleum Hydrocarbons, includes TPH-diesel and TPH-motor oil.

**Appendix A**  
**Protocols for Groundwater Monitoring**

## **PROTOCOLS FOR GROUNDWATER MONITORING**

### **GROUNDWATER GAUGING**

Wells are opened prior to gauging to allow the groundwater level in the wells to equilibrate with atmospheric pressure. The depth to groundwater and depth to liquid-phase hydrocarbons, if present, are then measured to the nearest 0.01 feet using an electronic water level meter or optical interface probe. The measurements are made from a permanent reference point at the top of the well casing. If less than 1 foot of water is measured in a well, the water is bailed from the well and, if the well does not recover, the well is considered “functionally dry.” Wells with a sheen or measurable liquid-phase hydrocarbons are generally not purged or sampled.

### **WELL PURGING**

After the wells are gauged, each well is purged of approximately 3 well casing volumes of water to provide representative groundwater samples for analysis. Field parameters of pH, temperature, and electrical conductance are measured during purging to ensure that these parameters have stabilized before groundwater in a well is sampled. Groundwater in each well is purged using an inertial pump (WaTerra), an electric submersible pump, or a bailer. After the well is purged, the water level is checked to ensure that the well has recharged to at least 80 percent of its original water level.

### **GROUNDWATER SAMPLING**

After purging, groundwater in each well is sampled using dedicated tubing and an inertial pump (WaTerra) or a factory-cleaned disposable bailer. Samples from extraction wells are typically collected from sample ports associated with the groundwater remediation system. Samples collected for volatile organic analysis are placed in Teflon septum-sealed 40-milliliter glass vials. Samples collected for diesel analysis are placed in 1-liter amber glass bottles. Each sample bottle is labeled with the site name, well number, date, sampler’s initials, and preservative. The samples are placed in a cooler with ice for delivery to a state-certified laboratory. The information for each sample is entered on a chain-of-custody form prior to transport to the laboratory.

**Appendix B**  
**Field Documents**

**MONITORING WELL DATA FORM**

Client: <u>Strough Family Trust</u>	Date: <u>06/19/06</u>
Project Number: <u>TMSFT1, Task Q206</u>	
Site Location: <u>327 34th Street Oakland, California</u>	Samplers: <u>ALEX / AHMED</u>

MONITORING WELL NUMBER	TIME	DEPTH TO WATER (FEET)	DEPTH TO PRODUCT (FEET)	APPARENT PRODUCT THICKNESS (FEET)	AMOUNT OF PRODUCT REMOVED (LITERS)	MONITORING WELL INTEGRITY	DEPTH TO BOTTOM (FEET)	GENERAL FIELD COMMENTS
MW1		18.27		φ.φφ			30.45	
MW2*		19.14	sheen	φ.φφ			31.79	
MW3*		19.11		φ.φφ			32.φ2	
MW4		17.96		φ.φφ			27.74	
MW5		2φ.22		φ.φφ			26.43	
MW6		16.46		φ.φφ			26.φ9	AA
MW7		14.49		φ.φφ			34.53	

\* Possible LPH present - Use interface probe and confirm with bailer.

Note: Depth to bottom measured during first quarter unless noted.



## GROUNDWATER PURGE AND SAMPLE

Project Name: Strough Family Trust	Well No: <b>MW2</b>	Date: <i>6-19-06</i>
Project No: TMSFT1, Task Q206	Personnel: <b>ALEX</b>	

**GAUGING DATA**

Water Level Measuring Method: **INTERFACE PROBE**      Measuring Point Description:

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter	Casing Volume (gal)	Total Purge Volume (gal)									
	31.79	- 19.14	= 12.65	X 1	2.02	= 6.07									
				<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">4</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">0.04</td> <td style="text-align: center;">0.16</td> <td style="text-align: center;">0.64</td> </tr> <tr> <td style="text-align: center;">1.44</td> <td></td> <td></td> </tr> </table>	2	4	6	0.04	0.16	0.64	1.44				
2	4	6													
0.04	0.16	0.64													
1.44															

**PURGING DATA**

Purging Method: **WATERRA / DISP. BAILER / SYSTEM**      Purging Depth:      Purge Rate: (gpm)

Time:	1133	1148	1147			
Volume Purged (gal)	2.5	5	7.5			
Temperature (C)	18.59	18.68	18.71			
pH	6.23	6.15	6.21			
Spec. Cond. (uS/cm)	704	889	817			
DO (mg/L)	1.42	1.38	1.78			
ORP (mV)	50.4	44.8	46.1			
Turbidity/Color	CLEAR BRN	CLEAR BRN	CLEAR BRN			
Odor (Y/N)	Y	Y	Y			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations: **TRACE ODDOR, USHEEN**

**SAMPLING DATA**

Sampling Method: **WATERRA / DISP. BAILER / SYSTEM**      Purge Rate: (gpm)

Time Sampled: **1155**      Approximate Depth to Water During Sampling: **20.0** (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analytical Method
<b>MW2</b>	<b>6</b>	<b>VOA</b>	<b>HCL</b>	<b>40 mL</b>	/	<b>SEE COC</b>
					/	
					/	

Total Purge Volume: **7.5** (gallons)      Disposal: **Onsite Treatment System**

Weather Conditions: **OK**

Problems Encountered During Purging and Sampling: **N**

Comments:



## GROUNDWATER PURGE AND SAMPLE

Project Name: Strough Family Trust	Well No: <b>MW3</b>	Date: 06-19-06
Project No: TMSFT1, Task Q206	Personnel: <i>AVEX</i>	

### GAUGING DATA

Water Level Measuring Method: INTERFACE PROBE      Measuring Point Description:

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter				Casing Volume (gal)	Total Purge Volume (gal)
		32.01	- 19.11	= 12.90	X 1	2	4	6	2.06
				0.04	0.16	0.64	1.44		

### PURGING DATA

Purging Method: WATERRA / DISP. BAILER / SYSTEM      Purging Depth:      Purge Rate: (gpm)

Time:	1052	1056	1100			
Volume Purged (gal)	2.5	5	7.5			
Temperature (C)	18.48	18.63	18.61			
pH	6.56	6.38	6.40			
Spec. Cond. (uS/cm)	805	839	551			
DO (mg/L)	2.32	2.25	2.36			
ORP (mV)	28.2	28.4	29.3			
Turbidity/Color	<i>SILTY GREY</i>	<i>SILTY GREY</i>	<i>SILTY GREY</i>	/	/	/
Odor (Y/N)	Y	Y	Y			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations: *TRACE ODOR*

### SAMPLING DATA

Sampling Method: WATERRA / DISP. BAILER / SYSTEM      Purge Rate: (gpm)

Time Sampled: 1100      Approximate Depth to Water During Sampling: 20.0 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analytical Method
<b>MW3</b>	<b>6</b>	<b>VOA</b>	<b>HCL</b>	<b>40 mL</b>	/	<b>SEE COC</b>
					/	
					/	

Total Purge Volume: 7.5 (gallons)      Disposal: Onsite Treatment System

Weather Conditions: OK

Problems Encountered During Purging and Sampling: N

Comments:

## GROUNDWATER PURGE AND SAMPLE

Project Name: Strough Family Trust	Well No: <b>MW4</b>	Date: <b>06-19-06</b>
Project No: TMSFT1, Task Q206	Personnel: <b>ALEX</b>	

**GAUGING DATA**

Water Level Measuring Method: INTERFACE PROBE      Measuring Point Description:

WELL PURGE VOLUME CALCULATION	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter	Casing Volume (gal)	Total Purge Volume (gal)
	27.74	- 17.96	= 9.78	X 1 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">2</span> 4 6	1.56	= 4.69
				0.04   0.16   0.64   1.44		

**PURGING DATA**

Purging Method: WATERRA / DISP. BAILER / SYSTEM      Purging Depth:      Purge Rate: (gpm)

Time:	1011	1015	1019			
Volume Purged (gal)	2	4	6			
Temperature (C)	18.55	18.50	18.51			
pH	6.10	5.65	5.70			
Spec. Cond. (uS/cm)	857	833	838			
DO (mg/L)	2.32	2.56	2.49			
ORP (mV)	89.4	105.5	92.4			
Turbidity/Color	SILTY BRN	SILTY BRN	SILTY BRN	/	/	/
Odor (Y/N)	N	N	N			
Casing Volumes	1	2	3			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

---



---

**SAMPLING DATA**

Sampling Method: WATERRA / DISP. BAILER / SYSTEM      Purge Rate: (gpm)

Time Sampled: **1035**      Approximate Depth to Water During Sampling: **18.0** (feet)

Comments:

---

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analytical Method
<b>MW4</b>	<b>6</b>	<b>VOA</b>	<b>HCL</b>	<b>40 mL</b>	/	<b>SEE COC</b>
					/	

Total Purge Volume: **6** (gallons)      Disposal: Onsite Treatment System

Weather Conditions: **OK**

Problems Encountered During Purging and Sampling: **N**

Comments:

---

Client: STROUGH FAMILY TRUST Station No.: OAKLAND

Project No.: TMSFT1. Task No.: 1L

Sample Team: ALEX, ANNA

Date: 06-19-06

No. of Drums on Site: \_\_\_\_\_ Water \_\_\_\_\_ Soil \_\_\_\_\_ Empty

• Task: GROUND SAMPLING (P2)

• Summary:

ON SITE 0930 ALEX, ANNA

- PURGE AND CASPER ALL WELLS MW1 THROUGH MW7 WITH 1" PIPER

- PURGE AND SAMPLE MW2, MW3 AND MW4 WITH BAITER

- CLOSE ALL WELLS

- LEFT PURGE WATER ON SITE (21 GALLONS)

- OFF SITE 12:30

Alex Morello  
06-19-06

## **Appendix C**

# **Laboratory Analytical Reports and Chain-of-Custody Documentation**



Report Number : 50676

Date : 6/26/2006

Tom Neely  
ETIC Engineering, Inc  
2285 Morello Avenue  
Pleasant Hill, CA 94523

Subject : 3 Water Samples  
Project Name : Former Val Strough Chevrolet  
Project Number : TMSFT1, Q206  
P.O. Number : 6237

Dear Mr. Neely,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel Kiff".

Joel Kiff



Report Number : 50676

Date : 6/26/2006

Subject : 3 Water Samples  
Project Name : Former Val Strough Chevrolet  
Project Number : TMSFT1, Q206  
P.O. Number : 6237

## Case Narrative

The Method Reporting Limit for TPH as Diesel is increased due to interference from Gasoline-Range Hydrocarbons for samples MW2, MW3, and MW4.

Matrix Spike/Matrix Spike Duplicate Results associated with samples MW4 and MW2 for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.

Approved By: \_\_\_\_\_

A handwritten signature in black ink, appearing to read "Joel Kiff", is written over a horizontal line. Below the line, the name "Joel Kiff" is printed in a small, sans-serif font.



Report Number : 50676

Date : 6/26/2006

Project Name : **Former Val Strough Chevrolet**

Project Number : **TMSFT1, Q206**

Sample : **MW2**

Matrix : Water

Lab Number : 50676-01

Sample Date :6/19/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>680</b>	20	ug/L	EPA 8260B	6/22/2006
<b>Toluene</b>	<b>5200</b>	20	ug/L	EPA 8260B	6/22/2006
<b>Ethylbenzene</b>	<b>990</b>	20	ug/L	EPA 8260B	6/22/2006
<b>Total Xylenes</b>	<b>16000</b>	20	ug/L	EPA 8260B	6/22/2006
<b>Methyl-t-butyl ether (MTBE)</b>	<b>170</b>	20	ug/L	EPA 8260B	6/22/2006
<b>TPH as Gasoline</b>	<b>120000</b>	2000	ug/L	EPA 8260B	6/22/2006
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	6/22/2006
4-Bromofluorobenzene (Surr)	98.6		% Recovery	EPA 8260B	6/22/2006
<b>TPH as Diesel (w/ Silica Gel)</b>	<b>&lt; 30000</b>	30000	ug/L	M EPA 8015	6/22/2006
<b>TPH as Motor Oil (w/ Silica Gel)</b>	<b>1900</b>	100	ug/L	M EPA 8015	6/22/2006
Octacosane (Diesel Surrogate)	130		% Recovery	M EPA 8015	6/22/2006

Sample : **MW3**

Matrix : Water

Lab Number : 50676-02

Sample Date :6/19/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>160</b>	1.5	ug/L	EPA 8260B	6/22/2006
<b>Toluene</b>	<b>500</b>	1.5	ug/L	EPA 8260B	6/22/2006
<b>Ethylbenzene</b>	<b>320</b>	1.5	ug/L	EPA 8260B	6/22/2006
<b>Total Xylenes</b>	<b>840</b>	1.5	ug/L	EPA 8260B	6/22/2006
<b>Methyl-t-butyl ether (MTBE)</b>	<b>3.1</b>	1.5	ug/L	EPA 8260B	6/22/2006
<b>TPH as Gasoline</b>	<b>7000</b>	150	ug/L	EPA 8260B	6/22/2006
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	6/22/2006
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	6/22/2006
<b>TPH as Diesel (w/ Silica Gel)</b>	<b>&lt; 300</b>	300	ug/L	M EPA 8015	6/22/2006
<b>TPH as Motor Oil (w/ Silica Gel)</b>	<b>&lt; 100</b>	100	ug/L	M EPA 8015	6/22/2006
Octacosane (Diesel Surrogate)	101		% Recovery	M EPA 8015	6/22/2006

Approved By:

Joel Kiff

Project Name : **Former Val Strough Chevrolet**

Project Number : **TMSFT1, Q206**

Sample : **MW4**

Matrix : Water

Lab Number : 50676-03

Sample Date :6/19/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>100</b>	2.5	ug/L	EPA 8260B	6/21/2006
<b>Toluene</b>	<b>940</b>	2.5	ug/L	EPA 8260B	6/21/2006
<b>Ethylbenzene</b>	<b>540</b>	2.5	ug/L	EPA 8260B	6/21/2006
<b>Total Xylenes</b>	<b>1800</b>	2.5	ug/L	EPA 8260B	6/21/2006
<b>Methyl-t-butyl ether (MTBE)</b>	<b>55</b>	2.5	ug/L	EPA 8260B	6/21/2006
<b>TPH as Gasoline</b>	<b>8800</b>	250	ug/L	EPA 8260B	6/21/2006
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	6/21/2006
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	6/21/2006
<b>TPH as Diesel (w/ Silica Gel)</b>	<b>&lt; 400</b>	400	ug/L	M EPA 8015	6/22/2006
<b>TPH as Motor Oil (w/ Silica Gel)</b>	<b>&lt; 100</b>	100	ug/L	M EPA 8015	6/22/2006
Octacosane (Diesel Surrogate)	105		% Recovery	M EPA 8015	6/22/2006

Approved By:

Joel Kiff





Report Number : 50676

Date : 6/26/2006


**QC Report : Method Blank Data**

Project Name : **Former Val Strough Chevrolet**

Project Number : **TMSFT1, Q206**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (w/ Silica Gel)	< 50	50	ug/L	M EPA 8015	6/22/2006
TPH as Motor Oil (w/ Silica Gel)	< 100	100	ug/L	M EPA 8015	6/22/2006
Octacosane (Diesel Surrogate)	97.6		%	M EPA 8015	6/22/2006
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/21/2006
Toluene - d8 (Surr)	102		%	EPA 8260B	6/21/2006
4-Bromofluorobenzene (Surr)	99.1		%	EPA 8260B	6/21/2006
Benzene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Toluene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	6/21/2006
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	6/21/2006
Toluene - d8 (Surr)	100		%	EPA 8260B	6/21/2006
4-Bromofluorobenzene (Surr)	106		%	EPA 8260B	6/21/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
-----------	----------------	------------------------	-------	-----------------	---------------

Approved By:  Joel Kiff

Report Number : 50676

Date : 6/26/2006

**QC Report : Matrix Spike/ Matrix Spike Duplicate**


Project Name : **Former Val Strough**

Project Number : **TMSFT1, Q206**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Recov. Limit	Relative Percent Diff. Limit
TPH as Diesel	Blank	<50	1000	1000	994	998	ug/L	M EPA 8015	6/22/06	99.4	99.8	0.442	70-130	25
Benzene	50658-04	<0.50	39.8	39.9	39.9	40.0	ug/L	EPA 8260B	6/21/06	100	100	0.102	70-130	25
Toluene	50658-04	<0.50	39.8	39.9	40.8	41.0	ug/L	EPA 8260B	6/21/06	102	103	0.314	70-130	25
Tert-Butanol	50658-04	69	199	200	254	266	ug/L	EPA 8260B	6/21/06	92.7	98.5	6.06	70-130	25
Methyl-t-Butyl Ether	50658-04	230	39.8	39.9	260	257	ug/L	EPA 8260B	6/21/06	67.2	61.2	9.32	70-130	25
Benzene	49901-02	<0.50	40.0	40.0	41.0	39.9	ug/L	EPA 8260B	6/21/06	103	99.7	2.85	70-130	25
Toluene	49901-02	<0.50	40.0	40.0	41.9	41.3	ug/L	EPA 8260B	6/21/06	105	103	1.60	70-130	25
Tert-Butanol	49901-02	230	200	200	411	409	ug/L	EPA 8260B	6/21/06	88.6	87.6	1.20	70-130	25
Methyl-t-Butyl Ether	49901-02	<0.50	40.0	40.0	39.0	38.9	ug/L	EPA 8260B	6/21/06	97.6	97.3	0.229	70-130	25

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:  Joe Kiff

## QC Report : Laboratory Control Sample (LCS)

Project Name : **Former Val Strough**Project Number : **TMSFT1, Q206**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	6/21/06	99.6	70-130
Toluene	40.0	ug/L	EPA 8260B	6/21/06	102	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/21/06	98.8	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/21/06	91.2	70-130
Benzene	40.0	ug/L	EPA 8260B	6/21/06	96.5	70-130
Toluene	40.0	ug/L	EPA 8260B	6/21/06	104	70-130
Tert-Butanol	200	ug/L	EPA 8260B	6/21/06	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	6/21/06	96.3	70-130

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Approved By:

Joe Kiff





2795 2nd Street Suite 300  
 Davis, CA 95616  
 Lab: 530.297.4800  
 Fax: 530.297.4802

SRG # / Lab No. 50676

Project Contact (Hardcopy or PDF To): Tom Neely and eticlabreports@eticeng.com		California EDF Report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>Chain-of-Custody Record and Analysis Request</b>																				
Company / Address: 2285 Morello Avenue, Pleasant Hill, CA 94523		Sampling Company Log Code:		<b>Analysis Request</b>										TAT										
Phone # (925) 602-4710 ext. 17	Fax #(925) 602-4720	Global ID: T0600101644		MTBE (EPA 8260B) per EPA 8021 level @ 5.0 ppb	MTBE (EPA 8260B) @ 0.5 ppb	BTEX (EPA 8260B)	TPH Gas (EPA 8260B)	5 Oxygenates (EPA 8260B)	7 Oxygenates (EPA 8260B)	Lead Scav. (1,2 DCA & 1,2 EDB-EPA 8260B)	Volatile Halocarbons (EPA 8260B)	Volatile Organics Full List (EPA 8260B)	Volatile Organics (EPA 524.2 Drinking Water)	TPH-Diesel (EPA 8015M) w/silica gel cleanup	TPH-Motor Oil (EPA 8015M) w/silica gel cleanup	Total Lead (EPA 6010)	W.E.T. Lead (STLC)	<input type="checkbox"/> 12 hr	<input type="checkbox"/> 24 hr	<input type="checkbox"/> 48hr	<input type="checkbox"/> 72 hr	For Lab Use Only		
TMSFT1, Q206	P.O. #: <b>6237</b>	EDF Deliverable To (Email Address): eticlabreports@eticeng.com																			<input checked="" type="checkbox"/> 1 wk			
Project Name: Former Val Strough Chevrolet		Sampler Signature:																						
Project Address: 327 34th Street, Oakland, CA		Sampling		Container				Preservative			Matrix													
		Date	Time	40 mL VOA	Sleeve	Poly	Glass	Tedlar	HCl	HNO <sub>3</sub>	None	Water	Soil	Air										
Sample Designation																								
MW2		06-19-06	1155	6					X			X												01
MW3		↓	1110	6					X			X												02
MW4		↓	1035	6					X			X												03
Relinquished by: <i>[Signature]</i>		Date	Time	Received by:		Remarks:																		
		06-19-06	13:00																					
Relinquished by:		Date	Time	Received by:		Bill to: ETIC Engineering, Inc.																		
Relinquished by:		Date	Time	Received by Laboratory:		<b>For Lab Use Only: Sample Receipt</b>																		
		0622006	1400	<i>[Signature]</i> KIFF Analytical LLC		Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present													
						1.9	FN	0622006	1400	7P-1	(Yes)	No												