ETIC ENGINEERING

5 June 2006

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

Subject: Former Val Strough Chevrolet
327 34th Street, Oakland, California
Site ID #3035, RO#0000134

Dear Mr. Hwang:

Attached for your review and comment is a copy of the *First Quarter 2006 Groundwater Monitoring Report* for the above-referenced site. ETIC Engineering, Inc. of Pleasant Hill, California, is submitting the attached report on behalf of the owner of the property. The signed letter from the owner of the property will be submitted under separate cover.

If you have any questions or require further information, please contact me at (925) 602-4710, ext. 17.

Sincerely,
ETIC Engineering, Inc.

Thomas E. Neely, PG, CHG, REA II
Program Manager

Attachment

cc: Mr Don Strough, Strough Family Trust, P O Box 489, Orinda, California 94563
Mr Greggory Brandt, Esq , Wendel Rosen Black & Dean, 1111 Broadway, 24th Floor, Oakland, California 94607
Mr Jonathan Redding, Esq , Wendel Rosen Black & Dean, 1111 Broadway, 24th Floor, Oakland, California 94607

FIRST QUARTER 2006
GROUNDWATER MONITORING REPORT

FORMER VAL STROUGH CHEVROLET
327 34th STREET
OAKLAND, CALIFORNIA

Prepared For:

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

Prepared By:

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, CA 94523

5 June 2006

ETIC ENGINEERING

First Quarter 2006
Groundwater Monitoring Report

Former Val Strough Chevrolet
327 34th Street
Oakland, California

5 June 2006

Prepared for:

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

Prepared by:

ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, California 94523

David R. Pew
Staff Geologist

6/5/06
Date

Thomas E. Neely, PG, CHG, REA II
Program Manager

REGISTERED GEOLOGIST
THOMAS E. NEELY
Exp. 9/30/07
No. 7652
STATE OF CALIFORNIA

6/5/06
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 INTERIM REMEDIAL ACTION SUMMARY 9
5.1 DPE SYSTEM OPERATIONAL STATUS 9
5.2 DPE SYSTEM PERFORMANCE 9
5.3 DPE SYSTEM PERFORMANCE EVALUATION 10

6.0 PLANNED SITE ACTIVITIES 11
6.1 INTERIM REMEDIAL ACTION 11
6.2 MONITORING ACTIVITIES 11

7.0 REFERENCES 12

List of Figures

Figure 1 – Site Location Map
Figure 2 – March 2006 Groundwater Contour Map and Rose Diagram
Figure 3 – March 2006 Groundwater Analytical Data

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 34th Street Oakland, California
Consultant:	ETIC Engineering, Inc. 2285 Morello Ave. Pleasant Hill, CA 94523 (925) 602-4710
ETIC Project Manager:	Thomas Neely, PG, CHG, REA II
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, ETIC Engineering, Inc. has prepared this *First 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 29 March 2006 groundwater monitoring event. This report summarizes operational data for the dual phase extraction (DPE) system at the site. Groundwater monitoring data and well construction details are shown on the figures and presented in the tables. Groundwater monitoring protocols, field data, and analytical results are provided in the appendixes.

1.1 GENERAL SITE INFORMATION

Site name:	Former Val Strough Chevrolet
Site address:	327 34th Street, Oakland, California
Current property owner:	Strough Family Trust of 1983
Current site use:	Automotive Dealership and Service Center
Current phase of project:	Groundwater monitoring and remediation
Tanks at site:	Two former tanks (1 gasoline, 1 waste-oil) removed in 1993
Number of wells:	7 (all onsite)
Site ID #:	3035
RO #:	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 34th 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 34th Street, a storm sewer pipeline flows toward the east and into the box culvert. Sanitary sewer lines run parallel to both 34th 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 34th 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 layers 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 and one waste-oil) 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 ACHSCA 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.

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 MW1, MW4, MW5, MW6, and MW7 using a WaTerra inertial pump. Approximately three well casing volumes of water were purged from wells MW2 and MW3, using a disposable bailer. Field parameters including temperature, pH, specific conductance, and dissolved oxygen were measured during purging of all seven 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 product sheen was detected 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 45.07 feet above msl in well MW6 to 50.29 feet above msl in wells MW2 and MW3 (Figure 2). The hydraulic gradient is approximately 0.035 ft/ft and flow direction is generally towards the southeast. At the request of the ACHCSA, a rose diagram depicting historical hydraulic gradients and groundwater flow directions are also presented on Figure 2.

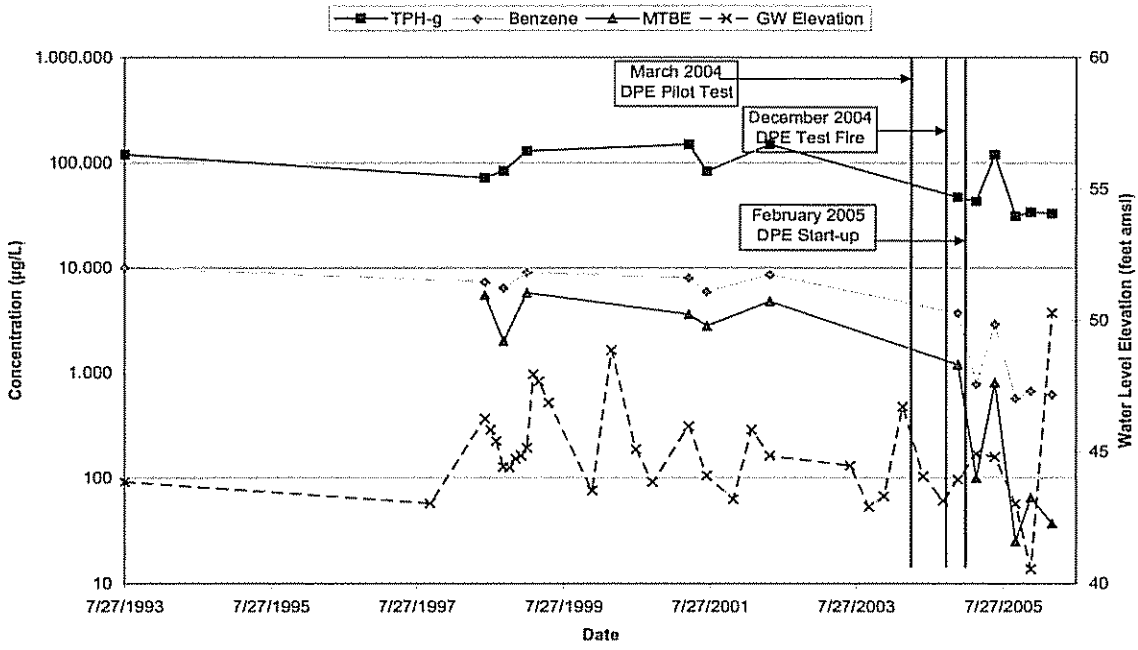
4.3 GROUNDWATER ANALYTICAL RESULTS

On 29 March 2006, groundwater samples were collected from wells MW1 through MW7 and analyzed by Kiff for TPH-g, BTEX, and MTBE by EPA Method 8260B and for TPH-d and TPH-mo by 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.

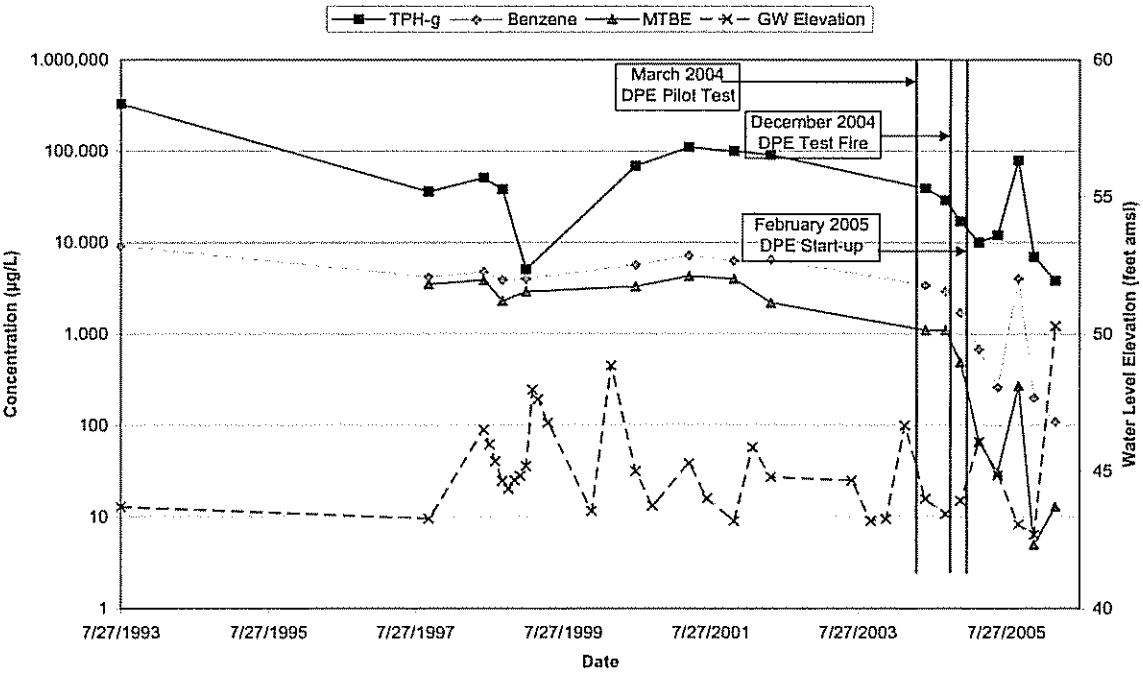
Laboratory analytical results are summarized below:

- TPH-g was detected in the samples collected from well MW2 at 33,000 µg/L, MW3 at 3,800 µg/L, MW4 at 2,400 µg/L, and MW5 at 73 µg/L. TPH-g was not detected in the samples collected from wells MW1, MW6, and MW7. The concentration of TPH-g decreased in wells MW2, MW3, MW5 and MW6 and increased in well MW4 compared to the previous sampling event.
- Benzene was detected in the samples collected from well MW2 at 620 µg/L, well MW3 at 110 µg/L, and well MW4 at 49 µg/L. Benzene was not detected in the samples collected from wells MW1, MW5, MW6, and MW7. The concentrations of benzene decreased in wells MW2, MW3, and MW6 and increased in well MW4 compared to the previous sampling event.
- MTBE was detected in the samples collected from well MW1 at 74 µg/L, MW2 at 37 µg/L, MW3 at 13 µg/L, MW4 at 130 µg/L, and MW6 at 120 µg/L. MTBE was not detected in the samples collected from wells MW5 and MW7. The concentrations of MTBE decreased in wells MW2, MW4, and MW6 and increased in well MW1, MW3 compared to the previous sampling event.
- TPH-d was not detected in groundwater samples collected from any well this quarter.
- TPH-mo was not detected in groundwater samples collected from any well this quarter.
- Concentration trends in wells MW2 and MW3 are presented in the following graphs.

Concentration and Water Level Trends
Well MW-2



Concentration and Water Level Trends
Well MW-3



5.0 INTERIM REMEDIAL ACTION SUMMARY

5.1 DPE SYSTEM OPERATIONAL STATUS

Permits: Appropriate BAAQMD and East Bay Municipal Utility District (EBMUD) discharge permits have been acquired. The City of Oakland Building and Fire Departments have inspected and approved the remediation system construction.

System Construction: Wells MW2 and MW3 are connected to the DPE unit via underground piping. The DPE unit consists of a liquid-ring pump, knock-out vessel, and thermal oxidizer. Propane is used as a supplemental fuel for the thermal oxidizer. Installation of the DPE system was completed in December 2004.

Operational Status: The DPE unit was initially "test fired" in December 2004 once construction was complete. Based on data collected during initial operation, the DPE unit required modifications for more efficient operation. The motor was replaced in February 2005 and the system began operation on 23 February 2005. DPE has been applied to well MW2 since 23 February 2005. From 23 February 2005 to 15 July 2005, DPE was applied to well MW3. DPE was discontinued in well MW3 due to operational issues.

5.2 DPE SYSTEM PERFORMANCE

- From 23 February 2005 to 27 January 2006 the system operated for approximately 250 days which corresponds to 74% of the total time available (Table 7).
- Influent concentrations of TPH-g in groundwater decreased from 20,000 µg/L (12/8/05) to 7,900 µg/L (1/23/06) (Table 4).
- Through 27 January 2006, the DPE system extracted approximately 691,940 gallons of groundwater at an average flow rate of 2.0 gallons per minute (Table 6).
- Approximately 111.49 pounds of TPH-g and 2.17 pounds of benzene have been removed in the aqueous phase during the operation of the DPE system (Table 6). The estimated amounts of TPH-g and benzene removed have been recalculated since the fourth quarter of 2005, corresponding to more recent and updated data that have been obtained.
- The influent concentration of TPH-g in soil vapor was 270 parts per million by volume (ppmv) on 27 January 2006 (Table 5). The average system vapor flow rate has been 40 cubic feet per minute (CFM) since operation began (Table 7).
- Approximately 9,074 pounds of TPH-g and 99.1 pounds of benzene have been removed in the vapor phase during the operation of the DPE system (Table 7). These mass removal calculations are based on influent vapor samples typically collected while the system was operational for more than 3 days prior to vapor sample collection. The estimated amounts of TPH-g and benzene removed have been recalculated since the fourth quarter of 2005, corresponding to more recent and updated data that have been obtained.
- Water samples were collected on 29 March 2006 during the discharge of treated purge water from the well monitoring event as per discharge permit requirements.

5.3 DPE SYSTEM PERFORMANCE EVALUATION

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 operational up-time. The DPE system was shut down on 30 January 2006 to accommodate system upgrades

Residual petroleum hydrocarbon contamination is present in shallow soil near the former underground tanks and dispenser. Residual petroleum hydrocarbons in shallow soil can be an ongoing source of contamination to groundwater. The existing configuration of the DPE system is removing significant quantities of petroleum hydrocarbons from the subsurface, but cannot effectively remediate the contamination in shallow soil. ETIC Engineering is planning to implement certain enhancements to the remediation system to address the residual contamination in shallow soil and to reduce the length of time required for remediation. These enhancements include: 1) installation of extraction wells that will be constructed to address the contamination in shallow soil and 2) conversion of the vapor treatment system from propane-fired oxidizer to carbon filtration. A work plan for remediation system enhancements was submitted to ACHCSA on 3 March 2006. ETIC is awaiting approval of the work plan to proceed with well installation and system expansion.

6.0 PLANNED SITE ACTIVITIES

6.1 INTERIM REMEDIAL ACTION

ETIC recommends the following:

- Restart the remediation system, using carbon filters for vapor abatement. Sample the system concentrations for water and vapor on a monthly basis to evaluate the effectiveness of the DPE system. These data will be used to calculate mass removal rates and system efficiency.
- Once influent concentrations approach asymptotic levels, shut down the system and evaluate "rebound" concentrations in the extraction wells. When mass removal rates diminish and/or the concentration rebound is limited, submit a request for site closure.
- ETIC Engineering is planning to implement certain enhancements to the remediation system to address the residual contamination in shallow soil and to reduce the length of time required for remediation. These enhancements include: 1) installation of extraction wells that will be constructed to address the contamination in shallow soil and 2) conversion of the vapor treatment system from propane-fired oxidizer to carbon filtration. Details concerning remediation system enhancements were presented to ACHCSA in a work plan dated 3 March 2006. ETIC is awaiting approval of the work plan to proceed with well installation and system expansion.

6.2 MONITORING ACTIVITIES

Groundwater will be monitored in accordance with the schedule presented in Table 8.

7.0 REFERENCES

Alameda County Health Care Services Agency. 2004. Fuel Leak Case No. RO0000134, Val Strough Chevrolet, 327-34th St., Oakland, California. August 20.

Alameda County Health Care Services Agency. 2005. Fuel Leak Case No. RO0000134, Val Strough Chevrolet, 327-34th St., Oakland, California. February 4.

Environmental Data Resources (EDR). 2003. EDR Radius Map with GeoCheck, Strough Family Trust, 327 34th Street, Oakland, California. September 10.

ETIC Engineering, Inc. 2003. Supplemental Site Investigation Workplan, Fuel Case No. RO0000134, Val Strough Chevrolet, 327 34th Street, Oakland, California. September 17.

ETIC Engineering, Inc. 2003. Third Quarter 2003 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th 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 34th Street, Oakland, California. February.

ETIC Engineering, Inc. 2004. First Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th 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 34th Street, Oakland, California. June.

ETIC Engineering, Inc. 2004. Second Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th Street, Oakland, California. August.

ETIC Engineering, Inc. 2004. Response to Technical Comments, Strough Family Trust of 1983, 327 34th Street, Oakland, California. October.

ETIC Engineering, Inc. 2004. Third Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th Street, Oakland, California. October.

ETIC Engineering, Inc. 2004. Fourth Quarter 2004 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th Street, Oakland, California. March.

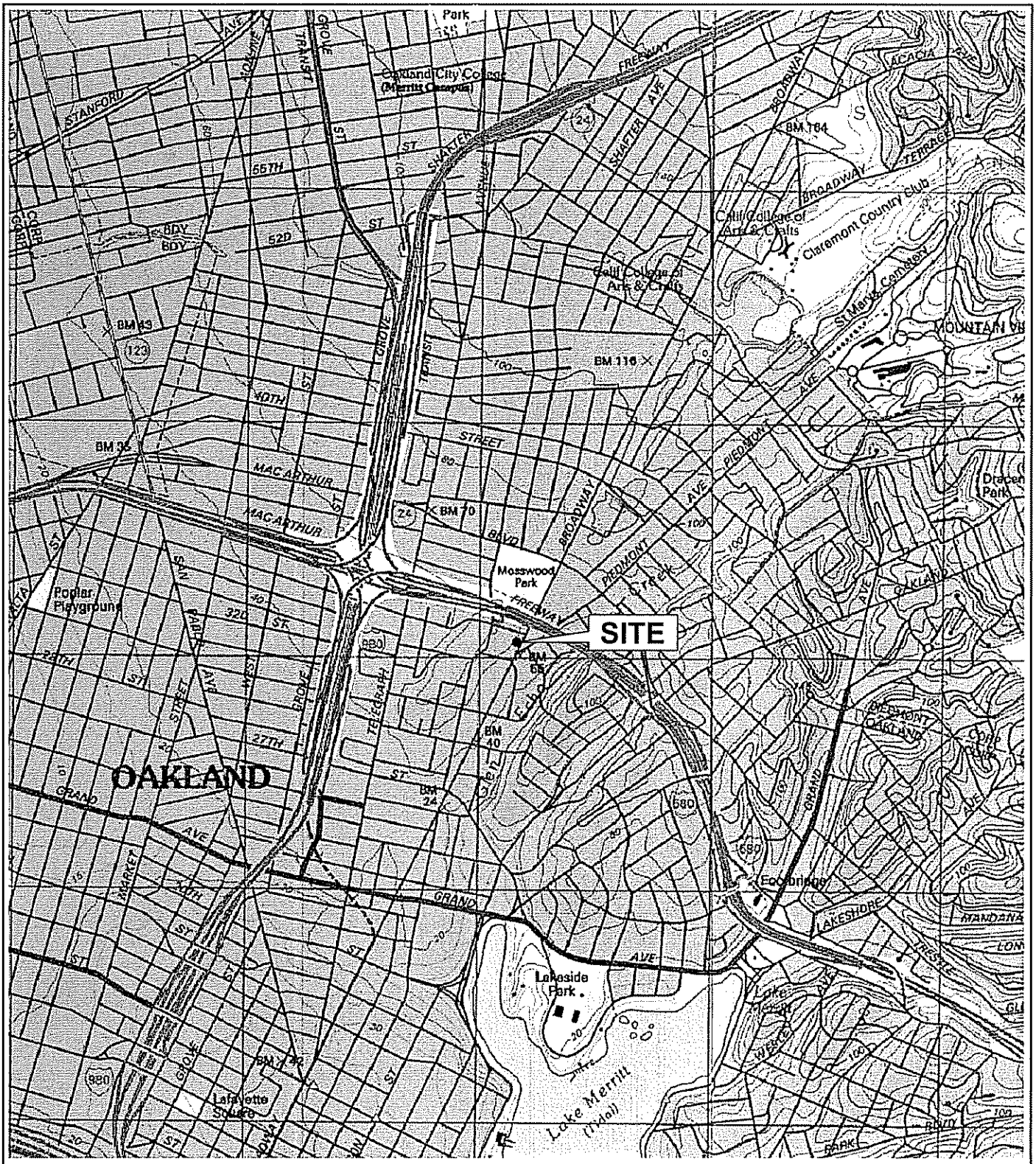
ETIC Engineering, Inc. 2005. First Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th Street, Oakland, California. May.

ETIC Engineering, Inc. 2005. Second Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th Street, Oakland, California. July.

ETIC Engineering, Inc. 2005. Third Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th Street, Oakland, California. November.

ETIC Engineering, Inc. 2006. Fourth Quarter 2005 Groundwater Monitoring Report, Strough Family Trust of 1983, 327 34th Street, Oakland, California. March.

Figures

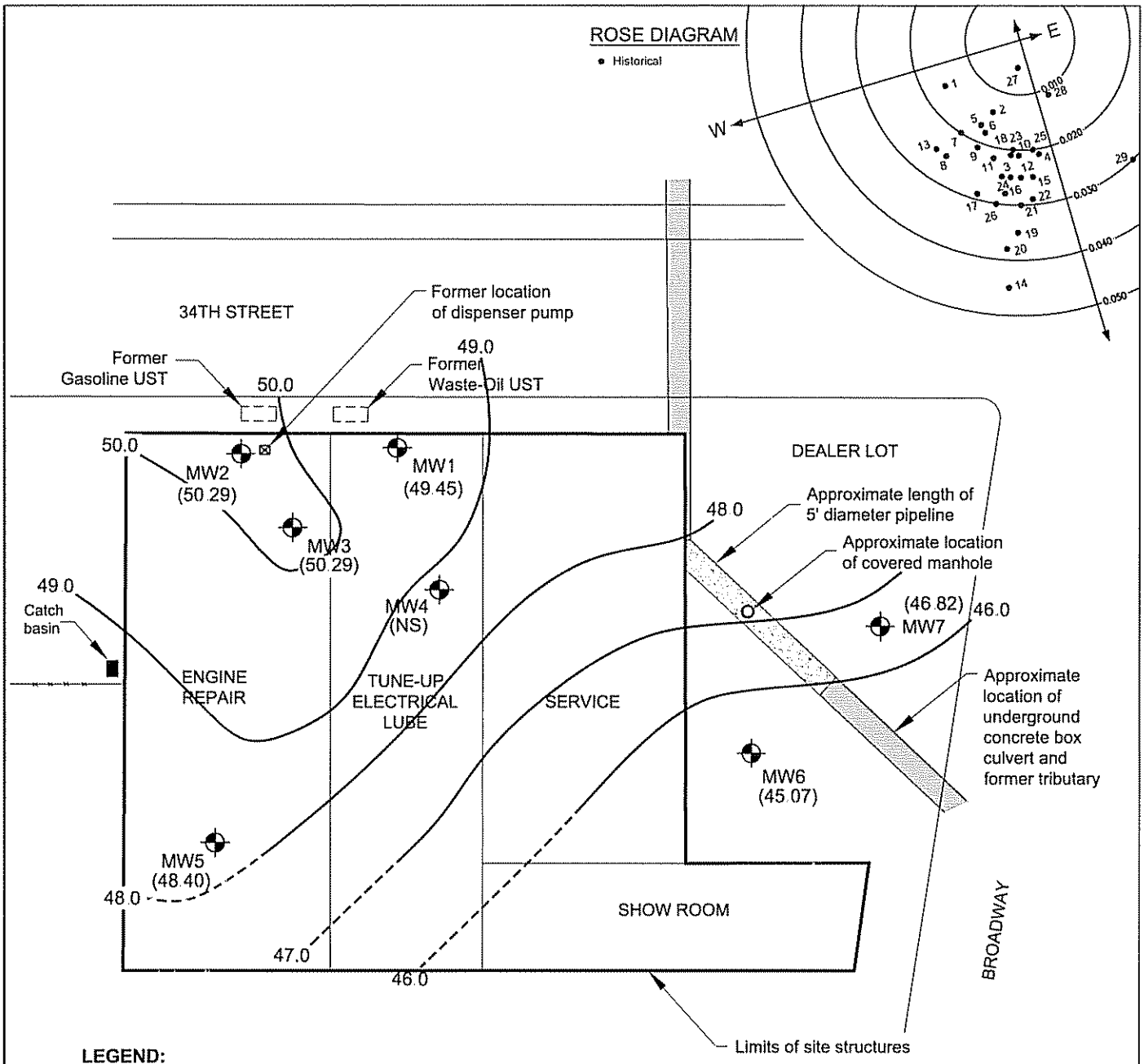


FILENAME: fq2006.DWG 04/28/2006

ETIC ENGINEERING

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

FIGURE:
1



LEGEND:

- Groundwater monitoring well
- (50.29) Groundwater elevation (feet above mean sea level)
- 42.0 Groundwater elevation contour (feet above mean sea level)
- NS Not surveyed
- NM Not Measured

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

N

0 25 50

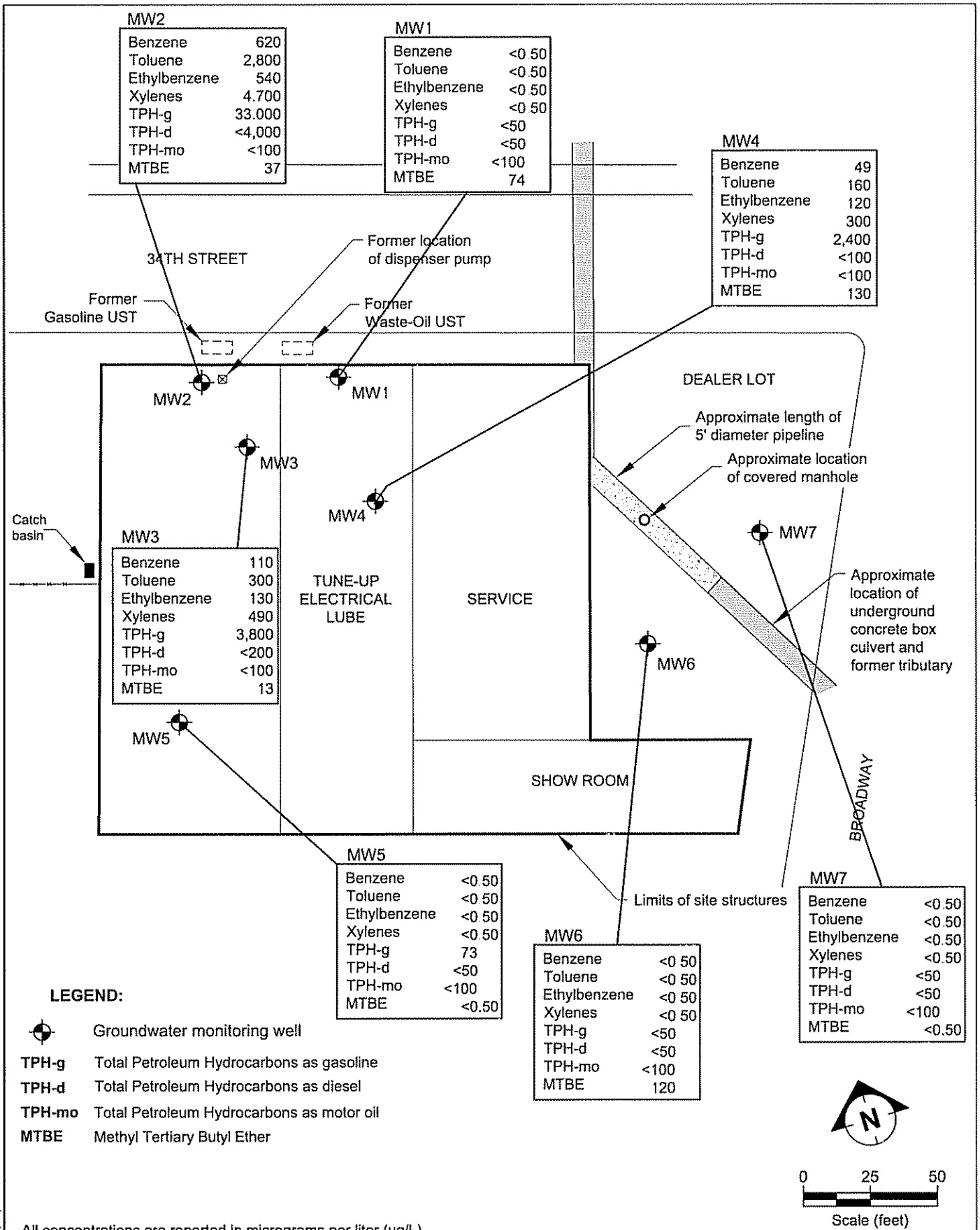
Scale (feet)

ETIC ENGINEERING

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

FIGURE: **2**

FILENAME: fg2006.DWG 04/28/2006



FILENAME: 1q2006.DWG 04/28/2006

ETIC ENGINEERING

GROUNDWATER ANALYTICAL DATA
FORMER VAL STROUGH CHEVROLET
327 34TH STREET, OAKLAND, CALIFORNIA
29 MARCH 2006

FIGURE: 3

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) Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	TPH-mo	MTBE	Concentration (mg/L) CO_2 (lab)	DO (field)	Eh (mv) (field)	pH (field)	Fe(II)	Mn	SO_4	N-NH_3	N-NO_3	o-PO_4
MW1	07/27/93	100.00	a	20.79	79.21	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	--	--	--	--	--	--	--	--	--	--	--	--
MW1	10/02/97	100.00	a	21.22	78.78	0.00	<0.50	<0.50	<0.50	<0.50	<50	--	--	<2.0	--	--	--	--	--	--	--	--	--	--
MW1	06/30/98	100.00	a	18.21	81.79	0.00	<0.50	<0.50	2.1	0.6	84	--	--	2.1	204	3	--	6.16	0.15	0.046	55	<0.10	<0.10	2
MW1	07/29/98	100.00	a	18.74	81.26	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	08/26/98	100.00	a	19.28	80.72	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	10/01/98	100.00	a	19.93	80.07	0.00	<1.0	<1.0	<1.0	<1.0	<50	--	--	<2.0	192	3.6	--	6.49	--	--	--	--	--	--
MW1	10/30/98	100.00	a	20.22	79.78	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	11/30/98	100.00	a	19.99	80.01	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	12/28/98	100.00	a	19.81	80.19	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	01/25/99	100.00	a	19.62	80.38	0.00	<1.0	<1.0	<1.0	<1.0	<50	--	--	<2.0	389	3.4	--	6.72	--	--	--	--	--	--
MW1	02/26/99	100.00	a	17.18	82.82	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	03/24/99	100.00	a	17.28	82.72	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	05/12/99	100.00	a	17.91	82.09	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	12/15/99	100.00	a	21.01	78.99	0.00	<0.50	<0.50	<0.50	<0.50	<50	--	--	<0.50	--	3.31	--	6.52	--	--	--	--	--	--
MW1	03/20/00	100.00	a	16.25	83.75	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	07/20/00	100.00	a	19.63	80.37	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	3.4	120	7.37	--	6.66	0.13	<0.01	54	<0.10	3.4	<0.2
MW1	10/11/00	100.00	a	20.80	79.20	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	04/10-11/01	100.00	a	18.81	81.19	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	1.2	117	NR	--	NR	<0.10	0.045	57	<0.10	6.6	0.15
MW1	07/10/01	100.00	a	20.51	79.49	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	11/20/01	64.69	b	21.36	43.33	0.00	<0.50	1.3	<0.50	0.81	<50	<50	<300	<2.0	--[c]	0.65	--	6.47	0.32	1.8	63	<0.10	--	<0.20
MW1	02/19/02	64.69	b	18.95	45.74	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	05/21/02	64.69	b	19.82	44.87	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	<2.0	120	0.96	--	6.25	<0.10	0.5	58	<0.10	5.5	<0.20
MW1	06/27/03	64.69	b	19.93	44.76	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	09/29/03	64.69	b	21.24	43.45	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	<0.50	--	--	--	--	--	--	--	--	--	--
MW1	12/12/03	64.69	b	21.27	43.42	0.00	<0.50	<0.50	<0.50	1.1	<50	58	<500	<0.50	--	--	--	--	--	--	--	--	--	--
MW1	03/15/04	64.69	b	18.18	46.51	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	<0.50	--	0.14	--	--	--	--	--	--	--	--
MW1	06/24/04	64.69	b	20.48	44.21	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	<0.50	--	0.15	--	--	--	--	--	--	--	--
MW1	09/29/04	64.69	b	21.37	43.32	0.00	<0.50	0.51	<0.50	<1.0	<50	<50	<500	<0.50	--	1.01	--	6.42	--	--	--	--	--	--
MW1	12/13/04	64.69	b	20.63	44.06	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	03/14/05	64.69	b	18.69	46.00	0.00	<0.50	<0.50	<0.50	<1.0	<50	73	h <500	<0.50	--	1.96	--	6.04	--	--	--	--	--	--
MW1	06/15/05	64.69	b	20.32	44.37	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	09/26/05	64.69	b	22.10	42.59	0.00	<0.50	<0.50	<0.50	<1.0	<50	i <50	<500	<0.50	--	1.84	317.4	6.43	--	--	--	--	--	--
MW1	12/12/05	64.69	b	22.39	42.30	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW1	03/29/06	64.69	b	15.24	49.45	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<100	74	--	1.57	--	6.73	--	--	--	--	--	--
MW2	07/27/93	101.27	a	22.10	79.17	0.00	10,000	27,000	2,900	20,000	120,000	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	10/02/97	101.27	a	22.91	78.36	0.43	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2	06/30/98	101.27	a	19.69	81.58	0.45	7,300	18,000	2,500	15,600	72,000	--	--	5,500	185	2.2	--	5.98	--	--	--	--	--	--
MW2	07/29/98	101.27	a	20.11	81.16	0.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	08/26/98	101.27	a	20.54	80.73	0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	10/01/98	101.27	a	21.52	79.75	0.42	6,400	17,000	2,600	17,000	84,000	--	--	2,000	--	2.7	--	6.47	--	--	--	--	--	--
MW2	10/30/98	101.27	a	21.54	79.73	0.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW2	11/30/98	101.27	a	21.21	80.06	0.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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) Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	TPH-mo	MTBE	Concentration (mg/L) CO_2 (lab)	DO (field)	Eh (mv) (field)	pH (field)	Fe(II)	Mn	SO_4	$N\text{-}NH_3$	$N\text{-}NO_3$	$o\text{-}PO_4$
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[c]	12/12/03	65.95	b	22.75	43.31	0.16	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2[c]	03/15/04	65.95	b	19.24	46.72	0.01	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2[c]	06/24/04	65.95	b	22.10	44.06	0.31	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2[c]	09/29/04	65.95	b	22.81	43.14	sheen	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW2[c]	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[c]	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**	--	--	--	--	--	--
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	1200	6700	5,100	--	--	2900	238	i	--	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	f	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
MW3	02/19/02	65.99	b	20.11	45.88	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	05/21/02	65.99	b	21.20	44.79	0.00	6,500	17,000	2,200	12,700	91,000	14,000	<3,000	2,200	130	1.01	--	6.62	4.2	9.6	25	<0.10	0.77	<0.20
MW3	06/27/03	65.99	b	21.32	44.67	sheen	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW3	09/29/03	65.99	b	22.79	43.20	sheen	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MW3[c]	12/12/03	65.99	b	22.73	43.27	0.01	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

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) Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	TPH-mo	MTBE	Concentration (mg/L) CO_3 (lab)	DO (field)	Eh (mv) (field)	pH (field)	Fe(II)	Mn	SO_4	$N\text{-}NH_3$	$N\text{-}NO_3$	$o\text{-}PO_4$
MW3[c]	03/15/04	65.99	b	19.32	46.67	sheen	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MW3	06/24/04	65.99	b	21.99	44.00	0.00	3,400	7,700	1,000	4,800	39,000	1,700	<500	1,100	--	0.07	--	--	--	--	--	--	--	--
MW3	09/29/04	65.99	b	22.54	43.45	0.00	2,900	6,700	980	4,300	29,000	2,200	<500	1,100	--	0.80	--	6.42	--	--	--	--	--	--
MW3	12/13/04	65.99	b	22.06	43.93	0.00	1,700	2,900	790	3,400	17,000	1,300	<500	490	--	0.16	--	6.7	--	--	--	--	--	--
MW3[j]	03/14/05	65.99	b	24.00	41.99	0.00	680	1,700	380	1,600	10,000	670 h	<500	67	--	--	--	--	--	--	--	--	--	--
MW3	06/15/05	65.99	b	21.13	44.86	0.00	260	960	330	1,400	12,000	1,200	<500	31	--	1.93	-150.4	--	--	--	--	--	--	--
MW3	07/18/05	65.99	b	NM	NC	NM	1,000	5,600	1,100	4,300	23,000	1,700	--	81	--	--	--	--	--	--	--	--	--	--
MW3	09/26/05	65.99	b	22.92	43.07	0.00	4,000	17,000	1,900	17,000	79,000	5,100	540 k	270	--	--	--	--	--	--	--	--	--	--
MW3	12/12/05	65.99	b	23.30	42.69	0.00	200	710	450	1,400	7,000	550	<500	<10	--	--	--	--	--	--	--	--	--	--
MW3	03/29/06	65.99	b	15.70	50.29	0.00	110	300	130	490	3,800	<200	<100	13	--	1.23	--	6.89	--	--	--	--	--	--
MW4	06/30/98	98.65	a	16.93	81.72	0.00	2,200	930	850	2,100	10,000	--	--	1,800	222	2.6	--	6.18	0.14	4.3	14	0.8	0.8	1.5
MW4	07/29/98	98.65	a	17.48	81.17	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	08/26/98	98.65	a	18.65	80.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	10/01/98	98.65	a	18.74	79.91	0.00	570	46	130	36	1,100	--	--	1,300	320	3.4	--	<0.001	--	--	--	--	--	--
MW4	10/30/98	98.65	a	19.02	79.63	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	11/30/98	98.65	a	18.74	79.91	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	12/28/98	98.65	a	18.60	80.05	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	01/25-26/99	98.65	a	18.32	80.33	0.00	230	<8.3	<8.3	<8.3	290	--	--	1,300	475	6.7	--	7	--	--	--	--	--	--
MW4	02/26/99	98.65	a	15.81	82.84	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	03/24/99	98.65	a	16.01	82.64	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	05/12/99	98.65	a	17.71	80.94	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	12/15-16/99	98.65	a	19.83	78.82	0.00	5.8	<0.50	<0.50	<0.50	<50	--	--	1,400	--	1.75	--	7.02	--	--	--	--	--	--
MW4	03/20/00	98.65	a	14.9	83.75	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	07/20/00	98.65	a	18.38	80.27	0.00	91	4.6	19	12.9	210	<50	<300	1,500	126	3.88	--	6.67	9.5	5.3	11	<0.10	0.04	<0.20
MW4	10/11/00	98.65	a	19.61	79.04	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	04/10-11/01	98.65	a	17.55	81.10	0.00	110	<5.0	<5.0	<5.0	350	<50	<300	1,100	107	NR	--	NR	0.8	6.3	10	<0.10	<0.05	<0.20
MW4	07/10/01	98.65	a	19.34	79.31	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	11/20/01	63.35	b	20.16	43.19	0.00	<2.5	4	<2.5	3.7	96	<50	<300	2,500	130	0.83	--	6.51	1.6	10	11	<0.10	--	<0.20
MW4	02/19/02	63.35	b	17.34	46.01	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	05/21/02	63.35	b	18.57	44.78	0.00	340	5.7	70	<1.0	940	83	<300	1,600	150	1.65	--	6.32	3.1	8.4	9	<0.10	0.06	<0.20
MW4	06/27/03	63.35	b	18.72	44.63	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW4	09/29/03	63.35	b	20.11	43.24	0.00	<5.0	<5.0	<5.0	<10	1,100	<50 d	<500	1,700	--	--	--	--	--	--	--	--	--	--
MW4	12/12/03	63.35	b	20.06	43.29	0.00	<13	<13	<13	<25	<1,300	<50	<500	1,000	--	--	--	--	--	--	--	--	--	--
MW4	03/15/04	63.35	b	16.89	46.46	0.00	1.5	<0.50	<0.50	<1.0	54 d	<50	<500	41	--	0.16	--	--	--	--	--	--	--	--
MW4	06/24/04	63.35	b	19.31	44.04	0.00	69	<5.0	<5.0	<10	920 d	<50	<500	1,100	--	0.15	--	--	--	--	--	--	--	--
MW4	09/29/04	63.35	b	20.20	43.15	0.00	<5.0	<5.0	<5.0	<10	940 g	<50	<500	1,200	--	0.13	--	6.63	--	--	--	--	--	--
MW4	12/13/04	**	b	20.44	NC	0.00	<5.0	<5.0	<5.0	<10	740	<50	<500	860	--	0.58	--	6.84	--	--	--	--	--	--
MW4	03/14/05	**	b	18.30	NC	0.00	20	<5.0	<5.0	<10	930 i	<50	<500	930	--	0.28	--	6.34	--	--	--	--	--	--
MW4	06/15/05	**	b	20.03	NC	0.00	350	6.1	<5.0	<10	2100	89	<500	1,100	--	0.46	-98.9	--	--	--	--	--	--	--
MW4	07/18/05	**		NM	NC	NM	11	<5.0	<5.0	<10	540 i	<50	--	1,100	--	--	--	--	--	--	--	--	--	--
MW4	09/26/05	**		21.79	NC	0.00	<5.0	<5.0	<5.0	<10	960 i	<50	<500	660	--	2.20	210.4	6.73	--	--	--	--	--	--
MW4	12/12/05	**		21.89	NC	0.00	<5.0	<5.0	<5.0	<10	820	<50	<500	1,000	--	2.05	--	6.62	--	--	--	--	--	--
MW4	03/29/06	**		14.85	NC	0.00	49	160	120	300	2,400	<100	<100	130	--	1.07	--	6.82	--	--	--	--	--	--

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) Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	TPH-mo	MTBE	Concentration (mg/L) CO_2 (lab)	DO (field)	Eh (mv) (field)	pH (field)	Fe(II)	Mn	SO_4	N-NH_3	N-NO_3	o-PO_4
MW5	06/30/98	100.9	a	20.60	80.30	0.00	<0.50	<0.50	<0.50	<0.50	<50	--	--	23	220	4.3	--	6.1	--	--	--	--	--	--
MW5	07/29/98	100.9	a	21.52	79.38	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	08/26/98	100.9	a	22.21	78.69	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	10/01/98	100.9	a	22.95	77.95	0.00	<1.0	<1.0	<1.0	<1.0	<50	--	--	<2.0	256	4.8	--	6.71	--	--	--	--	--	--
MW5	10/30/98	100.9	a	23.23	77.67	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	11/30/98	100.9	a	23.12	77.78	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	12/28/98	100.9	a	23.18	77.72	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	01/25-26/99	100.9	a	22.61	78.29	0.00	<1.0	<1.0	<1.0	<1.0	<50	--	--	<2.0	305	9.7	--	7.04	--	--	--	--	--	--
MW5	02/26/99	100.9	a	19.78	81.12	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	03/24/99	100.9	a	20.25	80.65	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	05/12/99	100.9	a	21.06	79.84	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	12/15-16/99	100.9	a	24.19	76.71	0.00	<0.50	<0.50	<0.50	<0.50	<50	--	--	<0.50	--	2.72	--	7.19	--	--	--	--	--	--
MW5	03/20/00	100.9	a	19.15	81.75	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	07/20/00	100.9	a	21.84	79.06	0.00	<0.50	0.98	<0.50	<0.50	<50	<50	<300	1.9	134	5.58	--	6.35	0.11	0.017	49	<0.10	3.9	<0.20
MW5	10/11/00	100.9	a	23.4	77.50	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	04/10-11/01	100.9	a	22.3	78.60	0.00	<0.50	2.6	<0.50	0.6	<50	<50	<300	1.5	183	66	--	NR	<0.10	0.042	45	<0.10	2.9	0.11
MW5	07/10/01	100.9	a	23.64	77.26	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	11/20/01	65.59	b	24.65	40.94	0.00	0.83	12	1.2	11	140	860	2,500	10	--[e]	66	--	6.01	0.2	2.5	42	<0.10	--	<0.20
MW5	02/19/02	65.59	b	22.37	43.22	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	05/21/02	65.59	b	23.10	42.49	0.00	<0.50	<0.50	<0.50	<0.50	<50	2,200	<300	<2.0	140	66	--	6.3	<0.1	0.22	44	<0.10	J	<0.20
MW5	06/27/03	65.59	b	23.07	42.52	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	09/29/03	65.59	b	24.38	41.21	0.00	<0.50	0.52	7.1	35	100	<50	d <500	1.4	--	--	--	--	--	--	--	--	--	--
MW5	12/12/03	65.59	b	23.90	41.69	0.00	<0.50	<0.50	<0.50	<1	<50	<50	<500	1.5	--	--	--	--	--	--	--	--	--	--
MW5	03/15/04	65.59	b	20.82	44.77	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	<0.50	--	6.4	--	--	--	--	--	--	--	--
MW5	06/24/04	65.59	b	23.57	42.02	0.00	<0.50	<0.50	<0.50	<1.0	<50	130	f <500	0.79	--	5.56	--	--	--	--	--	--	--	--
MW5	09/29/04	65.59	b	24.44	41.15	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	12/13/04	65.59	b	23.87	41.72	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	03/14/05	65.59	b	20.18	45.41	0.00	<0.50	1.3	1.5	8.6	82	<50	<500	<0.50	--	3.91	--	5.57	--	--	--	--	--	--
MW5	06/15/05	65.59	b	12.96	52.63	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	09/26/05	65.59	b	23.60	41.99	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	12/12/05	65.59	b	23.84	41.75	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW5	03/29/06	65.59	b	17.19	48.40	0.00	<0.50	<0.50	<0.50	<0.50	73	<50	<100	<0.50	--	2.3	--	6.3	--	--	--	--	--	--
MW6	07/20/00	96.60	a	18.30	78.30	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	160	122	2.72	--	6.66	120	1.9	53	6	0.05	<0.20
MW6	10/11/00	96.60	a	18.69	77.91	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW6	04/10-11/01	96.60	a	17.85	78.75	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	180	142	NR	--	NR	22	2.2	0.69	5.2	<0.05	<0.20
MW6	07/10/01	96.60	a	18.43	78.17	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW6	11/20/01	59.60	b	18.67	40.93	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	450	180	2.03	--	6.44	29	5.2	1.1	3.4	--	<0.20
MW6	02/19/02	59.60	b	17.40	42.20	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW6	05/21/02	59.60	b	17.68	41.92	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	170	100	0.76	--	6.6	11	3.4	1.4	8.9	0.65	<0.20
MW6	06/27/03	59.60	b	17.73	41.87	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW6	09/29/03	59.60	b	18.48	41.12	0.00	<1.0	<1.0	<1.0	<2.0	230	d <50	<500	340	--	--	--	--	--	--	--	--	--	--
MW6	12/12/03	59.60	b	17.89	41.71	0.00	<2.5	<2.5	<2.5	<5.0	<250	51	<500	190	--	--	--	--	--	--	--	--	--	--
MW6	03/15/04	59.60	b	16.46	43.14	0.00	<1.0	<1.0	<1.0	<2.0	200	<50	<500	220	--	0.11	--	--	--	--	--	--	--	--
MW6	06/24/04	59.60	b	17.97	41.63	0.00	<1.0	<1.0	<1.0	<2.0	130	<50	<500	190	--	0.05	--	--	--	--	--	--	--	--
MW6	09/29/04	59.60	b	18.55	41.05	0.00	<0.50	0.61	<0.50	1.2	210	g <50	<500	190	--	0.37	--	6.60	--	--	--	--	--	--
MW6	12/13/04	59.60	b	17.88	41.72	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW6	03/14/05	59.60	b	16.82	42.78	0.00	<0.50	<0.50	<0.50	1.8	160	<50	<500	190	--	0.08	--	5.65	--	--	--	--	--	--
MW6	06/15/05	59.60	b	17.60	42.00	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW6	09/26/05	59.60	b	NM	NM	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW6	12/12/05	59.60	b	18.33	41.27	0.00	0.62	<0.50	<0.50	1.0	81	<50	<500	140	--	1.52	--	6.61	--	--	--	--	--	--
MW6	03/29/06	59.60	b	14.53	45.07	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<100	120	--	6.93	--	6.06	--	--	--	--	--	--

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) Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	TPH-d	TPH-mo	MTBE	Concentration (mg/L) CO_2 (lab)	DO (field)	Eh (mv) (field)	pH (field)	Fe(II)	Mn	SO_4	$N\text{-}NH_3$	$N\text{-}NO_3$	$o\text{-}PO_4$
MW7	07/20/00	96.75	a	15.93	80.82	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	<0.50	32.2	7.15	--	7.43	<0.1	0.002	7.5	<0.10	2.6	0.13
MW7	10/11/00	96.75	a	16.90	79.85	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	04/10-11/01	96.75	a	15.80	80.95	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	<0.50	77.6	NR	--	NR	0.18	0.048	49	<0.10	2.7	0.31
MW7	07/10/01	96.75	a	16.71	80.04	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	11/20/01	59.47	b	16.17	43.30	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	<2.0	62	0.96	--	7.11	0.16	1.8	63	<0.10	--	<0.20
MW7	02/19/02	59.47	b	14.92	44.55	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	05/21/02	59.47	b	15.18	44.29	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<300	<0.50	68	1.03	--	7.57	0.11	0.35	51	<0.10	2.8	0.11
MW7	06/27/03	59.47	b	16.28	43.19	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW7	09/29/03	59.47	b	16.88	42.59	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	0.62	--	--	--	--	--	--	--	--	--	--
MW7	12/12/03	59.47	b	14.95	44.52	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	<0.50	--	--	--	--	--	--	--	--	--	--
MW7	03/15/04	59.47	b	14.77	44.70	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	<0.50	--	0.54	--	--	--	--	--	--	--	--
MW7	06/24/04	59.47	b	16.33	43.14	0.00	<0.50	<0.50	<0.50	<1.0	<50	300	f <500	<0.50	--	0.20	--	--	--	--	--	--	--	--
MW7	09/29/04	59.47	b	16.88	42.59	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	12/13/04	59.47	b	15.26	44.21	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	03/14/05	59.47	b	15.00	44.47	0.00	<0.50	<0.50	<0.50	<1.0	<50	<50	<500	<0.50	--	0.47	--	6.15	--	--	--	--	--	--
MW7	06/15/05	59.47	b	15.32	44.15	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	09/26/05	59.47	b	NM	NM	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	12/12/05	59.47	b	15.99	43.48	0.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW7	03/29/06	59.47	b	12.65	46.82	0.00	<0.50	<0.50	<0.50	<0.50	<50	<50	<100	<0.50	--	8.72	--	5.81	--	--	--	--	--	--

SPH Separate-phase hydrocarbons.
CO_2 Carbon dioxide.
DO Dissolved oxygen.
Fe(II) Ferrous iron.
Mn Manganese.
SO_4 Sulfate.
$N\text{-}NH_3$ Ammonia.
$N\text{-}NO_3$ Nitrate.
$o\text{-}PO_4$ 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 mtor oil.

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

			Concentrations (µg/L)													
Boring ID	Date	Depth (feet)	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 ANAYLTICAL RESULTS
FORMER VAL STROUGH CHEVROLET, 327 34th STREET OAKLAND, CALIFORINA

Sample Location	Sample Date	Concentrations (µg/L)					
		TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes
Influent							
	12/20/04	2,100	NA	440	110	77	340
	02/28/05	NA	1,700	550	2,500	410	4,300
	03/23/05	70,000	4,000	360	2,300	740	6,300
	03/28/05	7,900	1,100	240	1,100	150	1,900
	04/04/05	16,000	2,900	150	890	150	2,200
	04/18/05	17,000	990	610	2,300	300	3,500
	04/29/05	7,600	1,000	190	870	95	1,800
	05/13/05	15,000	4,200	130	530	78	2,000
	05/20/05	9,700	660	210	930	81	2,400
	06/09/05	13,000	1,200	360	1,700	150	2,900
	07/11/05	19,000	1,300	760	2,800	220	3,700
	08/01/05	25,000	3,200	490	2,600	150	4,200
	08/15/05	18,000	2,800	540	2,500	150	4,300
	09/06/05	10,000	2,900	310	1,400	35	3,000
	10/10/05	15,000	1,300	380	2,500	87	4,000
	11/07/05	17,000	2,400	330	2,700	200	3,800
	12/08/05	20,000	3,100	260	1,500	51	5,300
	01/23/06	7,900	< 3,000	78	350	18	1,400
	03/29/06	4,200	< 1,500	110	410	60	690
Midfluent							
	02/28/05	NA	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	03/23/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	03/28/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50
	04/04/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	04/18/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	04/29/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	05/13/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	05/20/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	06/09/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	07/11/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	08/01/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	08/15/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	09/06/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	10/10/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	11/07/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	12/08/05	< 50	80	< 0.50	< 0.50	< 0.50	< 1.0
	01/23/06	< 50	< 50	< 0.50	< 0.50	< 0.50	1.1
	03/29/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50
Effluent							
	12/20/04	NA	NA	< 0.50	< 0.50	< 0.50	< 1.0
	02/28/05	NA	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	03/23/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	03/28/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 0.50
	04/04/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	04/18/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	04/29/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	05/13/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	05/20/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	06/09/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	07/11/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	08/01/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	08/15/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	09/06/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	10/10/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	11/07/05	< 50	< 50	< 0.50	< 0.50	0.78	< 1.0
	12/08/05	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	01/23/06	< 50	< 50	< 0.50	< 0.50	< 0.50	< 1.0
	03/29/06	110	72	< 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

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	
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	
Effluent							
	02/28/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	99 7%
	03/23/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	99 8%
	03/28/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	99 6%
	04/04/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	99 9%
	04/18/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	99 5%
	04/29/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	62 2%
	05/13/05	< 14	< 0 15	1 40	0 54	4 60	99 7%
	05/20/05	< 14	< 0 15	< 0 13	< <0 11	0 41	99 8%
	06/09/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	99 6%
	07/11/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	98 9%
	08/01/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	98 5%
	08/15/05	< 14	< 0 15	0 39	< 0 11	0 47	98 4%
	09/06/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	98 7%
	10/10/05	< 14	< 0 15	< 0 13	< 0 11	< 0 23	99 3%
	11/07/05	< 11	< 0 15	< 0 13	< 0 11	< 0 23	99 6%
	12/08/05	< 11	< 0 15	< 0 13	< 0 11	< 0 23	99 2%
	01/27/06	< 2 5	< 0 063	< 0 05	< 0 046	< 0 092	99 1%

TPHg - Total petroleum hydrocarbons as gasoline
ppmv- Parts Per Million by Volume
POC- Precursor Organic Compound

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
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

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
05/02/05	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
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

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
08/05/05	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
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	5.9	152%	557,860	0.0			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

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
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
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
Total	**246**		**691,940**	**2.0**			**111.49**		**2.17**	

Gallons dicharged from 2/23/05 to 3/30/05	**172,040**
Gallons dicharged from 3/30/05 to 6/30/05	**224,430**
Gallons dicharged from 7/1/05 to 12/30/05	**281,070**

* 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: MW3 was turn off 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.

t - Extraction from well MW3 was discontinued on 15 July 2005

G:\Projects\Strough Family Trust\Master O&M\[O&M Tables Strough.xls]Field Table (air)

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	5.9	152%	310,323	37	9			187.2	0.00	1.17	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
Cumulative Total/Average	**250.2**			**40**				**9,074**		**99.1**	

* Est. pounds/day removed/emitted TPH-g = Average Combined well conc.(ppm$_v$) * 4.2(µg/L/ppm$_v$) * Average combined well flowrate (CFM) * 1440 min/day * 1 g/1,000,000 µg * 0.002205 lbs/g * 28.32 L/ft3

** Est. pounds/day removed/emitted Benzene = Average Combined well conc.(ppm$_v$) * 3.25(µg/L/ppm$_v$) * Average combined well flowrate (CFM) * 1440 min/day * 1 g/1,000,000 µg * 0.002205 lbs/g * 28.32 L/ft3

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

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

ETIC Engineering, Inc.

MONITORING WELL DATA FORM

Client: STROUGH FAMILY TRUST	Date: 3/29/06
Project Number: TMSFT1.Q106	Station Number:SFT
Site Location: 327 34TH ST. OAKLAND , CA.	Samplers: C M / AM

MONITORING WELL NUMBER	DEPTH TO WATER (TOC)	DEPTH TO PRODUCT (TOC)	APPARENT PRODUCT THICKNESS	AMOUNT OF PRODUCT REMOVED	MONITORING WELL INTEGRITY	DEPTH TO BOTTOM (TOC)	GENERAL FIELD COMMENTS
MW1	15.24					30.40	2"
MW2*	15.66	Sheen				31.54	2"
MW3*	15.70					31.95	2"
MW4	14.85					27.67	2"
MW5	17.19					26.42	2"
MW6	14.53					26.72	2"
MW7	12.65					34.47	2"

* POSSIBLE LPH - USE IP AND CONFIRM WITH BAILER

System		Vapor Rate		Time			
	Ext	x6	3/29/06	12.05			
	Ext	x6	"	12:00			
	SCE	x6	"	11.55			
		System		closed		Low Flow	
		eff total	705	670			
				705 670			

G:\Users\DFitzgerald\STROUGH FAMILY TRUST (2)\[SFTMonitoringWe Note: Depth to bottom measured during first quarter unless noted

ETIC ENGINEERING
Engineering, Inc.

GROUNDWATER PURGE AND SAMPLE

Project Name: STROUGH FAMILY TRUST Well No: MW1 Date: 03-29-06

Project No: TMSFT1 Q106 Personnel: ALEX

GAUGING DATA

Water Level Measuring Method: WLM / IP

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)
							1	2	4	6			
	30.40	−	15.24	=	15.16	X	0.04	0.16	0.64	1.44	2.42	=	7.27

PURGING DATA

Purge Method: WATERRA / BAILER / SUB PURGE RATE GPM

Time	0908	0910	0912			
Volume Purge (gal)	2.5	5	7.5			
Temperature (C)	18.15	18.09	18.10			
pH	6.68	6.74	6.73			
Spec.Cond.(umhos)	1062	929	912			
DO (mg/L)	1.40	1.37	1.57			
ORP	55.6	49.3	43.7			
Turbidity/Color	CLEAR/NONE	CLEAR/NONE	CLEAR/NONE			
Odor (Y/N)	N	N	N			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

Time Sampled: 0922 Approximate Depth to Water During Sampling: 16.0 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW1	4	VOA	HCL	40 ml		SEE COC
MW1	2	AMBER	NONE	1L		SEE COC

Total Purge Volume: 7.5 (gallons) Disposal: System

Weather Conditions: WINDY, CLOUDY NO BOLTS BOLTS Y / N

Condition of Well Box and Casing at Time of Sampling: OK CAP & LOCK (Y) / N

Well Head Conditions Requiring Correction: NONE GROUT (Y) / N

Problems Encountered During Purging and Sampling: NONE WELL BOX (Y) / N

Comments: SECURED (Y) / N

ETIC ENGINEERING
Engineering, Inc.

GROUNDWATER PURGE AND SAMPLE

Project Name: STROUGH FAMILY TRUST Well No: MW2 Date: 3/29/CC

Project No: TMSFT1 Q106 Personnel: C. Mitchell

GAUGING DATA

Water Level Measuring Method: WLM / IP

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)
	31.84	−	15.66	=	16.18	X	1	(2)	4	6	2.59	=	7.77
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / BAILER / SUB PURGE RATE GPM

Time	10:21	10:29	10:35			
Volume Purge (gal)	3	6	9			
Temperature (C)	19.43	18.63	18.71			
pH	6.83	6.97	6.90			
Spec.Cond.(umhos)	921.4	919.5	947.5			
DO (mg/L)	6.55	7.39	7.59			
ORP	-109.3	-101.2	-96.2			
Turbidity/Color	S.H./B.	S.H./B.	S.H./B.			
Odor (Y/N)	N	N	N			
Dewatered (Y/N)	N	N	N			

Comments/Observations: Slight Odor

Time Sampled: 10:40 Approximate Depth to Water During Sampling: 16 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW2	4	VOA	HCL	40 ml		SEE COC
V	2	AMBER	NONE	1L		SEE COC

Total Purge Volume: 9 (gallons) Disposal: On

Weather Conditions:

Condition of Well Box and Casing at Time of Sampling:

Well Head Conditions Requiring Correction:

Problems Encountered During Purging and Sampling: None

Comments:

System

BOLTS	Y	/ N
CAP & LOCK	Y	/ N
GROUT	Y	/ N
WELL BOX	Y	/ N
SECURED	Y	/ N

ETIC ENGINEERING
Engineering, Inc.

GROUNDWATER PURGE AND SAMPLE

Project Name: STROUGH FAMILY TRUST Well No: MW-3 Date: 03 29 06

Project No: TMSFT1 Q106 Personnel: ALEX

GAUGING DATA

Water Level Measuring Method: WLM / IP

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)
							1	2	4	6			
	31.95	−	15.70	=	16.25	X	0.04	0.16	0.64	1.44	2.6	=	7.8

PURGING DATA

Purge Method: WATERRA / BAILER / SUB PURGE RATE GPM

Time	1058	1103	1109			
Volume Purge (gal)	3	6	9			
Temperature (C)	17.97	18.47	18.46			
pH	6.96	6.92	6.89			
Spec.Cond.(umhos)	943	956	957			
DO (mg/L)	1.10	1.13	1.23			
ORP	-97.3	-80.3	-79.3			
Turbidity/Color	SLIGHTLY/GREY	SLIGHTLY/GREY	SLIGHTLY/GREY			
Odor (Y/N)	Y	Y	Y			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

Time Sampled: 1115 Approximate Depth to Water During Sampling: 16.0 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW-3	4	VOA	HCL	40 ml		SEE COC
MW-3	2	AMBER	NONE	1L		SEE COC

Total Purge Volume: 9 (gallons) Disposal: System

Weather Conditions: WINDY

Condition of Well Box and Casing at Time of Sampling: OK

Well Head Conditions Requiring Correction: NONE

Problems Encountered During Purging and Sampling: NONE

Comments:

BOLTS Y / N NO BOLTS

CAP & LOCK Y / N

GROUT Y / N

WELL BOX Y / N

SECURED Y / N

ETIC ENGINEERING
Engineering, Inc.

GROUNDWATER PURGE AND SAMPLE

Project Name: STROUGH FAMILY TRUST Well No: MW4 Date: 03-29-06

Project No: TMSFT1 Q106 Personnel: ALEX

GAUGING DATA

Water Level Measuring Method: WLM / IP

	Total Depth (feet)		Depth to Water (feet)		Water Column (feet)		Multiplier for Casing Diameter				Casing Volume (gal)		Total Purge Volume (gal)
WELL PURGE VOLUME CALCULATION	27.67	−	14.85	=	12.82	X	1	2	4	6	2.05	=	6.15
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / BAILER / SUB PURGE RATE GPM

Time	0930	0938	0946			
Volume Purge (gal)	2.5	5	7.5			
Temperature (C)	18.31	18.40	18.41			
pH	6.92	6.81	6.82			
Spec.Cond.(umhos)	901	893	894			
DO (mg/L)	1.43	1.08	1.07			
ORP	-1.4	-1.9	-5.2			
Turbidity/Color	CLEAR/BRN	CLEAR/BRN	CLEAR/BRN			
Odor (Y/N)	N	N	N			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

Time Sampled: 0945 Approximate Depth to Water During Sampling: 15.0 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW4	4	VOA	HCL	40 ml		SEE COC
MW4	2	AMBER	NONE	1L		SEE COC

Total Purge Volume: 7.5 (gallons) Disposal: System

Weather Conditions: windy, cloudy PAD BOLTS Y / (N)

Condition of Well Box and Casing at Time of Sampling: OK CAP & LOCK (Y) / N

Well Head Conditions Requiring Correction: NONE GROUT (Y) / N

Problems Encountered During Purging and Sampling: NONE WELL BOX (Y) / N

Comments: SECURED (Y) / N

G:\Users\DFitzgerald\STROUGH FAMILY TRUST (2)\[SFTpurge form.xls]Sheet1

ETIC ENGINEERING

Engineering, Inc.

GROUNDWATER PURGE AND SAMPLE

Project Name: STROUGH FAMILY TRUST Well No: MW5 Date: 03-24-05

Project No: TMSFT1 Q106 Personnel: ALEX

GAUGING DATA

Water Level Measuring Method: (WLM) / IP

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)
	26.12	−	17.19	=	8.93	X	1	(2)	4	6	1.47	=	3.76 / 4.41
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / BAILER / SUB PURGE RATE GPM

Time	1015	1018	1021			
Volume Purge (gal)	1.5	3	4.5			
Temperature (C)	17.19	17.49	17.54			
pH	6.52	6.53	6.30			
Spec.Cond.(umhos)	369	344	353			
DO (mg/L)	2.75	2.68	2.30			
ORP	264.2	54.3	56.0			
Turbidity/Color	CLEAR/NONE	CLEAR/NONE	CLEAR/NONE			
Odor (Y/N)	N	N	N			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

Time Sampled: 1030 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	Analysis Method
MW5	4	VOA	HCL	40 ml		SEE COC
MW5	2	AMBER	NONE	1L		SEE COC

Total Purge Volume: 4.5 (gallons) Disposal: System

Weather Conditions: SUNNY, CLOUDY

Condition of Well Box and Casing at Time of Sampling: OK

Well Head Conditions Requiring Correction: NONE

Problems Encountered During Purging and Sampling: NONE

Comments:

BOLTS	Y / (N) NO BOLTS
CAP & LOCK	Y / (N) NO LOCK
GROUT	(Y) / N
WELL BOX	(Y) / N
SECURED	(Y) / N

ETIC ENGINEERING
Engineering, Inc.

GROUNDWATER PURGE AND SAMPLE

Project Name: STROUGH FAMILY TRUST Well No: MW6 Date: 3/29/06

Project No: TMSFT1 Q106 Personnel: C. Hill, L. Lee

GAUGING DATA

Water Level Measuring Method: WLM / IP

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)
	26.72	−	14.53	=	12.19	X	1	(2)	4	6	1.95	=	5.85
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / BAILER / SUB PURGE RATE GPM

Time	9:04	9:06	9:08			
Volume Purge (gal)	2	4	6			
Temperature (C)	17.54	17.80	17.92			
pH	6.72	6.23	6.06			
Spec.Cond.(umhos)	904 uS/cm	536 uS/cm	942 uS/cm			
DO (mg/L)	7.90	7.77	6.93			
ORP	-134.2	-134.7	-132.4			
Turbidity/Color	S.L/Brn	S.L/Brn	S.L/Brn			
Odor (Y/N)	N	N	N			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

Time Sampled: 9:15 Approximate Depth to Water During Sampling: 15 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW7	4	VOA	HCL	40 ml		SEE COC
"	2	AMBER	NONE	1L		SEE COC

Total Purge Volume: 6 (gallons) Disposal: On Ground

Weather Conditions:

Condition of Well Box and Casing at Time of Sampling: No Locks

Well Head Conditions Requiring Correction:

Problems Encountered During Purging and Sampling: None

Comments:

System

BOLTS	(Y) / N
CAP & LOCK	(Y) / (N) - Lock
GROUT	(Y) / N
WELL BOX	(Y) / N
SECURED	(Y) / N

ETIC ENGINEERING

Engineering, Inc.

GROUNDWATER PURGE AND SAMPLE

Project Name: STROUGH FAMILY TRUST Well No: MW7 Date: 3/29/06

Project No: TMSFT1 Q106 Personnel: C Mc Hale II

GAUGING DATA

Water Level Measuring Method: WLM / IP

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)
	34.47	−	12.65	=	21.82	X	1	(2)	4	6	3.49	=	10.47
							0.04	0.16	0.64	1.44			

PURGING DATA

Purge Method: WATERRA / BAILER / SUB PURGE RATE GPM

Time	9.30	9:33	9.36			
Volume Purge (gal)	3.5	7	10.5			
Temperature (C)	19.25	19.13	19.25			
pH	5.76	5.52	5.51			
Spec.Cond.(umhos)	1034 uS/cm	1095 uS/cm	1040 uS/cm			
DO (mg/L)	7.96	5.45	3.72			
ORP	-50.1	-49.3	-47.0			
Turbidity/Color	S.Hz/Brn	S.Hz/Brn	S.Hz/Brn			
Odor (Y/N)	N	N	N			
Dewatered (Y/N)	N	N	N			

Comments/Observations:

Time Sampled: 9:40 Approximate Depth to Water During Sampling: 13 (feet)

Comments:

Sample Number	Number of Containers	Container Type	Preservative	Volume Filled (mL or L)	Turbidity/ Color	Analysis Method
MW7	4	VOA	HCL	40 ml		SEE COC
"	2	AMBER	NONE	1L		SEE COC

Total Purge Volume: 10.5 (gallons) Disposal: On

Weather Conditions:

Condition of Well Box and Casing at Time of Sampling: 1Y Bolt Missing Padlock

Well Head Conditions Requiring Correction:

Problems Encountered During Purging and Sampling: None

Comments:

System

BOLTS	(Y)	N
CAP & LOCK	(Y)	N Padlock
GROUT	(Y)	N
WELL BOX	(Y)	N
SECURED	(Y)	N

Appendix C

Laboratory Analytical Reports and Chain-of-Custody Documentation

KIFF Analytical LLC

Report Number : 49308
Date : 4/7/2006

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

Subject : 7 Water Samples
Project Name : Strough Family Trust
Project Number : TMSFT1, Q106
P.O. Number : 6114

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,

Joel Kiff

KIFF Analytical LLC

Report Number : 49308
Date : 4/7/2006

Subject : 7 Water Samples
Project Name : Strough Family Trust
Project Number : TMSFT1, Q106
P.O. Number : 6114

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.

Hydrocarbons reported as TPH as Gasoline do not exhibit a typical Gasoline chromatographic pattern for sample MW5.

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

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 49308
Date : 4/7/2006

Project Name : **Strough Family Trust**
Project Number : **TMSFT1, Q106**

Sample : **MW1** Matrix : Water Lab Number : 49308-01
Sample Date :3/29/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	**74**	0.50	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	4/6/2006
TPH as Diesel (w/ Silica Gel)	**< 50**	50	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	83.0		% Recovery	M EPA 8015	4/6/2006

Sample : **MW2** Matrix : Water Lab Number : 49308-02
Sample Date :3/29/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**620**	9.0	ug/L	EPA 8260B	4/7/2006
Toluene	**2800**	9.0	ug/L	EPA 8260B	4/7/2006
Ethylbenzene	**540**	9.0	ug/L	EPA 8260B	4/7/2006
Total Xylenes	**4700**	9.0	ug/L	EPA 8260B	4/7/2006
Methyl-t-butyl ether (MTBE)	**37**	9.0	ug/L	EPA 8260B	4/7/2006
TPH as Gasoline	**33000**	900	ug/L	EPA 8260B	4/7/2006
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	4/7/2006
4-Bromofluorobenzene (Surr)	111		% Recovery	EPA 8260B	4/7/2006
TPH as Diesel (w/ Silica Gel)	**< 4000**	4000	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	91.2		% Recovery	M EPA 8015	4/6/2006

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 49308
Date : 4/7/2006

Project Name : **Strough Family Trust**
Project Number : **TMSFT1, Q106**

Sample : **MW3** Matrix : Water Lab Number : 49308-03
Sample Date :3/29/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**110**	1.0	ug/L	EPA 8260B	4/6/2006
Toluene	**300**	1.0	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	**130**	1.0	ug/L	EPA 8260B	4/6/2006
Total Xylenes	**490**	1.0	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	**13**	1.0	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	**3800**	100	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	4/6/2006
TPH as Diesel (w/ Silica Gel)	**< 200**	200	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	81.8		% Recovery	M EPA 8015	4/6/2006

Sample : **MW4** Matrix : Water Lab Number : 49308-04
Sample Date :3/29/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**49**	0.50	ug/L	EPA 8260B	4/6/2006
Toluene	**160**	0.50	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	**120**	0.50	ug/L	EPA 8260B	4/6/2006
Total Xylenes	**300**	0.50	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	**130**	0.50	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	**2400**	50	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	4/6/2006
TPH as Diesel (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	90.6		% Recovery	M EPA 8015	4/6/2006

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 49308
Date : 4/7/2006

Project Name : **Strough Family Trust**
Project Number : **TMSFT1, Q106**

Sample : **MW5** Matrix : Water Lab Number : 49308-05
Sample Date :3/29/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	**73**	50	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	4/6/2006
TPH as Diesel (w/ Silica Gel)	**< 50**	50	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	91.8		% Recovery	M EPA 8015	4/6/2006

Sample : **MW6** Matrix : Water Lab Number : 49308-06
Sample Date :3/29/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	**120**	0.50	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	4/6/2006
TPH as Diesel (w/ Silica Gel)	**< 50**	50	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	91.0		% Recovery	M EPA 8015	4/6/2006

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 49308
Date : 4/7/2006

Project Name : **Strough Family Trust**
Project Number : **TMSFT1, Q106**

Sample : **MW7** Matrix : Water Lab Number : 49308-07
Sample Date :3/29/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	4/6/2006
TPH as Diesel (w/ Silica Gel)	**< 50**	50	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	**< 100**	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	91.2		% Recovery	M EPA 8015	4/6/2006

Approved By: Joel Kiff

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

Report Number : 49308

Date : 4/7/2006

QC Report : Method Blank Data

Project Name : **Strough Family Trust**

Project Number : **TMSFT1, Q106**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (w/ Silica Gel)	< 50	50	ug/L	M EPA 8015	4/6/2006
TPH as Motor Oil (w/ Silica Gel)	< 100	100	ug/L	M EPA 8015	4/6/2006
Octacosane (Diesel Surrogate)	86.8		%	M EPA 8015	4/6/2006
Benzene	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Toluene	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	102		%	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	104		%	EPA 8260B	4/6/2006
Benzene	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Toluene	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	4/6/2006
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	4/6/2006
Toluene - d8 (Surr)	99.4		%	EPA 8260B	4/6/2006
4-Bromofluorobenzene (Surr)	108		%	EPA 8260B	4/6/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 49308

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 4/7/2006

Project Name : **Strough Family Trust**

Project Number : **TMSFT1, Q106**

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 Percent Recov. Limit	Relative Percent Diff. Limit
TPH as Diesel	Blank	<50	1000	1000	925	966	ug/L	M EPA 8015	4/6/06	92.5	96.6	4.30	70-130	25
Benzene	49306-02	<0.50	40.0	40.0	36.4	35.1	ug/L	EPA 8260B	4/6/06	91.1	87.8	3.61	70-130	25
Toluene	49306-02	<0.50	40.0	40.0	37.2	36.5	ug/L	EPA 8260B	4/6/06	93.0	91.2	1.98	70-130	25
Tert-Butanol	49306-02	<5.0	200	200	200	199	ug/L	EPA 8260B	4/6/06	100	99.6	0.642	70-130	25
Methyl-t-Butyl Ether	49306-02	<0.50	40.0	40.0	41.5	41.0	ug/L	EPA 8260B	4/6/06	104	103	1.00	70-130	25
Benzene	49341-01	15	40.0	40.0	56.1	53.5	ug/L	EPA 8260B	4/6/06	102	95.5	6.52	70-130	25
Toluene	49341-01	0.58	40.0	40.0	39.6	38.0	ug/L	EPA 8260B	4/6/06	97.6	93.5	4.27	70-130	25
Tert-Butanol	49341-01	42	200	200	248	249	ug/L	EPA 8260B	4/6/06	103	104	0.656	70-130	25
Methyl-t-Butyl Ether	49341-01	160	40.0	40.0	218	214	ug/L	EPA 8260B	4/6/06	138	128	7.65	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 49308

QC Report : Laboratory Control Sample (LCS)

Date : 4/7/2006

Project Name : **Strough Family Trust**

Project Number : **TMSFT1, Q106**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	4/6/06	90.1	70-130
Toluene	40.0	ug/L	EPA 8260B	4/6/06	94.8	70-130
Tert-Butanol	200	ug/L	EPA 8260B	4/6/06	100	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	4/6/06	104	70-130
Benzene	40.0	ug/L	EPA 8260B	4/6/06	95.6	70-130
Toluene	40.0	ug/L	EPA 8260B	4/6/06	99.8	70-130
Tert-Butanol	200	ug/L	EPA 8260B	4/6/06	102	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	4/6/06	89.2	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

KIFF Analytical LLC

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

SRG # / Lab No. 49308

Page 1 of 1

Chain-of-Custody Record and Analysis Request

Tom Neely Etic Engineering		California EDF Report? ☑ Yes ☐ No
2285 Morello Avenue, Pleasant Hill, CA 94523		Sampling Company Log Code:
925-602-4710 ext. 17	925-602-4720	T0600101644
Project #: TMSFT1, Q106	P.O. #: 6114	eticlabreports@eticeng.com
Strough Family Trust		Sampler Signature:
Project Address: 327 34th St.		

Sample Designation	Sampling Date	Sampling Time	Container: 40 ml HCL VOA	Container: Sleeve	Container: Poly	Container: 1 L glass amber	Container: Tedlar	Preservative: HCl	Preservative: HNO_3	Preservative: None	Matrix: Water	Matrix: Soil	Matrix: Air	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 as Diesel (EPA 8015M) w/silica gel cleanup	TPH as Motor Oil(EPA 8015M) w/silica gel cleanup	Total Lead (EPA 6010)	W E T Lead (STLC)				TAT	For Lab Use Only
MW1	3/29	0922	4			2		X			X			X		X	X								X	X						01
MW2		1040	4			2		X			X			X		X	X								X	X						02
MW3		1115	4			2		X			X			X		X	X								X	X						03
MW4		0945	4			2		X			X			X		X	X								X	X						04
MW5		1030	4			2		X			X			X		X	X								X	X						05
MW6		0915	4			2		X			X			X		X	X								X	X						06
MW7	↓	0940	4			2		X			X			X		X	X								X	X						07

TAT: ☐ 12 hr ☐ 24 hr ☐ 48hr ☐ 72 hr ☑ 1 wk

Relinquished by:	Date 3/29/06	Time 1730	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date 040306	Time 1400	Received by Laboratory:

Remarks:

Bill to:

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present
2.2°C		040306	1628	IR-1	(Yes) / No

Distribution: White - Lab; Pink - Originator
Rev: 051605