# CORRECTIVE ACTION ASSESSMENT REPORT

## 240 W. MacARTHUR BOULEVARD
## OAKLAND, CALIFORNIA

***Prepared for:***

**MR. GLEN POY-WING**
**OAKLAND, CALIFORNIA**

**August 2007**

# CORRECTIVE ACTION ASSESSMENT REPORT

## 240 W. MACARTHUR BOULEVARD
## OAKLAND, CALIFORNIA

***Prepared for:***

**MR. GLEN POY-WING**
**240 W. MACARTHUR BOULEVARD**
**OAKLAND, CALIFORNIA 94612**

***Prepared by:***

**STELLAR ENVIRONMENTAL SOLUTIONS, INC.**
**2198 SIXTH STREET**
**BERKELEY, CALIFORNIA 94710**

**August 1, 2007**

Project No. 2003-43

STELLAR
ENVIRONMENTAL SOLUTIONS, INC.
2198 SIXTH STREET, SUITE 201·BERKELEY, CA 94710
TEL: (510)644-3123 · FAX: (510)644-3859
GEOSCIENCE & ENGINEERING CONSULTING

August 1, 2007

Mr. Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health Department
Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Corrective Action Assessment Report
Oakland Auto Works Facility – 240 W. MacArthur Boulevard, Oakland, CA
Alameda County Health Department Fuel Leak Case No. RO0000142

Dear Mr. Wickham:

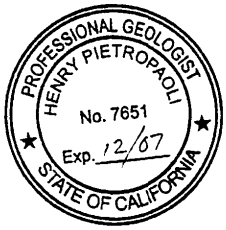
Enclosed is the Stellar Environmental Solutions, Inc. report that documents the May-to-June 2007 Subsurface Investigation at the site, and discusses the findings with a focus on corrective action assessment to address the high residual concentrations of hydrocarbons that remain at the source area. This additional site characterization and interim remedial action evaluation report fulfills the scope of work presented in our December 2004 technical workplan. This report was uploaded to both the State of California GeoTracker system and the Alameda County Environmental Health Department ftp system.

We declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of our knowledge.

If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,

Henry Pietropaoli, R.G., R.E.A.
Project Manager




Richard S. Makdisi, R.G., R.E.A.
Principal

cc: Mr. Glen Poy-Wing, property owner

# TABLE OF CONTENTS


**Page**

1.0 INTRODUCTION ..... 1

Project Background ..... 1
Regulatory Status ..... 1
Scope of Report ..... 2
Site Description ..... 3
Historical Environmental Activities ..... 3

2.0 PHYSICAL SETTING ..... 7

Topography and Surface Water Drainage ..... 7
Shallow Site Lithology ..... 7
Groundwater Hydrology ..... 12

3.0 EXPLORATORY BOREHOLE PROGRAM ..... 14

Borehole Location and Sampling Rationale ..... 14
Permitting and Notifications ..... 15
Drilling Methods and Protocols ..... 15
Waste Management and Disposal ..... 17

4.0 REGULATORY CONSIDERATIONS ..... 18

5.0 ANALYTICAL RESULTS AND FINDINGS ..... 20

Analytical Methods ..... 20
Soil Sample Analytical Results ..... 20
Groundwater Sample Results ..... 29
Soil-Gas Sample Results ..... 37

6.0 INTERIM REMEDIAL ACTION EVALUATION ..... 39

Soil-Gas Sampling ..... 39
Pilot Test Setup ..... 39
Pilot Test Findings ..... 39
SVE Technology Application ..... 40

7.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATION ..... 42

Summary and Conclusions ..... 42
Recommendations ..... 44

# TABLE OF CONTENTS (continued)

**Section** **Page**

8.0 REFERENCES AND BIBLIOGRAPHY ..... 46

9.0 LIMITATIONS ..... 51

**Appendices**

Appendix A Historical Soil and Groundwater Analytical Results and Figures

Appendix B Borehole Geologic Logs and Historical Groundwater Well Hydrologic Data

Appendix C Current Investigation Photodocumentation

Appendix D Drilling-Related Permits

Appendix E Waste Disposal Documentation

Appendix F Analytical Laboratory Reports and Chain-of-Custody Records

Appendix G Soil Vapor Extraction Pilot Test Report

# TABLES AND FIGURES

**Tables** **Page**


Table 1 May 2007 Borehole Soil Sample Analytical Results
Fuels, Aromatic Hydrocarbons, and MTBE
240 W. MacArthur Boulevard, Oakland, California ..... 22

Table 2 May 2007 Borehole Soil Sample Analytical Results
Lead Scavengers and Fuel Oxygenates
240 W. MacArthur Boulevard, Oakland, California ..... 23

Table 3 May 2007 Borehole "Grab" Groundwater Sample Analytical Results
Fuels, Aromatic Hydrocarbons, and MTBE
240 W. MacArthur Boulevard, Oakland, California ..... 30

Table 4 May 2007 Borehole "Grab" Groundwater Sample Analytical Results
Lead Scavengers and Fuel Oxygenates
240 W. MacArthur Boulevard, Oakland, California ..... 31

Table 5 May 2007 Borehole Soil-Gas Sample Analytical Results
Total Volatile Hydrocarbons, Aromatic Hydrocarbons, and MTBE
240 W. MacArthur Boulevard, Oakland, California ..... 38

# TABLES AND FIGURES (continued)

**Figures** **Page**


Figure 1 Site Location Map ..... 4

Figure 2 Site Plan ..... 5

Figure 3 Geologic Cross-Section Line Locations ..... 9

Figure 4 Geologic Cross-Sections A-A' and B-B' ..... 10

Figure 5 Geologic Cross-Sections C-C' and D-D' ..... 11

Figure 6 June 2007 Groundwater Elevation Map ..... 13

Figure 7 May 2007 Borehole Soil Analytical Results ..... 24

Figure 8 Geologic Cross-Sections A-A' and B-B' With Soil, Soil-Gas, and Groundwater Analytical Results ..... 25

Figure 9 Geologic Cross-Sections C-C' and D-D' With Soil, Soil-Gas, and Groundwater Analytical Results ..... 26

Figure 10 May 2007 Borehole Groundwater Analytical Results ..... 32

Figure 11 Pilot Test Radius of Influence ..... 41

# 1.0 INTRODUCTION

## PROJECT BACKGROUND

The subject property, located at 240 W. MacArthur Boulevard, Oakland, Alameda County, California, is owned by Mr. and Mrs. Glen Poy-Wing of Oakland Auto Works, for whom Stellar Environmental Solutions, Inc. (SES) has provided environmental consulting services beginning in July 2003. The site has undergone contaminant investigations and remediation since 1991 related to former onsite underground fuel storage tanks (UFSTs) (discussed below). A list of all known environmental reports is included in Section 8.0, References and Bibliography.

The current owners purchased the property in 2002, assuming responsibility for continued environmental investigations. The property was formerly owned by Mr. Warren Dodson (Dodson Ltd.) and operated as Vogue Tyres. The business name "Precision" has also been associated with the site.

## REGULATORY STATUS

The Alameda County Health Care Services Agency, Department of Environmental Health (Alameda County Health) is the lead regulatory agency for the case, acting as a Local Oversight Program (LOP) for the California Regional Water Quality Control Board – San Francisco Bay Region (Water Board). There are no Alameda County Health or Water Board cleanup orders for the site; however, all site work has been conducted under oversight of Alameda County Health. In our August 2003 review of the Alameda County Health case file, we determined that all known technical reports for the site were on file; subsequent SES reports have also been submitted.

The previous consultant requested site closure in March 2003 (Advanced Environmental Concepts, Inc. [AEC], 2003a). Alameda County Health denied that request for case closure and, in a letter dated April 16, 2003, requested additional site characterization prior to considering case closure (Alameda County Health, 2003). Requested activities include: exploratory borehole drilling/sampling in the source area and downgradient area; a preferential pathway survey (identifying underground utilities); a vicinity water well search; and continued quarterly groundwater monitoring (including revisions to the analytical program). That work was subsequently conducted by SES, and summarized in our April 2004 Soil and Groundwater Investigation Report (SES, 2004c).

In December 2004, SES submitted a workplan (SES, 2004f) for interim remedial action (including additional site characterization and an evaluation of soil vapor extraction as an interim corrective action). Alameda County Health responded to that workplan (Alameda County Health, 2006), approving the work (with minor technical revisions).

This report fulfills the scope of work presented in the December 2004 technical workplan, with the exception of encountering shallow drilling refusal in two bores attempted in the MacArthur Boulevard median strip; we were unable to collect soil and groundwater data in this area.

The site is in compliance with State of California "GeoTracker" requirements. Completed tasks include: uploading field point (well) names; surveying groundwater monitoring well horizontal and vertical coordinates and uploading that data; uploading site plans with sampling locations; and uploading groundwater monitoring analytical and water level data from all groundwater monitoring and subsurface sampling events conducted by SES (beginning in August 2003).

The site has been granted a Letter of Commitment (and has been receiving financial reimbursement) from the California Underground Storage Tank Cleanup Fund.

## SCOPE OF REPORT

This Corrective Action Assessment report documents and discusses the following activities:

- Completion of an exploratory borehole drilling and sampling program to address data gaps regarding contaminant distribution and magnitude, and to more fully develop the Site Conceptual Model;
- Evaluation of the feasibility of soil vapor extraction (SVE) as an interim corrective action measure through the examination of data provided from collected soil-gas samples;
- Performance of a temporary SVE pilot test following the installtion of a vapor extraction well at the residual source area; and
- Addressing specific Alameda County Health requests (Alameda County Health, 2006), regarding the phase of work outlined in the SES technical workplan (SES, 2004f).

## SITE DESCRIPTION

The project site is located at 240 W. MacArthur Boulevard in Oakland, California (see Figure 1). The rectangular-shaped project site is approximately 14,000 square feet (140 feet long by 100 feet wide), and is oriented with the long axis parallel to W. MacArthur Boulevard (approximately northwest-southeast). The project site is essentially flat and is wholly paved. One structure currently exists on the property—an automobile servicing shop that covers approximately 50 percent of the property. The building is currently occupied by Oakland Auto Works. Figure 2 shows the site plan with borehole and groundwater well locations.

Adjacent land use includes: a Shell Service Station (*to the south*); W. MacArthur Boulevard (*to the west*); Howe Street *(to the north*); and a paved driveway, then a multi-story (with basement) health services building (*to the east*).

## HISTORICAL ENVIRONMENTAL ACTIVITIES

This section summarizes historical environmental remediation and site characterization activities, based on documentation provided by the current property owners, as well as Alameda County Health files. A detailed discussion of the magnitude and extent of residual soil and groundwater contamination is presented in a subsequent section of this report, and a tabular summary of historical soil and groundwater analytical data is included as Appendix A. The former UFSTs have been labeled UFST #1, #2, and #3 for purposes of reference.

Historical remediation and site characterization activities include:

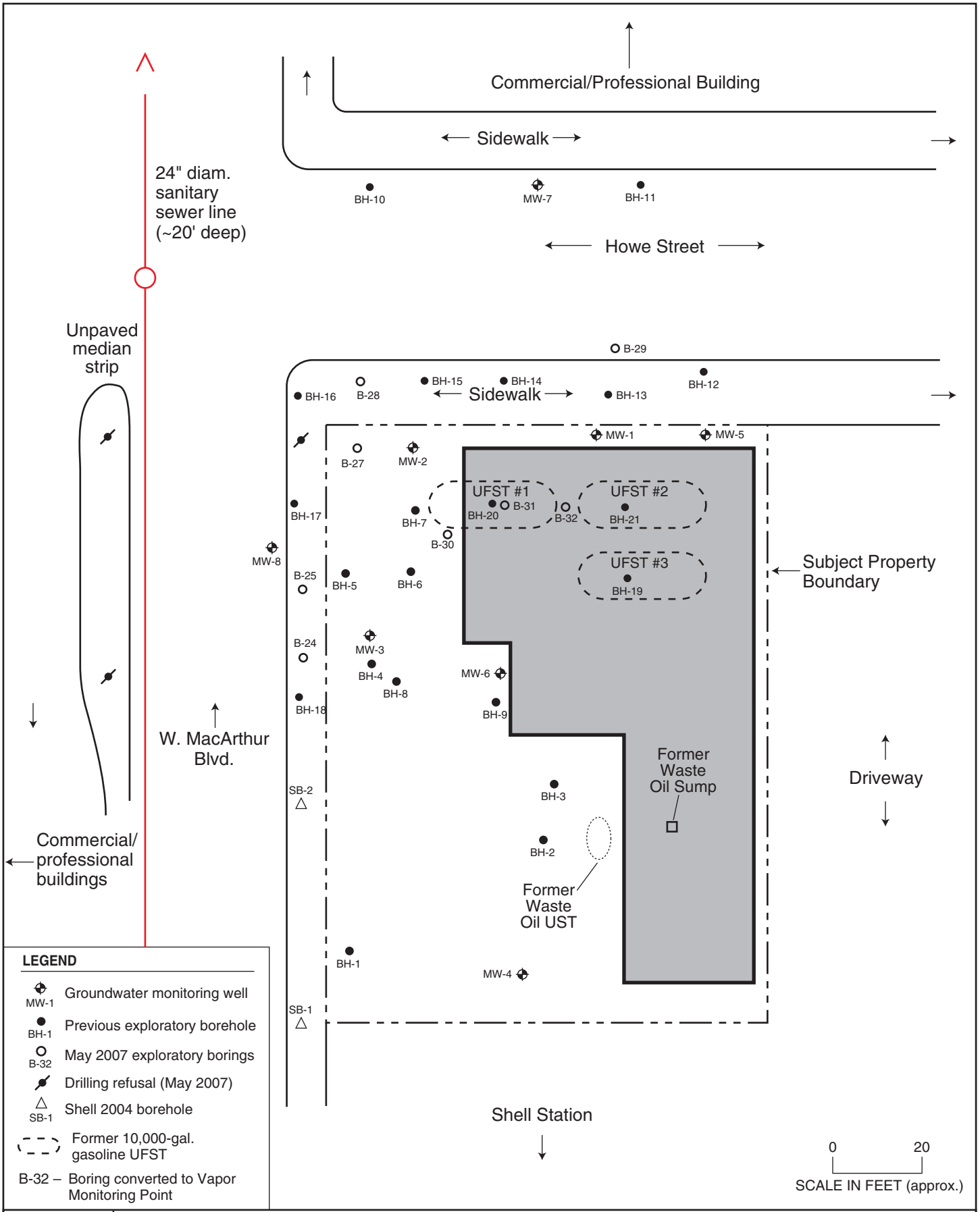
- **Pre-1991.** Three 10,000-gallon gasoline UFSTs from a former Gulf service station occupancy were removed prior to 1991 (there is no available documentation regarding the removals).
- **1991.** A waste oil sump was removed. Limited overexcavation was conducted, and there was no evidence of residual soil contamination, with the exception of 360 milligrams per kilogram (mg/kg) of petroleum oil & grease (Mittelhauser Corporation, 1991b).
- **1996.** A 350-gallon waste oil UFST was removed. Elevated levels of diesel and oil & grease were detected in confirmation soil samples. Subsequent overexcavation was conducted, and there was no evidence of residual soil contamination (All Environmental, Inc., 1997a).
- **January 1997.** In accordance with a request by Alameda County Health, a subsurface investigation was conducted (All Environmental, Inc., 1997b). Six exploratory boreholes were advanced to a maximum depth of 20 feet, and soil samples were collected.


# SITE LOCATION ON U.S.G.S. TOPOGRAPHIC MAP

| | | |
|---|---|---|
| 240 W. MacArthur Blvd.<br>Oakland, CA | By: MJC | APRIL 2007 |
| | Figure 1 | |

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

2003-43-01




# SITE PLAN WITH BOREHOLE AND GROUNDWATER WELL LOCATIONS

| 240 W. MacArthur Blvd. Oakland, CA | By: MJC | JUNE 2007 |
|---|---|---|
| | Figure 2 | |

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

2003-43-155

- **August 1997.** Additional site characterization was conducted, which included the sampling of three boreholes, the installation of four groundwater monitoring wells, and the initial groundwater sampling event.
- **February 2001.** Four additional groundwater monitoring wells were installed. Maximum historical soil concentrations were detected in well MW-5 in the northeastern corner of the subject property: 11,700 mg/kg of gasoline and 25.6 mg/kg of benzene (AEC, 2001b).
- **October 2001.** Short-term (less than 1-day duration) groundwater and vapor extraction from five wells was conducted over 4 days (AEC, 2001e) (referred to by that consultant as the "Hi-Vac" process).
- **2003.** A sensitive receptor and vicinity water well survey was conducted.
- **April 2004.** Additional site characterization was conducted, including: advancing and sampling 12 exploratory boreholes; analyzing 64 soil and 12 grab-groundwater sample results; and further evaluating site hydrogeology and contaminant extent and magnitude.
- **June 2004 to present.** Quarterly groundwater monitoring.
- **May to June 2007 (subject of this technical report).** Additional site characterization and interim remedial action evaluation was conducted, including the drilling of 8 exploratory boreholes; analysis of 8 soil-gas samples, 18 soil samples, and 8 grab-groundwater samples; and the performance of a 6-hour SVE pilot test. The second 2007 groundwater monitoring event was also conducted in June 2007.

To date, a total of 35 groundwater monitoring events have been conducted at the site.

# 2.0 PHYSICAL SETTING

The following evaluation of the physical setting of the site—including topography, surface water drainage, and geologic and hydrogeologic conditions—is based on previous (1991 through June 2007) site investigations conducted by others, and site investigations and groundwater monitoring data collected by SES since August 2003.

## TOPOGRAPHY AND SURFACE WATER DRAINAGE

The site is on a gently-sloping alluvial fan at the base of the Berkeley/Oakland Hills, which rise approximately 1,100 feet above mean sea level (amsl) and are located approximately 3 miles east of San Francisco Bay. The mean elevation of the subject property is approximately 82 feet amsl. The subject property is essentially flat, with a local topographic gradient to the west. The nearest surface water bodies are: 1) Glen Echo Creek, a northeast-southwest trending creek located approximately 800 feet southeast of the subject property; and 2) Rockridge Branch, a north-south trending creek located approximately 1,000 feet northwest of the subject property. Both creeks are culverted underground in the areas nearest to the subject property.

## SHALLOW SITE LITHOLOGY

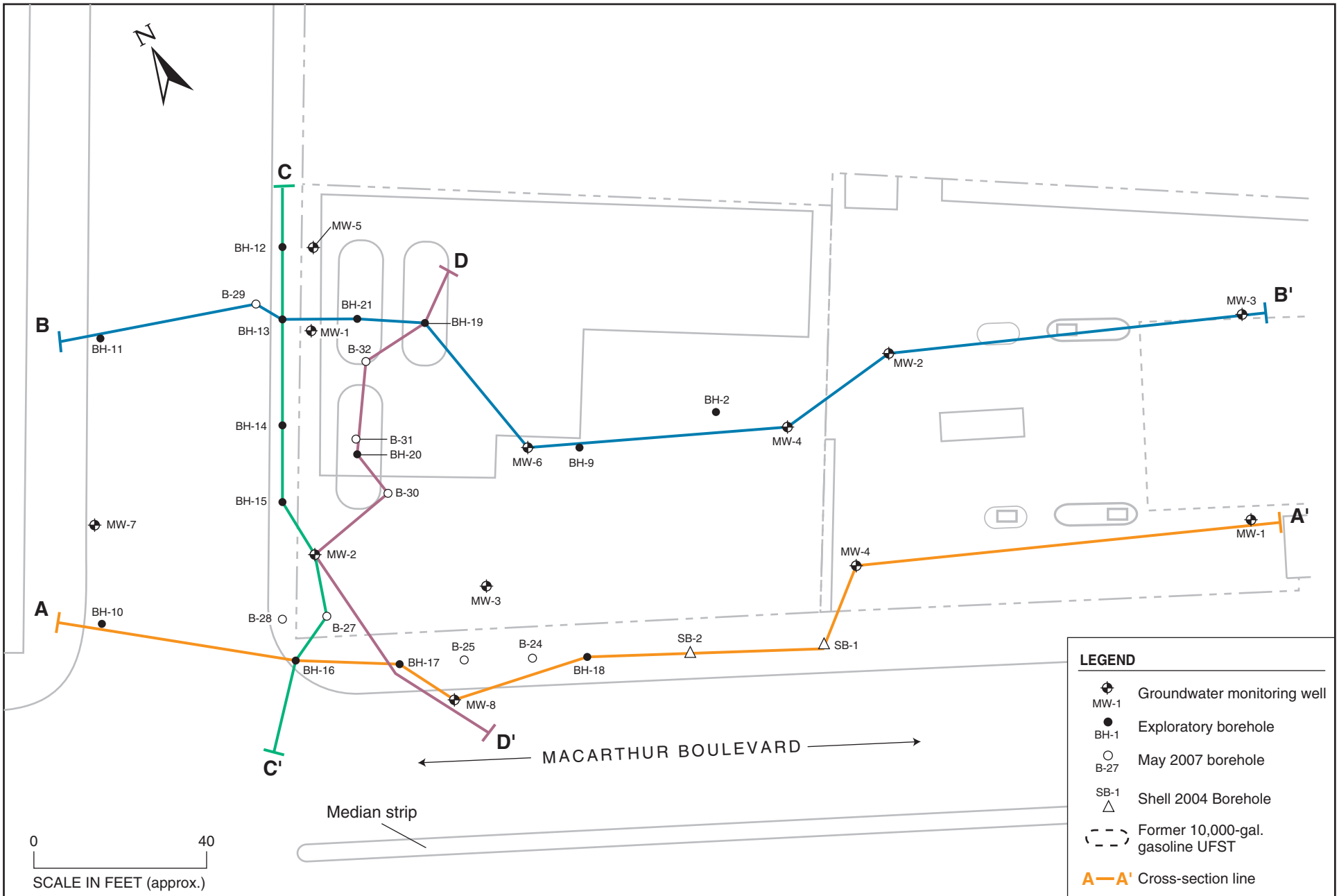
The unsaturated zone (from ground surface to approximately 20 feet below ground surface [bgs]) consists of interbedded silty/sandy clays with silty/clayey sand, with occasional gravelly zones. The most laterally-extensive unsaturated zone unit is a sandy clay encountered between ground surface and approximately 15 feet, locally pinching out and displaying lenticular form. The sediment types and geometry are suggestive of channel deposits, a common depositional facies in this area.

Depth to groundwater in all May 2007 boreholes was approximately 20 to 21 feet bgs, predominantly in a saturated, loose, clayey sand. The saturated portion of this clayey sand constitutes the bottom of the unit and is approximately 0.5 to 2.5 feet thick. This saturated zone is underlain by a cohesive, non-water-bearing clay. The top of this clay was consistently found at a depth between approximately 21 and 23 feet. Two boreholes, B31 and B32, advanced to 32 feet bgs in this investigation showed this clay to extend from its upper reach of 21 feet bgs to 32 feet bgs; documenting a thickness of 6 to 7 feet. Of the 12 boreholes in the April 2004 investigation, 9 were advanced at least 1.5 feet into this clay before terminating (and not encountering visible moisture or sand). One of the boreholes in the April 2004 investigation was

advanced deeper and documented a thickness of at least 4.5 feet. The lithologic data supported by soil sample analytical data from both this investigation and previous subject property and adjacent Shell site investigations strongly suggest that this clay unit is laterally-extensive, low-permeability, low-moisture and inhibits downward groundwater flow and vertical contamination.

The site lithology is consistent with that documented at the adjacent Shell service station site. Specifically, those boreholes have documented the thin upper, water-bearing zone underlain by the likely non-water-bearing clay unit. In three of the four Shell well boreholes, that clay unit was at least 2 feet thick. In one of the well boreholes, the clay unit was underlain by a saturated clayey sand unit (from approximately 22 to 25.5 feet bgs, which was underlain by a non-water-bearing clay).

Figure 3 shows the five cross-section line locations used to characterize the subsurface lithology, two of which project into the adjacent Shell site. Figures 4 and 5 present four geologic cross-sections across the subject property, incorporating available data from the adjacent Shell service station and previous site investigations by other consultants. Figures 4 and 5 also show the results of soil, groundwater, and soil vapor multi-media data that are discussed in more detail in Sections 5 and 6 of this report. Borehole geologic logs from the current investigation and historical groundwater well data are included in Appendix B.




2003-43-163

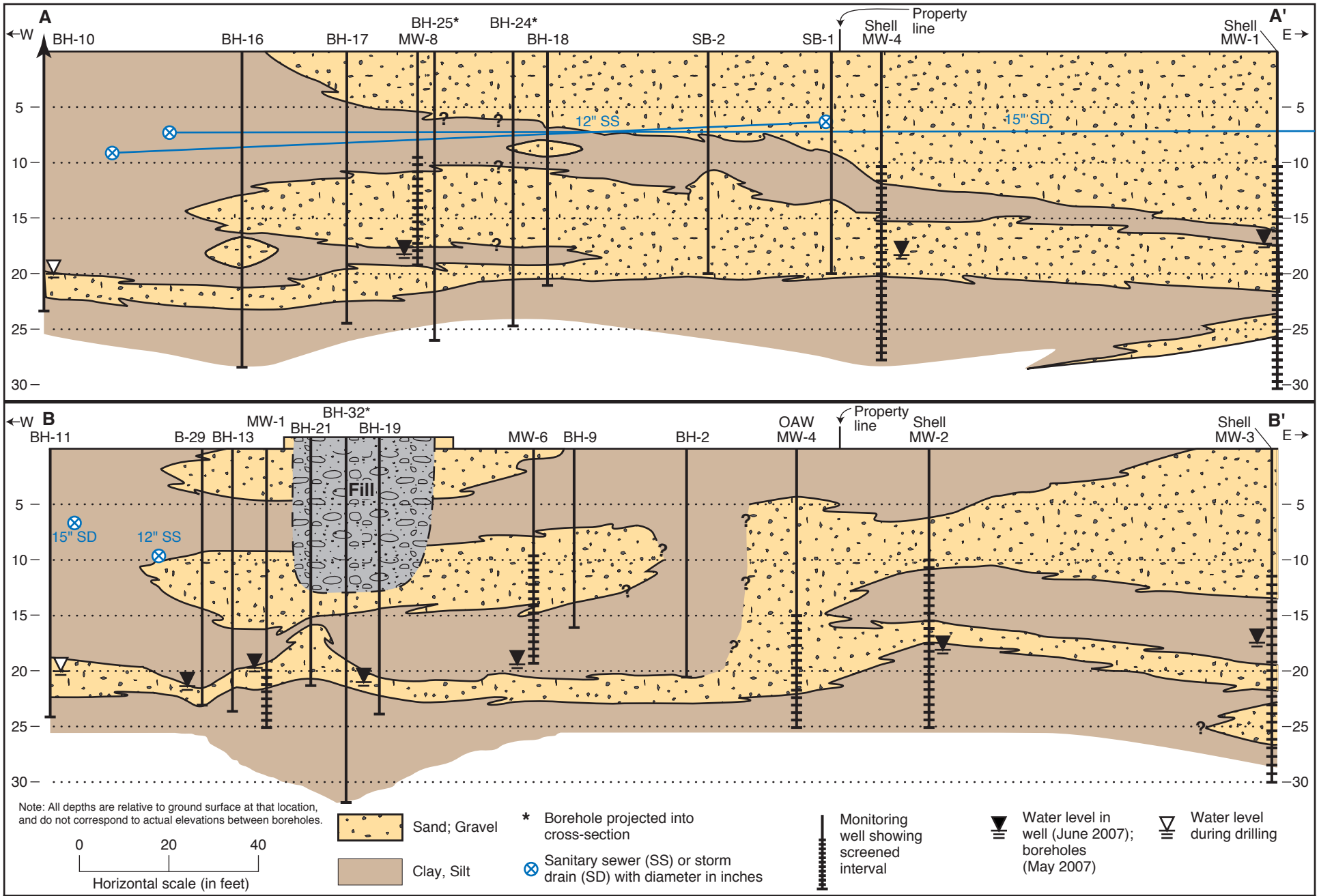
STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# GEOLOGIC CROSS-SECTION LINE LOCATIONS

## 240 W. MacArthur Blvd., Oakland, CA

**Figure 3**

by: MJC | JULY 2007



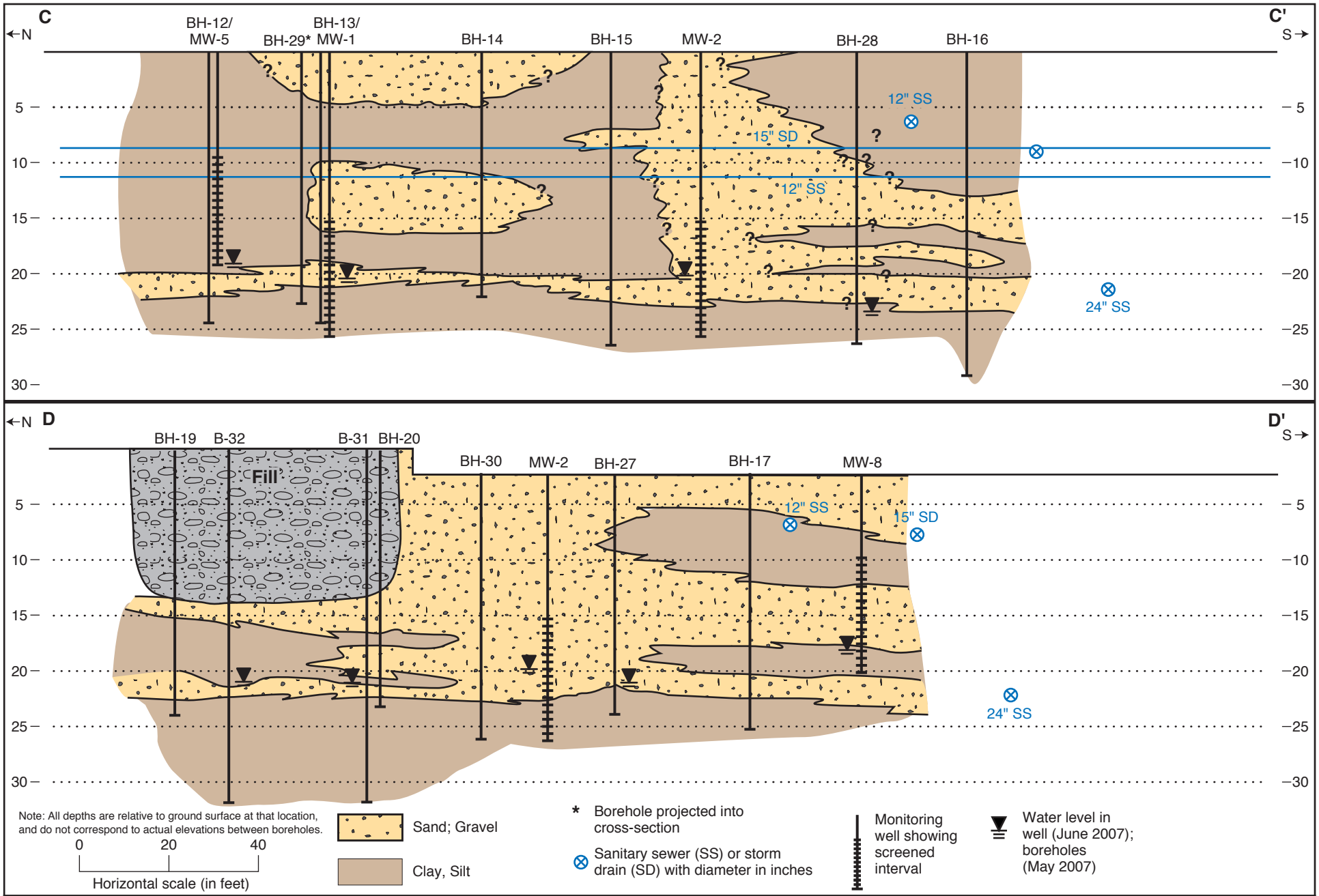

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# GEOLOGIC CROSS SECTIONS A–A' AND B–B'
# WITH SOIL AND GROUNDWATER ANALYTICAL RESULTS
# 240 W. MacArthur Blvd., Oakland, CA

**Figure 4**

by: MJC | JULY 2007

2003-43-169




STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# GEOLOGIC CROSS SECTIONS C–C' AND D–D'

## 240 W. MacArthur Blvd., Oakland, CA

**Figure 5**

by: MJC | JULY 2007

2003-43-166

## GROUNDWATER HYDROLOGY

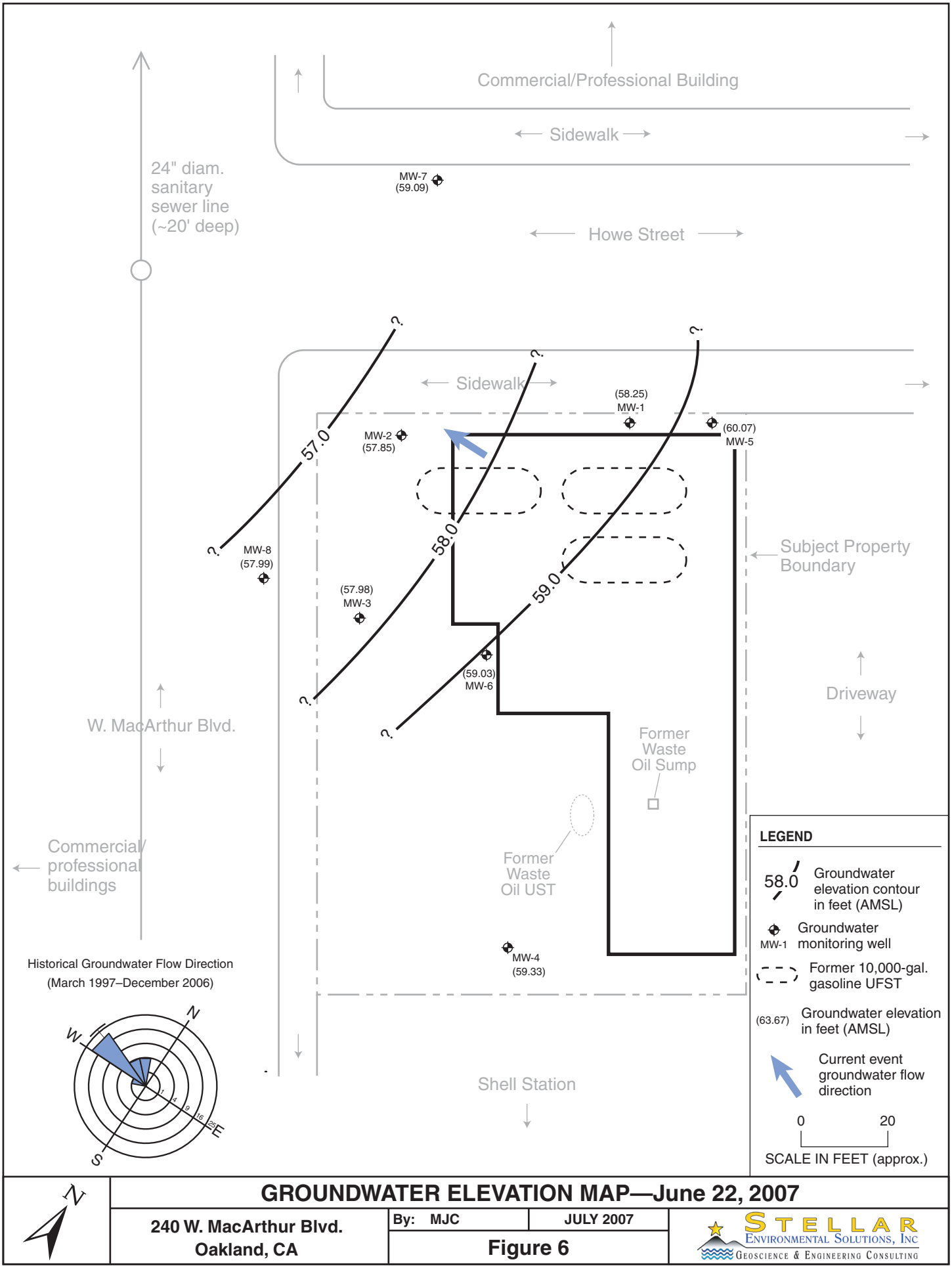
Shallowest groundwater was encountered in all of the May 2007 subject property boreholes, consistently at 20 to 21 feet bgs, and generally in a saturated clayey sand. In previous (1997 to 2004) boreholes, groundwater was encountered at a depth of 15 to 20 feet. Groundwater levels were allowed to equilibrate in boreholes for at least 15 minutes following drilling; however, because of to seasonally low groundwater elevations during this investigation, none of the borings demonstrated confined conditions. None of the May 2007 boreholes displayed free water above 20 feet deep, based on our visual observation of cores and as measured in the borehole with a water level meter.

The historical range of water level elevations in wells has varied by approximately 3 feet, and shows a strong seasonal variation, with highest elevations during the rainy winter-spring seasons and lowest elevations during the dry summer-fall seasons. During previous investigations at this site and the adjacent Shell Gas Station, groundwater has been observed immediately rising in boreholes, suggesting at least semi-confining conditions (common in down-topography unconsolidated shallow sediments in the Bay Area). While this condition likely does not significantly affect groundwater flow direction, it may affect groundwater velocity and the degree of seasonal water table vertical fluctuation (i.e., thickness of a seasonally-unsaturated zone). The subject property groundwater gradient in the current event was relatively flat, at approximately 0.003 feet/foot.

The historical groundwater gradient has varied between approximately 0.002 feet/foot and 0.008 feet/foot, averaging approximately 0.005 feet/foot.

Figure 6 is a groundwater elevation map showing the groundwater flow direction during the June 2007 quarterly monitoring event. Figure 6 includes a rose diagram that shows historical groundwater flow direction measured at the site. The rose diagram is a histogram that has been wrapped around a circle and has the following characteristics:

- Each wedge represents a 15-degree arc of groundwater flow direction.
- The length of each wedge (circle radius) represents the number of sampling events with data falling within the 15-degree arc.
- The bold black line from the center of the circle to the outer edge is the mean groundwater flow direction.
- The arcs extending to either side of the mean groundwater flow direction line represent the 95-degree confidence interval of the data.




# GROUNDWATER ELEVATION MAP—June 22, 2007

| 240 W. MacArthur Blvd. Oakland, CA | By: MJC | JULY 2007 |
|---|---|---|
| | Figure 6 | |

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

2003-43-157

# 3.0 EXPLORATORY BOREHOLE PROGRAM

This section discuses the exploratory borehole drilling and sampling program conducted by SES at the subject property on May 23 and 24, 2007. Figure 2 (Section 1.0) shows the May 2007 exploratory borehole locations. Appendix C contains photodocumentation of fieldwork activities.

The primary objectives of the exploratory borehole program included:

- Further defining the lateral and vertical limits of soil and groundwater contamination;
- Further defining the magnitude of soil and groundwater contamination in the former source area (within the former UFST excavations);
- Identifying the plume migration pathways;
- Further defining site lithology and hydrogeology to refine the site conceptual model; and
- Collecting soil-gas samples to allow for the evaluation of SVE as an interim corrective action.

**BOREHOLE LOCATION AND SAMPLING RATIONALE**

The following discusses borehole locations and the technical rationale for their location and sampling depths. The bore program was designed to define the unit underlying the water-bearing zone. This report generally fulfills the scope of work presented in the December 2004 technical workplan. Proposed borehole B26 could not be advanced because of an unmarked sewer line and the shallow (less than 5 feet bgs) drilling refusal in the two bores (B22 and B23) attempted in the MacArthur Boulevard median strip. In total, of the 11 boreholes proposed in the workplan, 8 were successfully advanced. A total of 8 grab-groundwater samples, 18 soil samples and 8 soil-gas samples were collected during this investigation.

In general, boreholes along the property boundaries had grab-groundwater sampling only, and samples were collected from the upper saturated zone (depth less than 25 feet below grade). Boreholes in the property interior had soil, groundwater, and soil vapor sampling to further define soil contamination geometry (and to collect additional data for evaluating the interim remedial action technology)

Boreholes B31 and B32 were advanced in the UFST source area (where maximum soil contamination was previously detected). Grab-groundwater and two soil samples were collected from a depth of approximately 27 and 32 feet in each borehole. The objective of these soil samples was to demonstrate the vertical extent of soil contamination in this location.

Borehole B32 was converted to a temporary vapor extraction point and subsequently utilized for a SVE pilot test.

Soil and grab-groundwater data were collected from three borings (B27, B29, and B30), which were advanced along the northern and western sides of the property, to further define lateral heterogeneity in contamination and to evaluate the proposed interim remedial action strategy (discussed in a subsequent section). Soil samples were collected in these borings from depths of 11, 13, 15, 17, and 19 feet bgs. Because of high contamination encountered during advancement of boring B30, an additional soil sample was collected at 25 feet bgs in the clay aquitard underlying the saturated contaminated zone.

Grab-groundwater data were collected from three other borings (B24, B25, and B28), which were advanced along the northern and western sides of the property, to further define lateral groundwater contaminant migration.

Eight soil-gas samples were collected from boreholes B30, B31, and B32 at several depths within the most contaminated interval of the unsaturated zone (at 10, 14, and 20 feet bgs) to evaluate the interim remedial action technology.

## PERMITTING AND NOTIFICATIONS

Prior to drilling, USA was contacted with regard to potential underground utilities (USA ticket #172871); drilling and soil vapor remediation test well permits were obtained from Alameda County Public Works Agency. We also obtained two required Excavation Permits from the City of Oakland Community and Economic Development Department (one permit for work conducted on Howe Street and one for work conducted on MacArthur Boulevard), and a permit to prepare and implement a Pedestrian Traffic Control Plan from the City of Oakland Traffic Engineering Services Department. Copies of those permits are included in Appendix D.

## DRILLING METHODS AND PROTOCOLS

Exploratory borehole drilling and sampling was conducted on May 23 and 24, 2007 by EnProb Environmental Probing (C-57 License No. 777007) under the direct supervision of a SES California Registered Geologist.

## Soil and Groundwater Sampling

The boreholes were drilled with a truck-mounted GeoProbe™ rig that advances approximately 2-inch-diameter steel outer drive casing and interior steel sample casing lined with acetate sampling sleeves. Continuous soil cores were collected for geologic logging and for field analytical screening. Borehole geologic logging was conducted using the visual method of the Unified Soils Classification System (USCS). Field screening consisted of visual observation (i.e., looking for discoloration or staining), noting any chemical odors, and measuring samples with a photoionization detector (PID). PID measurements are shown on the geologic logs contained in Appendix B. Soil samples retained for laboratory analysis were cut into approximately 6-inch lengths (contained within the acetate sleeve), sealed at the ends with Teflon tape and non-reactive plastic caps, labeled, and chilled for transport to the analytical laboratory. The second number of the soil sample identifier refers to the collection depth (e.g., B29-13 was collected from 13 to 13.5 feet bgs).

Immediately after groundwater appeared and entered the borehole, new temporary PVC casing was installed in the borehole. Groundwater was allowed to equilibrate for approximately 15 to 30 minutes prior to sampling. Confined to semi-confined aquifer conditions reported in previous investigations were not encountered during this investigation due to seasonally low groundwater conditions. A grab-groundwater sample was then collected through new Tygon® tubing with a check ball assembly at the base. Those samples were collected in containers appropriate to the individual analyses, and were managed in the same manner described above for the soil samples. Following groundwater sampling, the borehole was deepened to final depth.

Following completion of drilling and sampling activities, the boreholes were tremie-grouted to surface with a slurry of neat Portland cement and potable water.

## Soil-Gas Sampling

Soil-gas samples were collected utilizing a direct push GeoProbe® drill rig to advance a probe with sacrificial tip and PRT soil-gas sampling adaptor to the target formation depth identified in the technical workplan. When the target depth was achieved, the sacrificial tip was removed by raising the drilling rods approximately 6 inches and exposing the PRT soil-gas sampling adaptor, thus allowing for the collection of soil-gas via ¼-inch Tygon® tubing extending through the drill rods to the surface. Hydrated bentonite was then placed around the drill rod to inhibit surface air migration between the interface of native soil and the drill rod.

The Tygon® tubing extending from the drilling rods was connected to a monitoring point valve placed in-line between the tubing from the drill rods and the sample collection apparatus. The sampling apparatus consisted of an airtight vacuum dessicator sampling chamber connected via a hose barb that passes through the chamber wall to a Tedlar® sample bag inside the chamber.

The chamber was then closed, sealed, and connected with flexible tubing to the inlet of an electric oil-less diaphragm sampling pump. A vacuum gauge was connected between the sampling chamber and pump. The monitoring point valve was then closed, and a vacuum was applied with the pump to ensure that all fittings on the sampling apparatus were leak free.

After allowing approximately 30 minutes for the equilibration of subsurface vapors, the soil-gas probe in the ground and tubing was purged of three vapor volumes. The purge volumes were calculated from the boring length and diameter of the Tygon® tubing (4.4 milliliters per foot) and the flow-rate was calculated using the time required to fill a 1 liter Tedlar® bag. A valve between the inlet side of the chamber and the Tedlar® bag was adjusted to achieve a flow between 100 and 200 milliliters per minute.

To collect the sample, the monitoring point valve was opened, the pump was turned on, and the pressure relief port on the chamber was closed by a valve. The partial vacuum within the chamber created by the pump draws soil-gas into the Tedlar® bag. When the Tedlar® bag was nearly filled, the sampling point valve was closed, and the pump was turned off. The chamber was then opened, and the Tedlar® bag valve was closed and removed from the chamber. The advantage of this method is that the sampling pump is not in-line, thereby minimizing the sampling train and subsequent sample dilution.

New sacrificial probe tips, new Tygon® tubing and new Tedlar® bags were used at each sampling point. Soil-gas samples were collected in new Tedlar® bags supplied by McCampbell Analytical, Inc. The samples were shipped via courier to McCampbell Analytical Laboratory under chain-of-custody for analysis on a 48-hour turnaround basis. All samples were maintained at ambient temperature and out of direct sunlight.

Following completion of drilling and sampling activities, the boreholes were tremie-grouted to surface with a slurry of neat Portland cement and potable water.

## WASTE MANAGEMENT AND DISPOSAL

Drilling equipment decontamination rinsate and purge water from previous quarterly monitoring events was containerized onsite in 55-gallon drums along with stored purge water from ongoing groundwater monitoring events. A total of 385 gallons of this wastewater was removed from the site on June 11, 2007 by Evergreen Environmental (Newark, CA) (EPA Transporter ID No. CAD9820413262 and EPA disposal facility ID No. CAD980887418).

Exploratory borehole soil cuttings were containerized onsite in one labeled 55-gallon steel drum, and will be transported offsite at a later date. Documentation of the waste transported is included in Appendix F.

# 4.0 REGULATORY CONSIDERATIONS

This section discusses relevant regulatory considerations. There are no published cleanup goals for detected site contaminants in groundwater. The Water Board has published Environmental Screening Levels (ESLs), which are screening-level concentrations for soil and groundwater that incorporate both environmental and human health risk considerations, and are used as a guide in determining whether additional remediation and/or investigation are warranted. The ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments in general. The ESLs are composed of one or more components, including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional remediation and/or investigation may be warranted, which could be source removal remediation and monitoring the residual plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

The City of Oakland, via its Urban Land Redevelopment (URL) Program, utilizes a similar ESL approach in evaluating whether active remediation is necessary at sites proposed for redevelopment. This program is not currently applicable to the site, as no redevelopment is proposed.

Risk evaluation commonly includes identifying sensitive receptors, including vicinity groundwater wells. There are no identified water wells with a reasonable potential to intercept shallow groundwater emanating from the subject property (SES, 2004c).

As specified in the Water Board's San Francisco Bay Region Water Quality Control Plan, all groundwaters are considered potential sources of drinking water unless otherwise approved by the Water Board, and are assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. In the case of groundwater contamination, ESLs are published for two scenarios: groundwater <u>is</u> a source of drinking water, and groundwater <u>is not</u> a source of drinking water. The Water Board published the "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report" (Water Board, 1999) that delineates three types of areas with regard to beneficial uses of groundwater: Zone A (significant drinking water resource); Zone B (groundwater unlikely to be used as drinking water resource); and Zone C (shallow groundwater proposed for designation as Municipal Supply Beneficial Use). The subject site falls within Zone A and thus groundwater is considered a drinking water resource.

Qualifying for the higher ESLs (applicable to groundwater is not a source of drinking water) requires obtaining a site-specific exemption from the Water Board. Such an exemption has not been obtained for this site. Therefore, the more conservative assumption is to evaluate contamination in the context of the "groundwater is a source of drinking water" scenario. When site conditions warrant considering regulatory closure, Alameda County Health and the Water Board may consider allowing residual soil and/or groundwater contamination above ESL criteria, if other risk-based criteria are satisfied.

# 5.0 ANALYTICAL RESULTS AND FINDINGS

This section presents the soil, groundwater, and soil-gas analytical results of the recent borehole investigation. Appendix F contains the certified analytical laboratory report and chain-of-custody record. Appendix A contains historical analytical tables and figures.

## ANALYTICAL METHODS

Soil and groundwater samples were analyzed in accordance with the methods proposed in the SES technical workplan (and are applicable to both soil and groundwater samples in all boreholes, unless specified otherwise):

- Total volatile hydrocarbons – gasoline range (TVHg) by EPA Method 8021B
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl *tertiary*-butyl ether (MTBE) by EPA Method 8021B
- The two lead scavengers 1,2-dichloroethane (EDC) and 1,2-dibromoethane (EDB), and fuel oxygenates (ETBE, DIPE, TAME, and TBA) by EPA Method 8260B
- Total extractable hydrocarbons – diesel range (TEHd) by EPA Method 8015M

Soil-gas samples collected to evaluate SVE as a remedial action measure were analyzed in accordance with Alameda County Health by the following methods:

- TVHg by EPA Method 8021M
- BTEX and MTBE by EPA Method 8015M

All investigation soil and groundwater samples were analyzed by Associated Laboratories (Orange, California); soil-gas samples were analyzed by McCampbell Analytical, Inc. (Pittsburg, CA). Both labs maintain current ELAP certifications for all of the analytical methods utilized in this investigation.

## SOIL SAMPLE ANALYTICAL RESULTS

This section discusses the analytical findings, by contaminant, for the May 2007 investigation, with reference to previous investigations. A discussion of contaminant distribution and migrational pathways follows the soil and groundwater analytical results.

Table 1 summarizes borehole soil analytical results for gasoline, diesel, BTEX, and MTBE. Table 2 summarizes results for lead scavengers and fuel oxygenates. Figure 7 is a plan view showing borehole soil analytical results of detected from the May 2007 sampling event.

Figures 8 and 9 are cross-sectional views with current and historical detected soil and groundwater analytical results.

**Soil Contaminants Detected**

Contaminants detected in soil include TVHg, TEHd, BTEX, and MTBE. Neither of the two lead scavengers (EDB or EDC) nor any of the fuel oxygenates (ETBE, DIPE, TAME, and TBA) were detected in any of the soil samples. The maximum contaminant concentrations were detected in borehole B30, and only trace amounts were detected in the other borings.

Gasoline

Gasoline concentrations above regulatory ESLs was detected in borehole B30—14 feet bgs (518 mg/kg), at 17 feet bgs (3,790 mg/kg), at 19 feet bgs (1,520 mg/kg), and at 25 bgs, beneath the saturated zone within the clay, no detectable hydrocarbons was reported. The highest concentrations of gasoline have historically occurred between 15 and 21.5 feet bgs in the area of the former UFSTs, or north-northwest of them.

Diesel

The maximum diesel concentration (702 mg/kg) was detected above its ESL during this investigation in boring B30 at 17 feet bgs. Diesel was also detected in boring B30 at concentrations between 4.2 and 98 mg/kg. Only one other boring, B29, showed a concentration of diesel, a trace 18 mg/kg at 19 feet bgs. Of the three soil samples with gasoline concentrations above 100 mg/kg, diesel was present in only one sample at a concentration above its ESL, and at 1 order of magnitude less than gasoline. These data and historical data suggest that diesel is not a primary chemical of concern with regard to residual soil contamination.

Benzene

Benzene concentrations showed a strong correlation with gasoline, with the highest benzene concentrations detected in the same boreholes and at the same depths as maximum gasoline concentrations. Only borehole B30 showed benzene concentrations above ESL criteria.

**Table 1**
**May 2007 Borehole Soil Sample Analytical Results**
**Fuels, Aromatic Hydrocarbons, and MTBE**
**240 W. MacArthur Boulevard, Oakland, California**

| Sample I.D. | TVHg | TEHd | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|---|
| B27-11 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B27-13 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B27-15 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B27-17 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B27-19 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | **0.06** |
| B29-11 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B29-13 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B29-15 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B29-17 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B29-19 | <0.022 | 1.8 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B30-11 | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B30-14 | **518** | 4.2 | <0.0009 | 2.6 | **12** | **14** | <0.0008 |
| B30-15 | 21 | 3.0 | **0.09** | 0.04 | 0.09 | 0.33 | <0.0008 |
| B30-17 | **3,790** | **702** | **7.8** | **36** | **37** | **148** | **24** |
| B30-19 | **1,520** | 98 | **1.3** | **14** | **6.7** | **31** | **4.2** |
| B30-25* | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B31-27* | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B31-32* | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| B32-27* | <0.022 | <0.37 | <0.0009 | <0.0008 | 0.007 | 0.02 | <0.0008 |
| B32-32* | <0.022 | <0.37 | <0.0009 | <0.0008 | <0.0007 | <0.0019 | <0.0008 |
| **Water Board Environmental Screening Levels** | | | | | | | |
| Drinking Water Resource [(a)] | 100 | 100 | 0.044 | 2.9 | 3.3 | 2.3 | 0.023 |
| Non Drinking Water Resource [(b)] | 400 | 500 | 0.38 | 9.3 | 32 | 11 | 5.6 |

Notes:

[(a)] ESLs for industrial/commercial sites with shallow soils were the groundwater is a potential drinking water source (Water Board, 2006).

[(b)] ESLs for industrial/commercial sites with shallow soils were the groundwater is not a potential drinking water source (Water Board, 2006).

* = Sample collected below the saturated zone.

MTBE = methyl tertiary-butyl ether
TEHd = total extractable hydrocarbons – diesel range (equivalent to total petroleum hydrocarbons – diesel range)
TVHg = total volatile hydrocarbons – gasoline range (equivalent to total petroleum hydrocarbons – gasoline range)

NLP = no level published

Sample ID = borehole number-upper soil depth (except sample B30-14, which was collected from 13 to 13.5 feet bgs)

All results reported in mg/kg. All results above Water Board ESLs are displayed in **bold-face** type.

## Table 2
## May 2007 Borehole Soil Sample Analytical Results
## Lead Scavengers and Fuel Oxygenates
## 240 W. MacArthur Boulevard, Oakland, California

| Sample I.D. | EDC | EDB | ETBE | DIPE | TAME | TBA |
|---|---|---|---|---|---|---|
| B27-11 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B27-13 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B27-15 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B27-17 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B27-19 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B29-11 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B29-13 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B29-15 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B29-17 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B29-19 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B30-11 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B30-14 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B30-15 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B30-17 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B30-19 | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B30-25* | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B31-27* | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B31-32* | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B32-27* | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| B32-32* | <0.14 | <0.12 | <0.25 | <0.17 | <0.13 | <10 |
| **Water Board Environmental Screening Levels** | | | | | | |
| Drinking Water Resource [(a)] | 4.5 | 0.33 | NLP | NLP | NLP | NLP |
| Non Drinking Water Resource [(b)] | 70 | 20 | NLP | NLP | NLP | NLP |

Notes:

[(a)] ESLs for industrial/commercial sites with shallow soils were the groundwater is a potential drinking water source (Water Board, 2006).

[(b)] ESLs for industrial/commercial sites with shallow soils were the groundwater is not a potential drinking water source (Water Board, 2006).

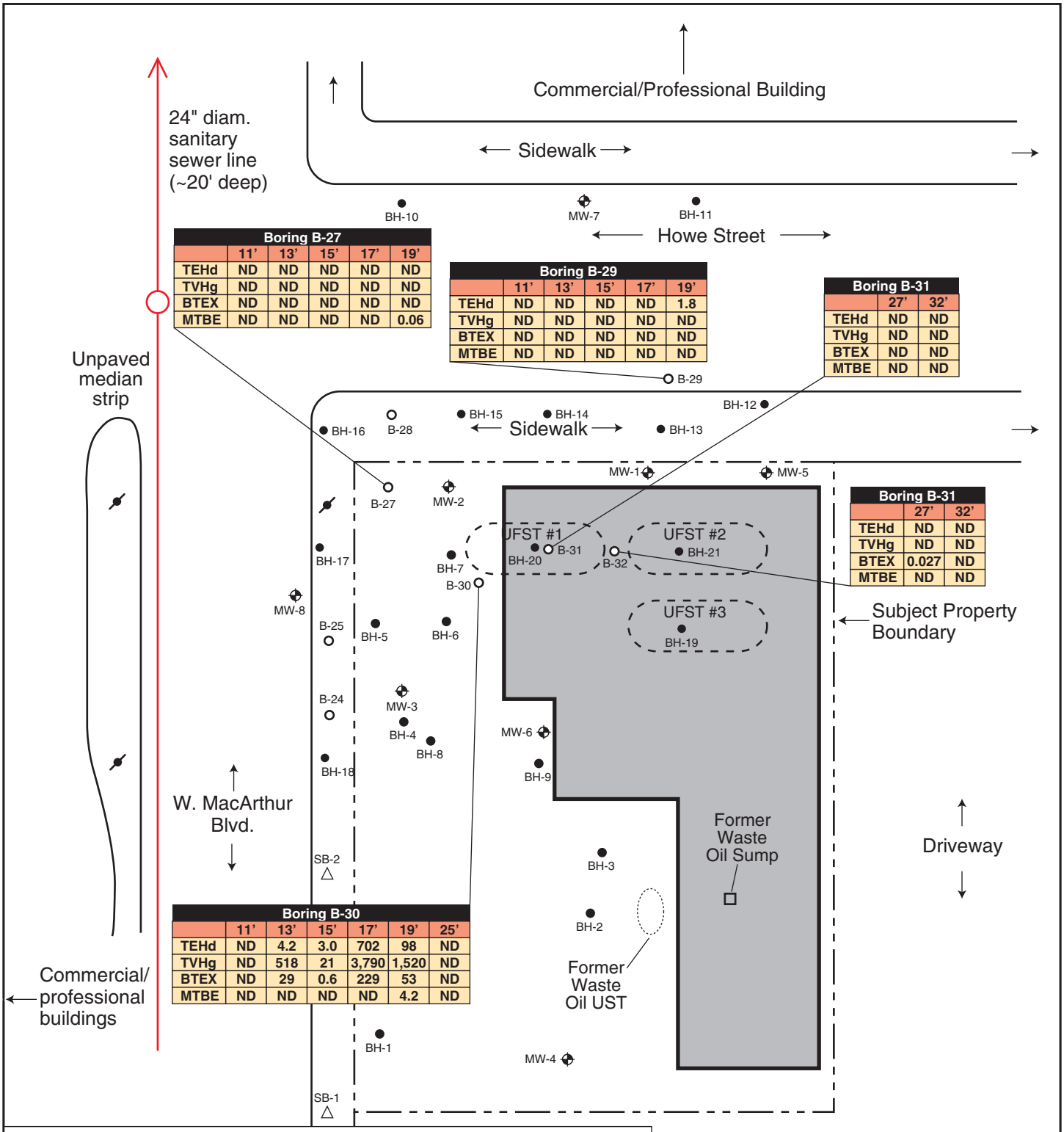
* = Sample collected below the saturated zone.

EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-dichloroethane)
DIPE = isopropyl ether
ETBE = ethyl tertiary-butyl ether
TAME = tertiary-amyl methyl ether
TBA = tertiary-butyl alcohol

NLP = no level published

Sample ID = borehole number-upper soil depth (except sample B30-14, which was collected from 13 to 13.5 feet bgs)

All results reported in µg/kg. All results above Water Board ESLs are displayed in **bold-face** type.




**LEGEND**

- MW-1 ⊕ Groundwater monitoring well
- Drilling refusal (May 2007)
- BH-1 ● Previous exploratory borehole
- B-32 ○ May 2007 exploratory borings
- SB-1 △ Shell 2004 borehole
- Former 10,000-gal.gasoline UFST

TBA – Tertiary-butyl alcohol
ND – Not detected
BTEX – Benzene, toluene, ethyl benzene, & xylenes
TVHg – Total volatile hydrocarbons — gasoline
TEHd – Total volatile hydrocarbons — diesel
B-32 – GW converted to Vapor Monitoring Point

# SITE PLAN WITH MAY 2007 BOREHOLE SOIL ANALYTICAL RESULTS

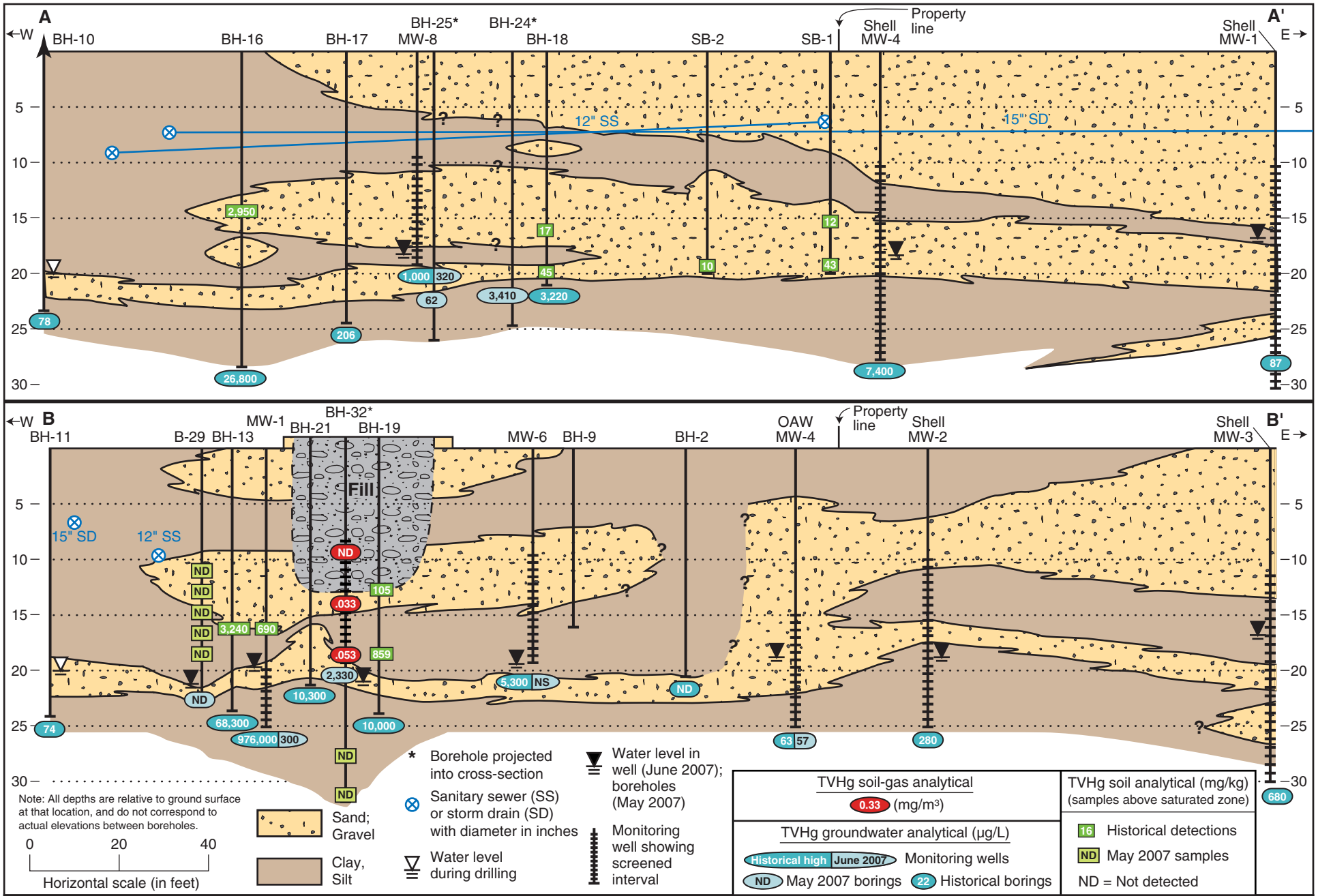
240 W. MacArthur Blvd.
Oakland, CA

By: MJC | JULY 2007

Figure 7

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

2003-43-162



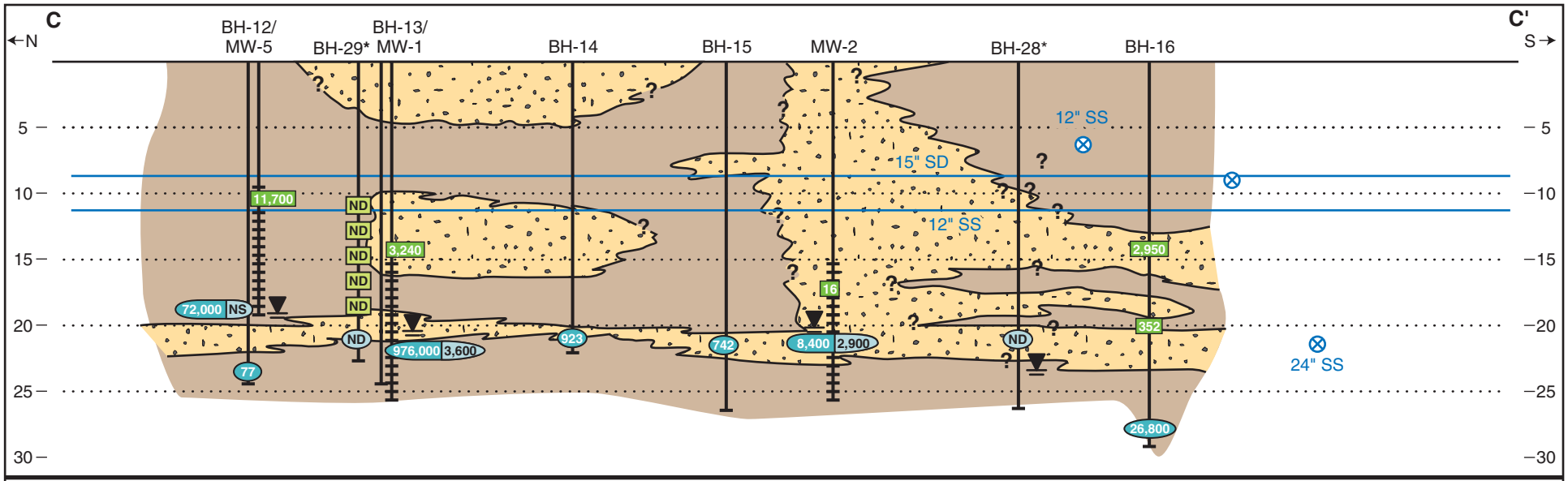

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

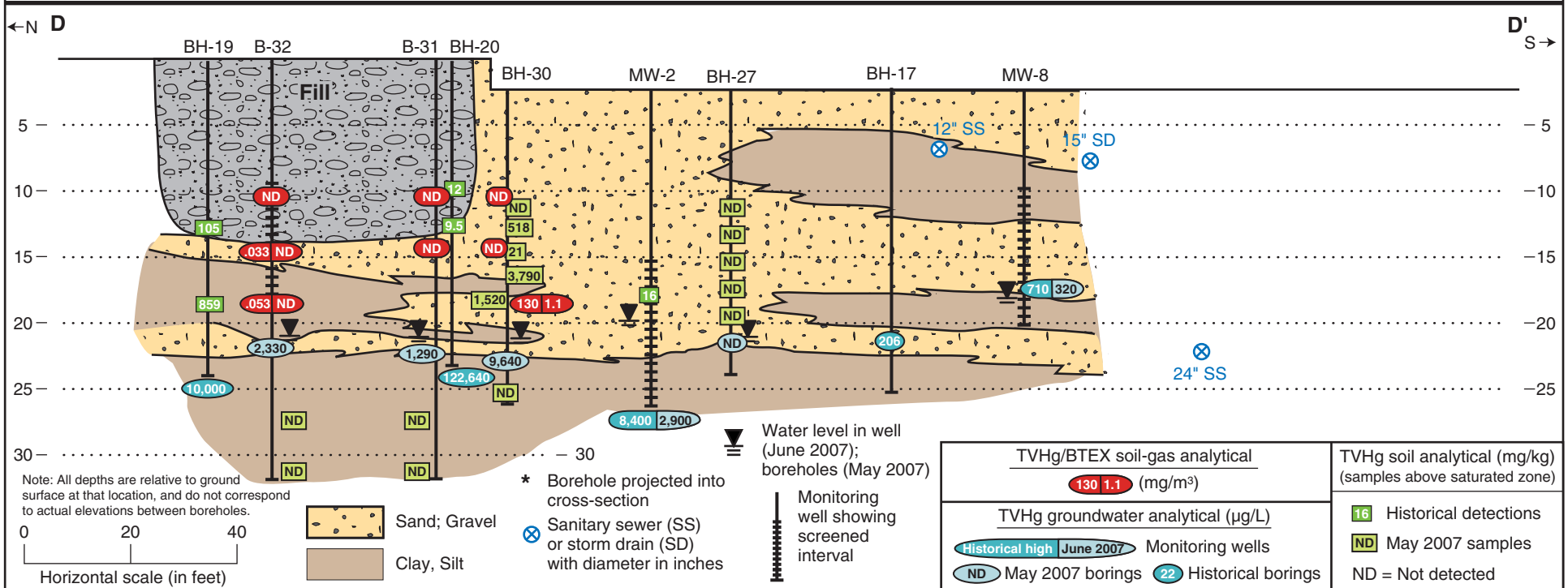
# GEOLOGIC CROSS SECTIONS A–A' AND B–B' WITH SOIL, SOIL-GAS AND GROUNDWATER TVHg ANALYTICAL RESULTS
## 240 W. MacArthur Blvd., Oakland, CA

**Figure 8**

by: MJC | JULY 2007

2003-43-171




Note: All depths are relative to ground surface at that location, and do not correspond to actual elevations between boreholes.

0 20 40

Horizontal scale (in feet)

Sand; Gravel

Clay, Silt

* Borehole projected into cross-section

Sanitary sewer (SS) or storm drain (SD) with diameter in inches

Water level in well (June 2007); boreholes (May 2007)

Monitoring well showing screened interval

TVHg/BTEX soil-gas analytical

130 1.1 (mg/m³)

TVHg groundwater analytical (µg/L)

Historical high | June 2007 Monitoring wells

ND May 2007 borings 22 Historical borings

TVHg soil analytical (mg/kg) (samples above saturated zone)

16 Historical detections

ND May 2007 samples

ND = Not detected

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# GEOLOGIC CROSS SECTIONS C–C' AND D–D' WITH SOIL, SOIL-GAS AND GROUNDWATER TVHg ANALYTICAL RESULTS
## 240 W. MacArthur Blvd., Oakland, CA

**Figure 9**

by: MJC

JULY 2007

2003-43-170

MTBE

MTBE also showed a strong correlation with gasoline in two samples from boring B30, but was also detected alone in boring B27. MTBE concentrations were above ESL criteria in all cases in BH-18 (maximum of 0.84 mg/kg). The highest historical MTBE concentrations in soil are associated with soil samples located to the south of the property, away from the former Oakland Auto Works UFSTs.

Other Soil Contaminants

Other soil contaminants detected in excess of ESL criteria include toluene (maximum of 36 mg/kg), ethylbenzene (maximum of 37 mg/kg), and xylenes (maximum of 148 mg/kg)—all in boring B30, and with a strong correlation to elevated gasoline detection. A trace amount of ethylbenzene (0.007 mg/kg) and total xylenes (0.02 mg/kg) were detected at 27 feet bgs in boring B32.

Neither of the two lead scavengers (EDB or EDC) nor any of the fuel oxygenates (ETBE, DIPE, TAME, and TBA) were detected in any of the soil samples.

Soil Contamination Distribution

Soil contamination at concentrations of concern was detected only in borehole B30 immediately adjacent and downgradient of the former UFSTs. This previous investigations showed petroleum contamination to be limited to depths of approximately 13 to 20 feet, and no contamination above ESLs was ever detected in the lower clay unit that underlies the upper saturated zone.

The resultant contaminant plume has migrated to the southwest and northwest, downgradient of the former UFST. Migration of the dissolved-phase hydrocarbon contamination in groundwater does appears to have caused additional soil contamination by adsorption onto downgradient soils within the capillary fringe, as indicated by soil samples collected during previous investigations; however, this was not evidenced in soil samples collected in this investigation.

***Source Area Soil Contamination.*** Site cross-sections (Figures 9 and 10) show source area borehole contamination. Soil contamination in source area boreholes BH-19, BH-20, and BH-21 is almost certainly related to downward migration of contamination following UFST and/or piping leakage. No contamination was detected in the UFST excavation fill material in previous investigations; however, borehole B30 of this investigation (located on the downgradient edge of the UFST #1 excavation) showed high soil contamination. The contaminated (above ESL criteria) soil interval in the unsaturated zone is approximately the same (13 to 18 feet bgs) as has been historically detected. No contamination was detected in the underlying clay samples from

boreholes B30, B31, or B32. It is not clear if all three UFSTs leaked, or if contamination detected in all of the source area boreholes are in part shared.

***Outlying Area Soil Contamination.*** As shown on Figure 8, the non-source area boreholes with historic elevated soil contamination are BH-13 and BH-16, both located in the sidewalk area along the northern and western property boundary. These boreholes, which are approximately 70 feet apart, have two boreholes (BH-14 and BH-15) between them with no detectable soil contamination. Historical groundwater flow direction is to the west-northwest. Bore BH-13 is located approximately 20 feet north of UFST #2, while BH-16 is located approximately 40 feet west of the former UFST #1.

Bore B27 of this investigation showed no soil contamination and was located downgradient of the source, between the source and BH-16, 15 feet to the west. This distribution suggests that the detected soil contamination is influenced by localized lithologic and groundwater hydrologic controls.

**Soil Contamination Regulatory Considerations**

Contaminants detected in soil above ESL criteria include gasoline, diesel, BTEX, and MTBE. While neither of the two lead scavengers (EDB or EDC) nor any fuel oxygenates were detected, it is possible that they are present in areas of elevated petroleum contamination but are masked by the elevated method reporting limits. Based on the relative concentrations and toxicity issues, we consider the primary site chemicals of concern in soil to be gasoline, benzene, and MTBE, and to a lesser extent diesel, which was detected above its ESL in bore B30. Any additional investigation or corrective action that focuses on these primary chemicals of concern will (by default) also address additional site chemicals of concern.

Exceedance of soil ESL criteria suggests that further investigation and possibly corrective action are warranted. A specific set of ESL criteria apply to protection of indoor air, primarily via the subsurface soil vapor volatilization pathway. Determination of potential impacts is based on the collection of indoor air samples and/or "pathway" samples (i.e., subsurface soil-gas samples). None of the source area (building interior) boreholes had any contaminant concentrations at or above concentrations considered at risk for vapor intrusion into indoor air. While some of the source area borehole samples have method reporting limits above the soil ESL, the depth of soil contamination (at least 13 feet) and analytical data suggest a low potential for indoor air impacts associated with residual soil contamination.

**Soil Contamination Evaluation**

The data suggest the following regarding residual soil contamination:

- The contamination is laterally-localized (i.e., not uniformly distributed) across at least two sources and associated downgradient migrational pathways that are at least 50 feet from the nearest source.
- The thickness of the contaminated soil varies locally, but historically averages 3 feet thick when present, with the exception of a 5-foot contaminated zone in bore B30.
- A substantial mass of soil contaminated above ESL criteria is present, and will be a continuing long-term source of groundwater unless mitigated due to desorption from soil when seasonal groundwater levels rise and fall.
- It appears unlikely that residual soil contamination poses a threat to indoor air quality; however, regulatory agencies may require a more thorough evaluation than has been conducted to date.

## GROUNDWATER SAMPLE RESULTS

Table 3 summarizes borehole groundwater analytical results for fuels, aromatic hydrocarbons, and MTBE. Table 4 summarizes results for lead scavengers and fuel oxygenates. Figure 10 is a plan view showing borehole groundwater analytical results from this investigation. Cross-section Figures 8 and 9 show historical high groundwater contaminant concentrations and the groundwater analyses from this investigation and the June 2007 quarterly monitoring event.

In our professional experience, borehole grab-groundwater samples commonly display contaminant concentrations typically higher than are displayed in samples collected from nearby groundwater monitoring wells, particularly when the samples are turbid. This results from sorbed-phase contamination from high dissolved solids (turbidity) in grab-groundwater samples, relative to lower-turbidity well samples that have been passively filtered through well annular filter pack, displaying only the dissolved-phase of contamination. Therefore, direct comparison of borehole grab-groundwater samples to well samples is problematic. However, relative concentrations of individual borehole groundwater samples can be used to evaluate contaminant distribution, when coupled with existing knowledge of site groundwater well contaminant data.

### Groundwater Contaminants Detected

Contaminants detected in groundwater include gasoline, diesel, BTEX, MTBE, EDC, DIPE, and TBA. The lead scavenger EDB and the fuel oxygenates ETBE and TAME were not detected.

## Table 3
## May 2007 Borehole "Grab" Groundwater Sample Analytical Results
## Fuels, Aromatic Hydrocarbons, and MTBE
## 240 W. MacArthur Boulevard, Oakland, California

| Sample I.D. | TVHg | TEHd | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|---|
| B24-GW | **3,410** | 0.25 | **44** | 35 | **70** | **35** | **79** |
| B25-GW | 62 | 0.22 | **2.5** | 4.3 | <0.09 | <0.26 | <0.75 |
| B27-GW | <5.6 | <0.032 | <0.15 | <0.12 | <0.09 | <0.26 | **191** |
| B28-GW | <5.6 | <0.032 | <0.15 | <0.12 | <0.09 | <0.26 | **588** |
| B29-GW | <5.6 | <0.032 | <0.15 | <0.12 | <0.09 | <0.26 | <0.75 |
| B30-GW | **9,460** | 0.25 | **66** | **89** | **63** | **48** | **260** |
| B31-GW | **1,290** | 0.10 | **362** | 9.4 | 18 | **27** | **39** |
| B32-GW | **2,330** | 0.11 | **86** | 29 | **41** | **185** | **77** |
| **Water Board Environmental Screening Levels [a]** | | | | | | | |
| Drinking Water Resource [b] | 100 | 100 | 1.0 | 40 | 30 | 20 | 5.0 |
| Non Drinking Water Resource [c] | 500 | 640 | 46 | 130 | 290 | 100 | 1,800 |

Notes:

[a] All for commercial/industrial sites.

[b] ESLs for industrial/commercial sites with shallow soils were the groundwater is a potential drinking water source (Water Board, 2006).

[c] ESLs for industrial/commercial sites with shallow soils were the groundwater is not a potential drinking water source (Water Board, 2006).

MTBE = methyl tertiary-butyl ether
TEHd = total extractable hydrocarbons – diesel range (equivalent to total petroleum hydrocarbons – diesel range)
TVHg = total volatile hydrocarbons – gasoline range (equivalent to total petroleum hydrocarbons – gasoline range)

NLP = no level published

All results reported in micrograms per liter (µg/L). All results above the drinking water resource ESL are displayed in **bold-face** type.

## Table 4
## May 2007 Borehole "Grab" Groundwater Sample Analytical Results
## Lead Scavengers and Fuel Oxygenates
## 240 W. MacArthur Boulevard, Oakland, California

| Sample I.D. | EDC | EDB | ETBE | DIPE | TAME | TBA |
|---|---|---|---|---|---|---|
| B24-GW | <0.20 | <0.19 | <0.23 | 3.4 | <0.19 | <10 |
| B25-GW | <0.20 | <0.19 | <0.23 | <0.20 | <0.19 | <10 |
| B27-GW | <0.20 | <0.19 | <0.23 | <0.20 | <0.19 | <10 |
| B28-GW | <0.20 | <0.19 | <0.23 | <0.20 | <0.19 | 11 |
| B29-GW | <0.20 | <0.19 | <0.23 | <0.20 | <0.19 | <10 |
| B30-GW | <0.20 | <0.19 | <0.23 | 4.8 | <0.19 | <10 |
| B31-GW | 7.5 | <0.19 | <0.23 | <0.20 | <0.19 | **262** |
| B32-GW | <0.20 | <0.19 | <0.23 | <0.20 | <0.19 | **82** |
| **Water Board Environmental Screening Levels [a]** | | | | | | |
| Drinking Water Resource [b] | 100 | 100 | 1.0 | 40 | 30 | 20 |
| Non Drinking Water Resource [c] | 500 | 640 | 46 | 130 | 290 | 100 |

Notes:

[a] All for commercial/industrial sites.

[b] ESLs for industrial/commercial sites with shallow soils were the groundwater is a potential drinking water source (Water Board, 2006).

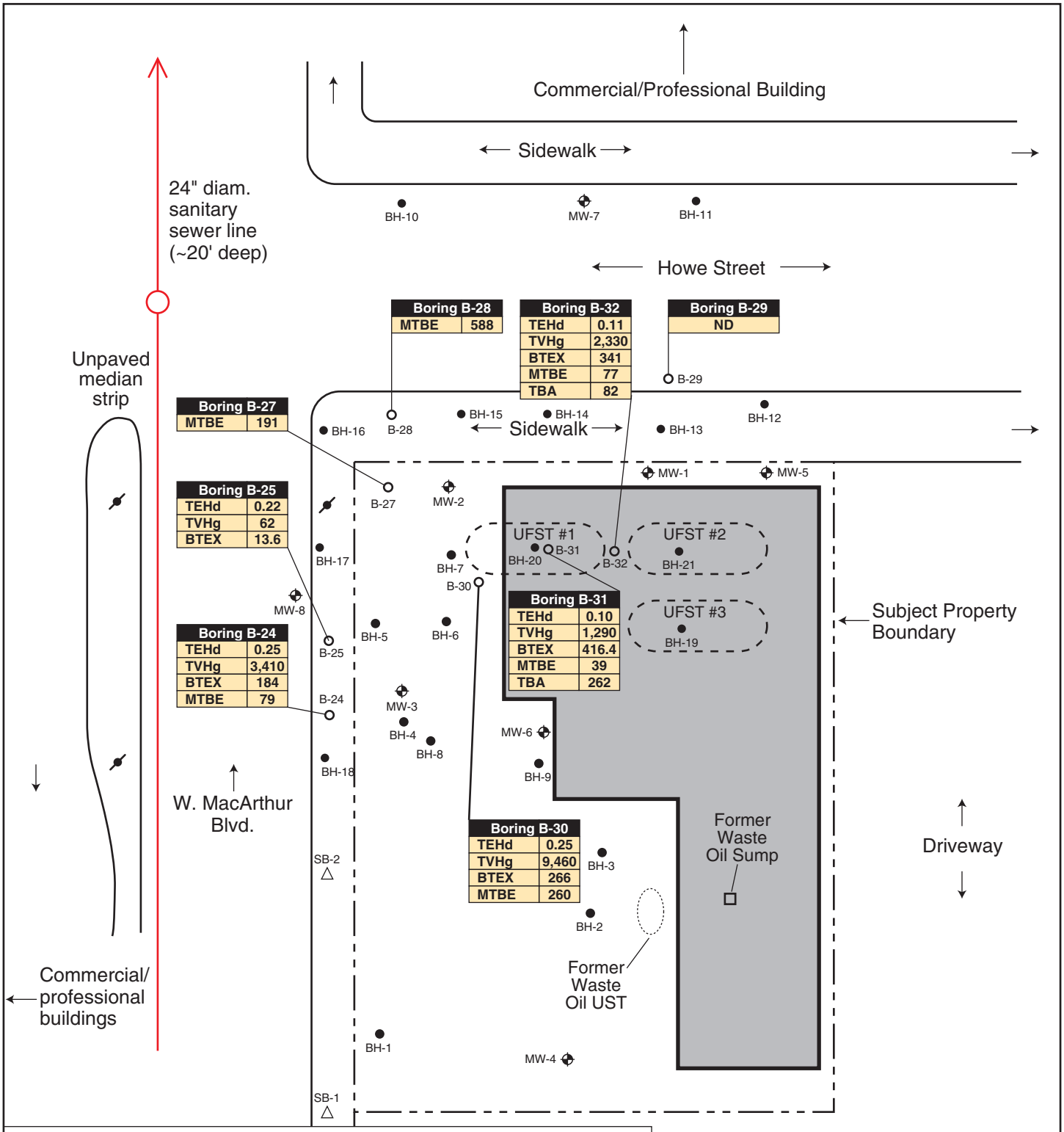
[c] ESLs for industrial/commercial sites with shallow soils were the groundwater is not a potential drinking water source (Water Board, 2006).

EDB = ethylene dibromide (1,2-dibromoethane)
EDC = ethylene dichloride (1,2-dichloroethane)
DIPE = isopropyl ether
ETBE = ethyl tertiary-butyl ether
TAME = tertiary-amyl methyl ether
TBA = tertiary-butyl alcohol

NLP = no level published

Table includes only detected fuel oxygenates and lead scavengers. See Appendix F for complete list of analytes and method reporting limits. Samples BH-10 through BH-16 (non-source area boreholes) were not analyzed for lead scavengers or fuel oxygenates.

All results reported in micrograms per liter (µg/L). All results above the drinking water resource ESL are displayed in **bold-face** type.




**LEGEND**

MW-1 ⊕ Groundwater monitoring well
Drilling refusal (May 2007)
BH-1 ● Previous exploratory borehole
B-32 ○ May 2007 exploratory borings
SB-1 △ Shell 2004 borehole
Former 10,000-gal.gasoline UFST

TBA – Tertiary-butyl alcohol
ND – Not detected
BTEX –Benzene, toluene, ethyl benzene, & xylenes
TVHg –Total volatile hydrocarbons — gasoline
TEHd –Total volatile hydrocarbons — diesel
B-32 – GW converted to Vapor Monitoring Point

# SITE PLAN WITH MAY 2007 GRAB GROUNDWATER ANALYTICAL RESULTS

240 W. MacArthur Blvd.
Oakland, CA

By: MJC | JULY 2007

Figure 10

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

2003-43-156

Gasoline

Gasoline was detected at concentrations in excess of ESL criteria in boreholes B24, B30, B31, and B32. Borehole B25 showed a concentration of 62 micrograms per liter (µg/L), which is below the ESL. Gasoline concentrations in source area boreholes ranged from 1,290 µg/L in B31 to 2,330 µg/L in B32 to 9,460 µg/L in B30. There is a positive correlation in bore B30 that showed elevated soil, soil-gas, and groundwater contamination. Bore B24 outside the former UFST area showed groundwater contamination above the ESL (3,410 µg/L), and was located about 15 feet southeast of B25 and 15 feet northwest of historic boring BH-18, which showed a comparable concentration of 3,220 µg/L. Bores B27, B28, and B29, located between the historical high contaminant concentrations, were all non-detect for TVHg.

Diesel

Only trace concentrations of diesel were detected in groundwater during this investigation, and only in the bores in which gasoline was detected.

Benzene

Benzene was found at concentrations above its ESL in five of the eight bores where it was detected and in all bores that also showed gasoline.

MTBE

MTBE concentrations in groundwater did not show a show a strong correlation with other contaminant concentrations in groundwater. MTBE was detected above its ESL in all six of the eight boreholes where it was detected ranging from 588 µg/L to 39 µg/L. The highest detection of 588 µg/L was in bore B28, which showed no other contaminants.

Other Groundwater Contaminants

Other groundwater contaminants detected above their respective ESLs included aromatic hydrocarbons (toluene, ethylbenzene, and xylenes), and the fuel oxygenate TBA (detected only in source area boreholes B31 at 262 µg/L and B32 at 82 µg/L.). There is a loose correlation of detections of TBA, DIPE, and EDC with detections of MTBE.

***Source Area Groundwater Contamination.*** The maximum concentration of groundwater contamination is found in bore B30, with 9,460 µg/L gasoline. Diesel contamination is seen as a relatively minor component in both the source area and the outlying area. All three bores in the vicinity of the UFSTs show significant gasoline contamination. The distribution of the groundwater contamination in the source area relates to the outlying plume in a manner

suggesting some preferential flow. This pattern was also noted in the discussion of the soil contamination distribution.

***Outlying Groundwater Plume Contamination.*** Previous investigations showed the plume migration outbound from the source area UFSTs with the highest concentration of the plume migrating to the west/northwest, with historical bores BH-13 and BH-16 showing the most significant concentrations. The highest MTBE contamination (588 µg/L) was detected in bore B28 during this investigation, and was located approximately 10 north of historical bore BH-16. Bore B29 showed no detectable contamination, and was located 10 feet north of previous bore BH-13 along the northern side of Howe Street; this bore shows what appears to be the distal edge of the plume in that direction. As determined in previous investigations and during this investigation, the plume also migrates to the south of the former UFST area, with the MTBE component commingling with the MTBE plume originating from the southern Shell site. Contamination above ESLs extends offsite in two directions, to the northwest and south, across Howe Street and beneath W. MacArthur Boulevard.

**Groundwater Contamination Regulatory Considerations**

Contaminants detected in groundwater above ESL criteria include gasoline, BTEX, MTBE, and TBA. Based on the relative concentrations and toxicity issues, we consider the primary site chemicals of concern in groundwater (as in soil) to be gasoline, benzene, and MTBE. Any additional investigation or corrective action that focuses on these primary chemicals of concern will (by default) also address additional site chemicals of concern.

**Groundwater Contamination Distribution**

The data support the following conclusions:

- The long axis of the subject property plume has generally been to the southwest-south, and site groundwater flow direction has generally been to the west-northwest (an approximately 90 degree range). The contaminant plume configuration as defined by the recent borehole B30 is within this range, with a more southern component.
- The groundwater contaminant distribution correlates well with the previously discussed soil distribution: at least two separate releases from former, closely-spaced UFSTs that have migrated in the same general direction as groundwater flow, with local lithologic controls leading to preferential migration and plume extension.
- The overall site-sourced plume appears to show two primary components: 1) a source near BH-20 and B30 and its extension south-westward following lithologic boundaries toward BH-16; and 2) a source near BH-21 and its extension north-westward to BH-13. BH-13 and BH-16 have historically represented the downgradient portion of each of the

inferred two UFST releases. Between the BH-13 and BH-16 "hot spot" concentrations are two intervening boreholes (BH-14 and BH-15) with no to trace concentrations. May 2007 bores B28 and B27 advanced in the proximity of B16 showed only MTBE soil contamination (in bore B27) and only MTBE groundwater contamination (in both bores B27 and B28) that confirm very tight lithologic controls on contaminant migration in the southwestern direction. May 2007 bore B29 showed neither detectable soil nor groundwater contamination, also suggesting tight lithologic control in the northwestward direction toward B13.

- The groundwater contaminant plume extends offsite to the northwest measuring between the UFST area and BH-10 on the north side of Howe Street, with the plume approximately 100 feet wide where it leaves the property. Boreholes BH-10 and BH-11 (and well MW-7) on the far side of Howe Street historically showed detectable but relatively low groundwater contamination, suggesting the plume's lateral edge in that direction. The underground utilities on Howe Street are not considered potential pathways for preferential flow based on their shallow depth.
- The plume also extends offsite an unknown distance under West MacArthur Boulevard, to the south. The width of the plume at the property street boundary is approximately 100 feet. Based on the age of the release and the current concentrations, it is likely that the groundwater contaminant plume does not extend more than 50 feet beyond the subject property (in the absence of any preferential pathways).
- As discussed in previous investigations, there is a deep sanitary sewer line along W. MacArthur Boulevard, approximately 40 feet downgradient of the western property line. It is not known if this line is acting as a preferential pathway for contaminant migration. This investigation encountered drilling refusal in two attempts to drill through the medium strip of W. MacArthur Boulevard.
- The plume does not appear to extend offsite to the east, northeast, or north (upgradient directions).

<u>Shell Gas Station Plume</u>

- The subject property and Shell property have separate UFST releases and groundwater plumes, which generally extend along the site-specific, well-defined local groundwater flow directions. The source areas are approximately 175 feet apart and located relatively crossgradient. The MTBE plume associated with the Shell site appears to migrate onto the Oakland Auto Works site and commingle with the plume associated with the MTBE from the former UFST on the subject property.
- Previous investigations have shown that the Shell station is contributing some petroleum-related contamination (including MTBE) to the eastern corner of the subject property,

which is the leading and lateral edge of that plume. Well MW-4 on the subject property (240 W. Macarthur Boulevard) is adequately positioned to monitor the downgradient portion of the Shell-sourced contaminant plume. MTBE has been detected in that well in only 5 of the 24 events in which it was sampled, at concentrations of 0.9 to 14 µg/L. Gasoline was detected in 3 of the 34 events in which it was sampled, at concentrations of 57 to 63 µg/L.

**Groundwater Contamination Summary Evaluation**

The data suggest the following regarding residual groundwater contamination:

- Site-sourced groundwater contamination appears to originate from two closely-spaced onsite sources (adjacent former UFSTs #1 and #2).
- The primary groundwater contaminants, with regard to concentration and potential risk, are gasoline, BTEX, and MTBE.
- Groundwater contamination is constrained to an approximately 3- to 8-foot-thick zone that may vary seasonally. An underlying laterally-extensive clay unit appears to be a competent barrier to downward contaminant migration, and appears to define the bottom of groundwater and soil contamination.
- Contamination above ESLs extends offsite in two directions, to the northwest and southwest, across Howe Street and beneath W. MacArthur Boulevard.
- The 21-foot-deep sanitary sewer line beneath W. MacArthur Boulevard has the potential, given its depth, to be a conduit for contaminant migration.
- Variations in concentrations appear to be due to local lithologic controls. There is a correlation between recent well and borehole data, and the existing groundwater monitoring well network appears to adequately represent the general groundwater contaminant distribution.
- The release is at least 15 years old, and groundwater contaminant concentrations at the source area remain high, suggesting low contaminant mobility and a continued source of contamination (i.e., residual soil contamination).
- Natural attenuation (i.e., microbial degradation) of contamination has not been an adequate mechanism for contaminant reductions on the property, although the lateral edges of the groundwater plume may be controlled in part by natural attenuation.
- Onsite and near-site groundwater concentrations will likely remain high for years unless corrective action is implemented.
- It appears unlikely that groundwater contamination is impacting indoor air quality.

## SOIL-GAS SAMPLE RESULTS

Soil- gas samples were collected to evaluate the feasibility of SVE as a remedial strategy at the site. Table 5 summarizes borehole soil-gas analytical results for TVHg, BTEX, and MTBE that were collected from boreholes B30, B31, and B32 at three depths (10, 14, and 18 feet bgs) within the source area. The soil-gas analytical results are shown on cross-section Figures 8 and 9.

### Soil-Gas Contaminants Detected

Soil-gas contaminants detected during this investigation include gasoline and BTEX, and were associated with high soil contaminant concentrations at 18 and 14 foot sample depths.

Gasoline

Gasoline vapor was detected at a concentration of 130,000 µg/$m^3$ (above the ESL soil-gas criteria) at 18 feet bgs in bore B30, which is located adjacent to and downgradient of the UFST source area. The only other detections of TVHg in soil-gas was in borehole B32, with 33 µg/$m^3$ at 14 feet bgs and 53 µg/$m^3$ at 18 feet bgs. There is a positive correlation in bore B30 that showed elevated soil-gas concentration at this depth associated with elevated soil contamination.

BTEX, MTBE

Benzene was detected at 1,000 µg/$m^3$, above its ESL soil-gas criteria in bore B30 at 18 feet bgs. Similar to the borehole soil samples, benzene vapor was detected in the same borehole and at approximately the same depths as maximum gasoline and benzene soil concentrations. Traces of toluene, ethylbenzene, and xylenes were also detected in bore B30. It is possible that MTBE is present in B30, but was masked by the elevated method reporting limit.

## Table 5
## May 2007 Borehole Soil-Gas Sample Analytical Results
## Total Volatile Hydrocarbons (gasoline), Aromatic Hydrocarbons, and MTBE
## 240 W. MacArthur Boulevard, Oakland, California

| Sample I.D. | TVHg | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|
| B30-SG-10 | <25 | <0.25 | <0.25 | <0.25 | <0.25 | <2.5 |
| B30-SG-14 | <25 | <0.25 | <0.25 | <0.25 | <0.25 | <2.5 |
| B30-SG-18 | **130,000** | **1,000** | 29 | 41 | 40 | <4,000 |
| B31-SG-10 | <25 | <0.25 | <0.25 | <0.25 | <0.25 | <2.5 |
| B31-SG-14 | <25 | <0.25 | <0.25 | <0.25 | <0.25 | <2.5 |
| B32-SG-10 | <25 | <0.25 | <0.25 | <0.25 | <0.25 | <2.5 |
| B32-SG-14 | 33 | <0.25 | <0.25 | <0.25 | <0.25 | <2.5 |
| B32-SG-18 | 53 | <0.25 | <0.25 | <0.25 | <0.25 | <2.5 |
| **Water Board Environmental Screening Levels [(a)]** | | | | | | |
| Indoor Air µg/$m^3$ | 72,000 | 290 | 180,000 | 1,200,000 | 410,000 | 31,000 |

Notes:

[(a)] All for commercial/industrial sites. Shallow soil-gas ESLs for evaluation of potential vapor intrusion concerns (Water Board, 2006). Reported in µg/$m^3$. Results are comparable to µg/L.

MTBE = methyl tertiary-butyl ether
TVHg = total volatile hydrocarbons – gasoline range (equivalent to total petroleum hydrocarbons – gasoline range)

NLP = no level published

All results reported in µg/L.

# 6.0 INTERIM REMEDIAL ACTION EVALUATION

The purpose of collecting soil-gas was to evaluate SVE as a remedial technology for the subject property. In addition to collecting soil-gas, on May 31, 2007, a 6-hour pilot test was conducted by SES's contractor, CalClean, Inc. The pilot test report and analytical results are contained in Appendix F.

## SOIL-GAS SAMPLING

The soil-gas sample collection was discussed previously in Section 3. Laboratory analysis of soil-gas samples suggest that significant contaminant recovery can be achieved through SVE. An estimate of soil permeability is derived from the pilot test-applied vacuum and flowrate, along with the lithology of the extraction zone.

## PILOT TEST SETUP

The test utilized a truck-mounted, low-noise, high-vacuum extraction blower (450-CFM) along with a permitted propane-fired thermal oxidizer. Boring B32 was converted into a vapor extraction well with a 1-inch PVC casing was installed to a depth of 18 feet bgs and a screened (010-inch slot) interval from 8 to 18 feet bgs. Monterey sand was added to fill the annular space to approximately 6 feet bgs. Granular bentonite was used as a seal from 5 feet bgs to ground surface. Five of the site wells were used as vapor monitoring points. Site groundwater levels were seasonally low such that three of the eight monitoring wells were dry, providing a thick unsaturated zone. Vacuum response was measured in each of the five wells (vapor monitoring points) every 30 minutes throughout the test.

## PILOT TEST FINDINGS

The test revealed a radius of influence of approximately 40 feet with vacuum response measured in site wells ranging from 0.05 to 4.17 inches of water. The starting and ending TVHg vapor concentrations at vapor extraction well B32 were 423 parts per million of volume (ppmv) and 402 ppmv, respectively, and a constant 1.1 ppmv for benzene throughout the duration of the test. The total equivalent amount of hydrocarbons recovered during the 6-hour test was 1.30 pounds, based on analytical results of soil-gas collected at the beginning, mid-point, and end of the pilot test. Field measurements taken every 30 minutes using a Horiba® organic vapor analyzer calibrated to hexane indicated that 0.24 pounds of contaminants were recovered during the pilot test. Laboratory analysis of the soil-gas was conducted by Associated Laboratories of Orange,

California, an ELAP certified laboratory. Figure 11 shows the radius of influence achieved at the site after 6 hours of vapor extraction from well B32.

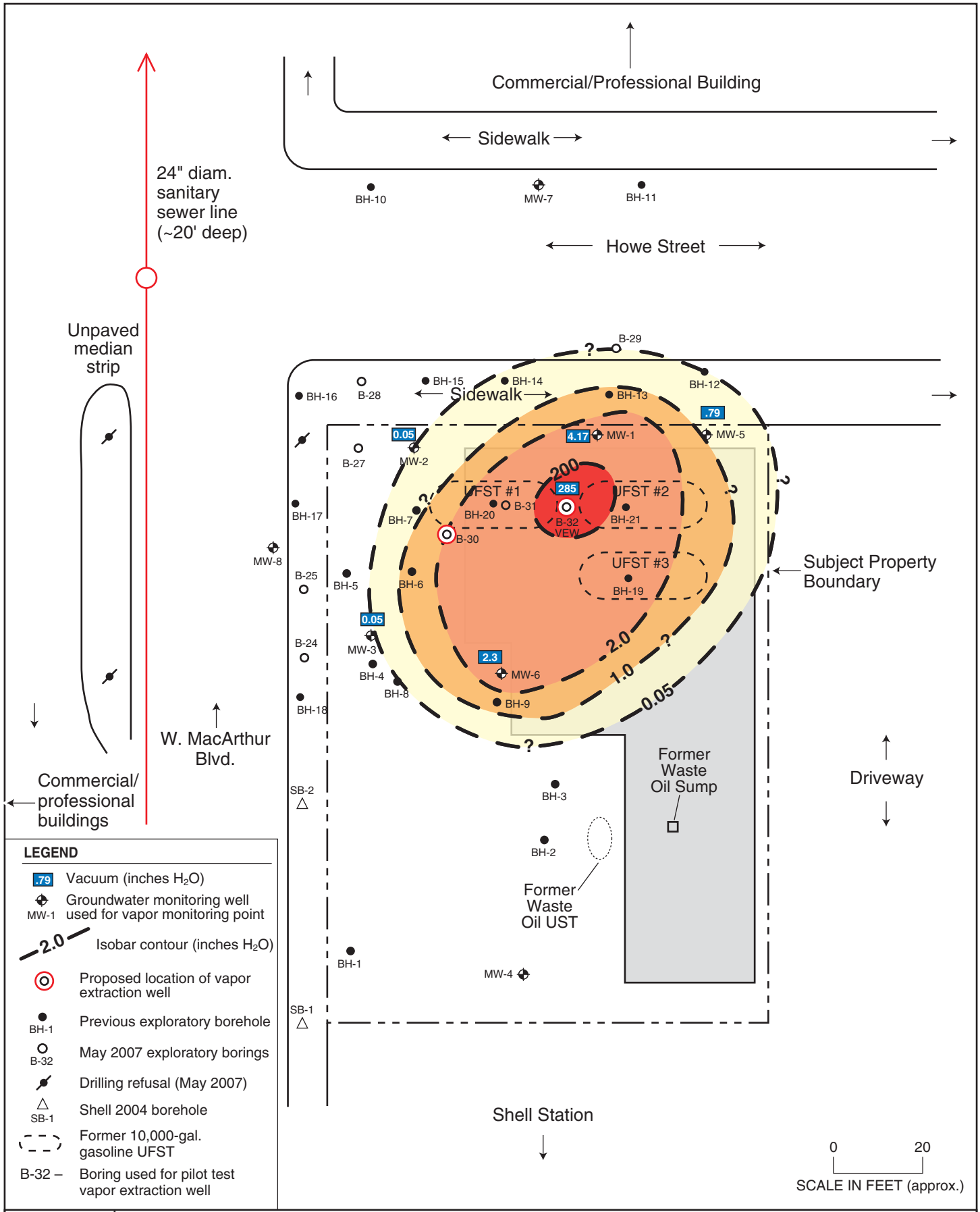
## SVE TECHNOLOGY APPLICATION

Favorable results from soil-gas sampling and the pilot test makes SVE the most appropriate interim remedial cleanup strategy for this site due to the following:

- SVE is a proven technology for treating the relatively volatile gasoline and its BTEX constituents, which are the primary site unsaturated-zone soil contaminants and the primary source of ongoing groundwater contamination at the site;
- SVE requires a minimum of ground space for installation/operation, and can achieve contaminant capture from a relatively significant radius outward from the extraction point and beneath the building where the contaminated soil is projected to be;
- SVE can operate cost-effectively once installed with mass capture reduction and suing equilibration as a criterion to terminate its use;
- The subsurface soil permeability, critical to a successful SVE application, was demonstrated to yield vapors in the six hour pilot test; and
- Contaminant mass removal can be quantified by direct vapor measurement.

The SVE system will likely include the following:

- Two vapor extraction wells with aboveground or underground piping connecting the wells to the vacuum pump/blower. The proposed locations of two vapor extraction wells are shown on Figure 11. The vapor extraction wells would likely consist of 2-inch-diameter PVC with screen intervals extending from 10 feet bgs to 18 or 20 feet bgs.
- An off-gas activated carbon treatment unit.
- One to three vapor monitoring wells to be used for monitoring the effectiveness of the operating SVE system. Depending on the seasonal water levels in the site groundwater wells, the wells could potentially be used for either vapor extraction wells or vapor monitoring points.
- Vapor monitoring ports and gauges for initial weekly, then monthly monitoring.




# PILOT TEST RADIUS OF INFLUENCE

| 240 W. MacArthur Blvd. Oakland, CA | By: MJC | JULY 2007 |
|---|---|---|
| | Figure 11 | |

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

2003-43-172

# 7.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATION

## SUMMARY AND CONCLUSIONS

- The site has undergone site investigations and remediation since 1991 (by SES since August 2003) to address soil and groundwater contamination resulting from leaking UFSTs that were reportedly removed. Alameda County Health is the lead implementing agency. A total of 35 groundwater monitoring/sampling events have been conducted in available site wells between August 1997 and June 2007 (the most recent event).
- Site lithology is typical of this area, including interbedded, often lenticular-shaped units of clays and clayey sands. The saturated interval (in May 2004) was encountered at a depth of approximately 20 feet, ranging in thickness from 1.5 to 2.5 feet, and was underlain by a laterally-extensive low-permeability clay. Two boreholes, B31 and B32, advanced to 32 feet bgs in this investigation, showed this clay extending from its upper reach of 21 feet bgs to 32 feet bgs, documenting a thickness of 6 to 7 feet. Local variations in lithology appear to be an active control on contaminant transport and distribution. Groundwater has been historically reported to occur under semi-confining conditions; however, this was not evident during this investigation, and most likely was due to seasonally low groundwater.
- The primary site chemicals of concern, with regard to concentrations and risk issues, are gasoline, benzene, and MTBE. Other aromatic hydrocarbons, diesel, lead scavengers, and fuel oxygenates are also present at lesser concentrations and over a smaller area.
- Residual soil contamination has extended at least 50 feet from the source area in the downgradient direction, resulting in a likely seasonally-unsaturated zone of soil contamination from 3 to 8 feet thick, which may vary in thickness seasonally. The area of residual soil contamination with concentrations above regulatory agency screening levels likely does not exceed 100 feet by 100 feet, within which are localized areas of lesser contamination due to lithologic controls. Given the elevated contaminant concentrations, this contaminated soil volume will very likely be a long-term source of continued groundwater contamination as water levels fluctuate and desorb soil contamination into groundwater.
- The resultant contaminant plume has migrated to the southwest and northwest, downgradient of the former UFSTs. Migration of the dissolved-phase hydrocarbon contamination in groundwater does appear to have caused additional soil contamination by adsorption onto downgradient soils within the capillary fringe, as indicated by soil

samples (from borings B13 and B16) collected during previous investigations; however, this was not evidenced in soil samples collected during this investigation. This contaminant behavior can be explained by the presence lithologic boundaries and traps and hydrologic channeling.

- The clay unit under the saturated zone displayed neither contamination nor evidence of free water, suggesting that this defines the base of soil and groundwater contamination. Two boreholes advanced in this investigation documented a thickness of 6 to 7 feet. The lithologic data supported by soil sample analytical data from this investigation and previous investigations strongly indicate that this clay unit is laterally-extensive, low-permeability, and low-moisture, and inhibits downward groundwater flow and vertical contamination.
- Maximum groundwater contamination is located along the northwestern edge of the site, coincident with the approximate location of the former leaking UFSTs. A groundwater contaminant plume extends along a generally southwest axis, approximating the local groundwater flow direction. The northwest lateral edge of the plume is approximately coincident with the far side of Howe Street. The east-southeast lateral edge of the plume is constrained onsite. There are no data on the north (upgradient) limit of the plume, but it is very likely limited. The downgradient limits of the plume are not defined, but do extend offsite under W. MacArthur Boulevard.
- Sanitary sewer lines beneath Howe Street and W. MacArthur Boulevard are located at a depth that could be coincident with groundwater contamination. There are insufficient data regarding whether these utilities could be acting as preferential pathways for contaminant migration; however, lithologic boundaries observed along the perimeter of the property suggest narrow channeling and very tight lithologic controls on contaminant migration off the property and likely minimal contaminant input into these preferential pathways. This investigation encountered shallow (less than 5 feet) drilling refusal in two attempts to drill through the medium strip of W. MacArthur Boulevard.
- No vicinity water wells exist with the potential to intercept site-sourced groundwater contamination.
- The adjacent Shell service station is contributing minor MTBE (and possibly TVHg) groundwater contamination to the eastern corner of the subject property. This contamination is unrelated to the separate, site-sourced TVHg and MTBE groundwater contamination in the northern and western portions of the subject property.
- Recent borehole groundwater data on contaminant distribution roughly correlated with recent groundwater monitoring well contaminant data. This suggests that the existing groundwater monitoring well network is adequate for evaluating local groundwater flow direction and future changes in contaminant magnitude and distribution.

- There is sufficient residual soil contamination to serve as a long-term source of groundwater contamination, primarily via seasonal groundwater fluctuations and desorption. It is unlikely that residual soil (or groundwater) contamination will pose an impact to indoor air quality.
- Natural attenuation has not been, and likely will not be in the future, an effective mechanism for reducing contaminant concentrations, except on the fringes of the contaminant plume. Unless abated, elevated groundwater contaminant concentrations will continue for years.
- Any corrective action considered for this site should address both residual soil and groundwater contamination, the distribution and effective remediation of which may be controlled by different mechanisms.
- Electronic data uploads for this investigation have been made to the State of California's GeoTracker database and Alameda County Health's ftp system.

**RECOMMENDATIONS**

- In our professional opinion, the key elements/geographical areas of site lithology have been adequately defined to allow for appropriate data evaluation and interim remedial action decision-making at this stage of the Site Conceptual Model.
- The program of quarterly groundwater sampling and reporting should be continued, with the objectives of obtaining site closure and supporting the owner's application for reimbursement under the State of California Petroleum Underground Storage Tank Cleanup Fund.
- As requested by Alameda County Health, the well purging method (vs. the low-flow purge method) should be used in future groundwater monitoring events.
- Based on the results of this investigation, we have determined that SVE is the most appropriate remedy and, as discussed in the report, we recommend that SVE be implemented to remove the source area subsurface contamination and move the site toward regulatory closure.
- An interim remedial action workplan should be prepared and submitted to Alameda County Health, detailing the site-specific SVE design, installation, and operation and maintenance; estimating contaminant mass removal rates; identifying permitting, and regulatory and community acceptability factors; and outlining the technical documentation report.
- The SVE system should be installed and operated, and its effect on site groundwater contamination should be evaluated. Additional corrective action designed specifically to address groundwater contamination would be recommended as warranted by the SVE

remediation success and continued groundwater monitoring results measuring that success.

- As required by the State of California, site data should continued to be uploaded to the California GeoTracker system and Alameda County ftp system.

# 8.0 REFERENCES AND BIBLIOGRAPHY


Advanced Environmental Concepts, Inc. (AEC), 1997a. Subsurface Soil and Groundwater Investigation Workplan for Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. June.

Advanced Environmental Concepts, Inc. (AEC), 1997b. Continuing Soil and Groundwater Assessment for Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August.

Advanced Environmental Concepts, Inc. (AEC), 1997c. First Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. December 21.

Advanced Environmental Concepts, Inc. (AEC), 1998a. Second Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. April 2.

Advanced Environmental Concepts, Inc. (AEC), 1998b. Request for Site Closure – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. June 29.

Advanced Environmental Concepts, Inc. (AEC), 1998c. Third Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August 2.

Advanced Environmental Concepts, Inc. (AEC), 1998d. Fourth Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. November 6.

Advanced Environmental Concepts, Inc. (AEC), 1999. Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January 22.

Advanced Environmental Concepts, Inc. (AEC), 2000a. Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August 11.

Advanced Environmental Concepts, Inc. (AEC), 2000b. Additional Groundwater Assessment Workplan for Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, County of Alameda, California. October.

Advanced Environmental Concepts, Inc. (AEC), 2001a. December 2000 Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January.

Advanced Environmental Concepts, Inc. (AEC), 2001b. Additional Soil and Groundwater Assessment – 240 W. MacArthur Boulevard, Oakland, County of Alameda, California. March.

Advanced Environmental Concepts, Inc. (AEC), 2001c. May 2001 Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. May 27.

Advanced Environmental Concepts, Inc. (AEC), 2001d. July 2001 Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August 31.

Advanced Environmental Concepts, Inc. (AEC), 2001e. Summary "Hi-Vac" Workplan – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. September 11.

Advanced Environmental Concepts, Inc. (AEC), 2001f. October 2001 Quarterly Groundwater Sampling and Summary "Hi-Vac" Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. December 15.

Advanced Environmental Concepts, Inc. (AEC), 2002a. December 2001 Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January 30.

Advanced Environmental Concepts, Inc. (AEC), 2002b. March 2002 Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. April 19.

Advanced Environmental Concepts, Inc. (AEC), 2002c. 2nd Quarter Groundwater Sampling Report (2002) – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. July 17.

Advanced Environmental Concepts, Inc. (AEC), 2002d. 4th Quarter Groundwater Sampling Report (2002) – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. November 11.

Advanced Environmental Concepts, Inc. (AEC), 2003a. 1st Quarter Groundwater Sampling Report (2003) – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. March 7.

Advanced Environmental Concepts, Inc. (AEC), 2003b. 2nd Quarter Groundwater Sampling Report (2003) – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. April 30.

Alameda County Health Care Services Agency, Department of Environmental Health (Alameda County Health), 2006. Fuel Leak case No. RO000142, Dodson Ltd., 240 West MacArthur, Blvd., Oakland, California Work Plan Approval. March 14.

Alameda County Health Care Services Agency, Department of Environmental Health (Alameda County Health), 2003. Fuel Leak case No. RO000142, Dodson Ltd., 240 West MacArthur, Blvd., Oakland, California Work Plan Approval. March 14.

All Environmental, Inc., 1997a. Underground Storage Tank Removal and Excavation, Transport and Disposal of Contaminated Soil Report – 240 W. MacArthur Boulevard, Oakland, California. January 3.

All Environmental, Inc., 1997b. Phase II Subsurface Investigation Report – 240 W. MacArthur Boulevard, Oakland, California. February 14.

All Environmental, Inc., 1997c. Soil and Groundwater Investigation Workplan – 240 W. MacArthur Boulevard, Oakland, California. April 15.

Cambria Environmental Technology, Inc., 2004. Second Quarter 2004 Monitoring Report, Shell-branded Service Station, 230 W. MacArthur Boulevard, Oakland, California. July 29.

Guidici, 2003. Supervisor, City of Oakland Public Works Department – Sewer Maintenance. Personal communication to Joe Dinan of SES. September 8.

Mittelhauser Corporation, 1991a. Magnetic Survey for Underground Utilities and Recommendations at 240 W. MacArthur Boulevard, Oakland, California. February 21.

Mittelhauser Corporation, 1991b. Sump Removal and Waste Oil Cleanup at 240 W. MacArthur Boulevard, Oakland, California. April 9.

Regional Water Quality Control Board (Water Board), 1999. East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Cost Counties, California. June

Regional Water Quality Control Board (Water Board), 2006. Final Tier 1 Environmental Screening Levels for Industrial/Commercial Sites. November.

Stellar Environmental Solutions, Inc. (SES), 2003a. Workplan for Additional Site Characterization, 240 W. MacArthur Boulevard, Oakland, California. August 20.

Stellar Environmental Solutions, Inc. (SES), 2003b. Third Quarter 2003 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. September 5.

Stellar Environmental Solutions, Inc. (SES), 2003c. Amended Workplan for Additional Site Characterization, 240 W. MacArthur Boulevard, Oakland, California. December 10.

Stellar Environmental Solutions, Inc. (SES), 2004a. Fourth Quarter 2003 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. January 12.

Stellar Environmental Solutions, Inc. (SES), 2004b. First Quarter 2004 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. April 12.

Stellar Environmental Solutions, Inc. (SES), 2004c. Soil and Groundwater Investigation Report, 240 W. MacArthur Boulevard, Oakland, California. June 8.

Stellar Environmental Solutions, Inc. (SES), 2004d. Second Quarter 2004 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. July 12.

Stellar Environmental Solutions, Inc. (SES), 2004e. Third Quarter 2004 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. October 11.

Stellar Environmental Solutions, Inc. (SES), 2004f. Workplan for Additional Site Characterization and Interim Remedial Action, 240 W. MacArthur Boulevard, Oakland, California. December 27.

Stellar Environmental Solutions, Inc. (SES), 2005a. Fourth Quarter 2004 Groundwater Monitoring and Annual Summary Report, 240 W. MacArthur Boulevard, Oakland, California. January 18.

Stellar Environmental Solutions, Inc. (SES), 2005b. First Quarter 2005 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. March 31.

Stellar Environmental Solutions, Inc. (SES), 2005c. Second Quarter 2005 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. July 8.

Stellar Environmental Solutions, Inc. (SES), 2005d. Third Quarter 2005 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. October 12.

Stellar Environmental Solutions, Inc. (SES), 2006a. Fourth Quarter 2005 Groundwater Monitoring and Annual Summary Report, 240 W. MacArthur Boulevard, Oakland, California. January 18.

Stellar Environmental Solutions, Inc. (SES), 2006b. First Quarter 2006 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. April 21.

Stellar Environmental Solutions, Inc. (SES), 2006c. Second Quarter 2006 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. July 11

Stellar Environmental Solutions, Inc. (SES), 2006d. Third Quarter 2006 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. September 29.

Stellar Environmental Solutions, Inc. (SES), 2007a. Fourth Quarter 2006 Groundwater Monitoring and Annual Summary Report, 240 W. MacArthur Boulevard, Oakland, California. January 16.

Stellar Environmental Solutions, Inc. (SES), 2007b. First Quarter 2007 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. May 4.

Stellar Environmental Solutions, Inc. (SES), 2007c. Second Quarter 2007 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. July 11

# 9.0 LIMITATIONS

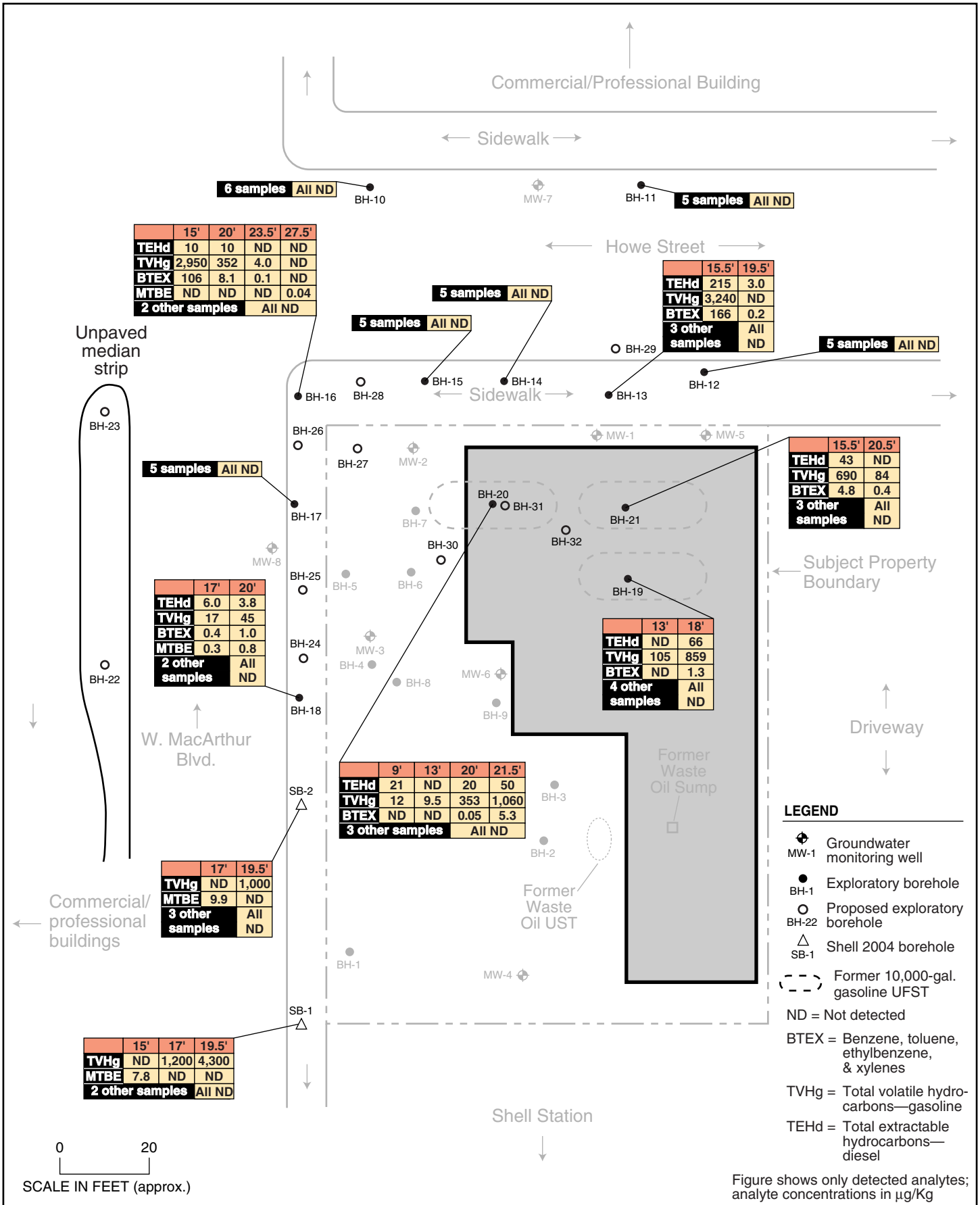
This report has been prepared for the exclusive use of the current property owners (Mr. and Mrs. Glen Poy-Wing, d.b.a. Oakland Auto Works) their representatives, and the regulators. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based on the review of previous investigators' findings at the site, as well as site activities conducted by SES since August 2003. This report provides neither a certification nor guarantee that the property is free of hazardous substance contamination. This report has been prepared in accordance with generally accepted methodologies and standards of practice of the area. The SES personnel who performed this limited remedial investigation are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

The findings of this report are valid as of the present. Site conditions may change with the passage of time, natural processes, or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the investigation and remediation completed.

# APPENDIX A

## Historical Soil and Groundwater Analytical Results and Figures




| | 15' | 20' | 23.5' | 27.5' |
|---|---|---|---|---|
| TEHd | 10 | 10 | ND | ND |
| TVHg | 2,950 | 352 | 4.0 | ND |
| BTEX | 106 | 8.1 | 0.1 | ND |
| MTBE | ND | ND | ND | 0.04 |
| 2 other samples | All ND | | | |

| | 15.5' | 19.5' |
|---|---|---|
| TEHd | 215 | 3.0 |
| TVHg | 3,240 | ND |
| BTEX | 166 | 0.2 |
| 3 other samples | All ND | |

| | 15.5' | 20.5' |
|---|---|---|
| TEHd | 43 | ND |
| TVHg | 690 | 84 |
| BTEX | 4.8 | 0.4 |
| 3 other samples | All ND | |

| | 17' | 20' |
|---|---|---|
| TEHd | 6.0 | 3.8 |
| TVHg | 17 | 45 |
| BTEX | 0.4 | 1.0 |
| MTBE | 0.3 | 0.8 |
| 2 other samples | All ND | |

| | 13' | 18' |
|---|---|---|
| TEHd | ND | 66 |
| TVHg | 105 | 859 |
| BTEX | ND | 1.3 |
| 4 other samples | All ND | |

| | 9' | 13' | 20' | 21.5' |
|---|---|---|---|---|
| TEHd | 21 | ND | 20 | 50 |
| TVHg | 12 | 9.5 | 353 | 1,060 |
| BTEX | ND | ND | 0.05 | 5.3 |
| 3 other samples | All ND | | | |

| | 17' | 19.5' |
|---|---|---|
| TVHg | ND | 1,000 |
| MTBE | 9.9 | ND |
| 3 other samples | All ND | |

| | 15' | 17' | 19.5' |
|---|---|---|---|
| TVHg | ND | 1,200 | 4,300 |
| MTBE | 7.8 | ND | ND |
| 2 other samples | All ND | | |

**LEGEND**

- MW-1 — Groundwater monitoring well
- BH-1 — Exploratory borehole
- BH-22 — Proposed exploratory borehole
- SB-1 — Shell 2004 borehole
- Former 10,000-gal. gasoline UFST

ND = Not detected

BTEX = Benzene, toluene, ethylbenzene, & xylenes

TVHg = Total volatile hydrocarbons—gasoline

TEHd = Total extractable hydrocarbons—diesel

Figure shows only detected analytes; analyte concentrations in µg/Kg

# SITE PLAN WITH APRIL 2004 BOREHOLE SOIL ANALYTICAL RESULTS

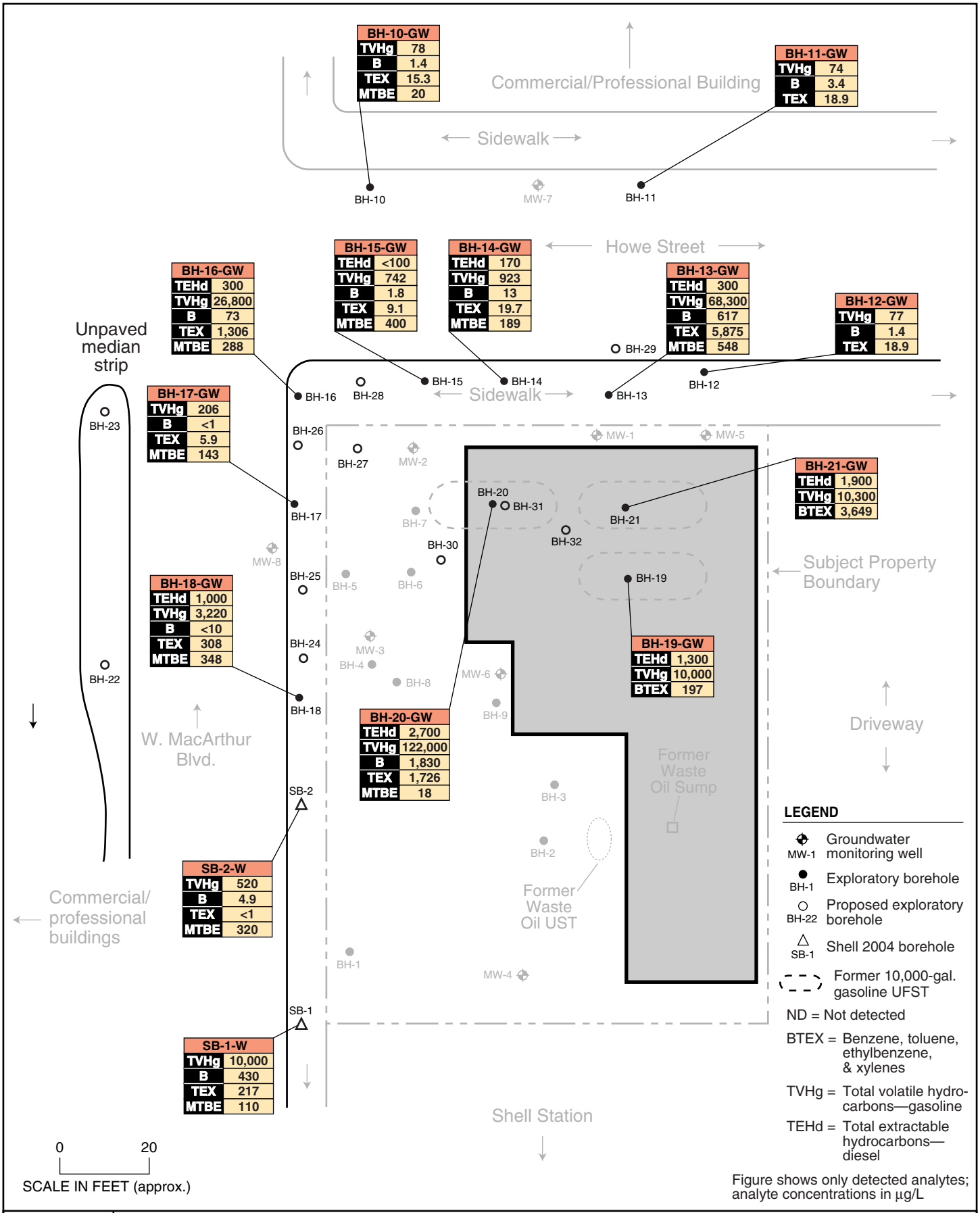
240 W. MacArthur Blvd.
Oakland, CA

By: MJC | DECEMBER 2004

Figure 7

Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

2003-43-93




# APRIL 2004 BOREHOLE GROUNDWATER ANALYTICAL RESULTS

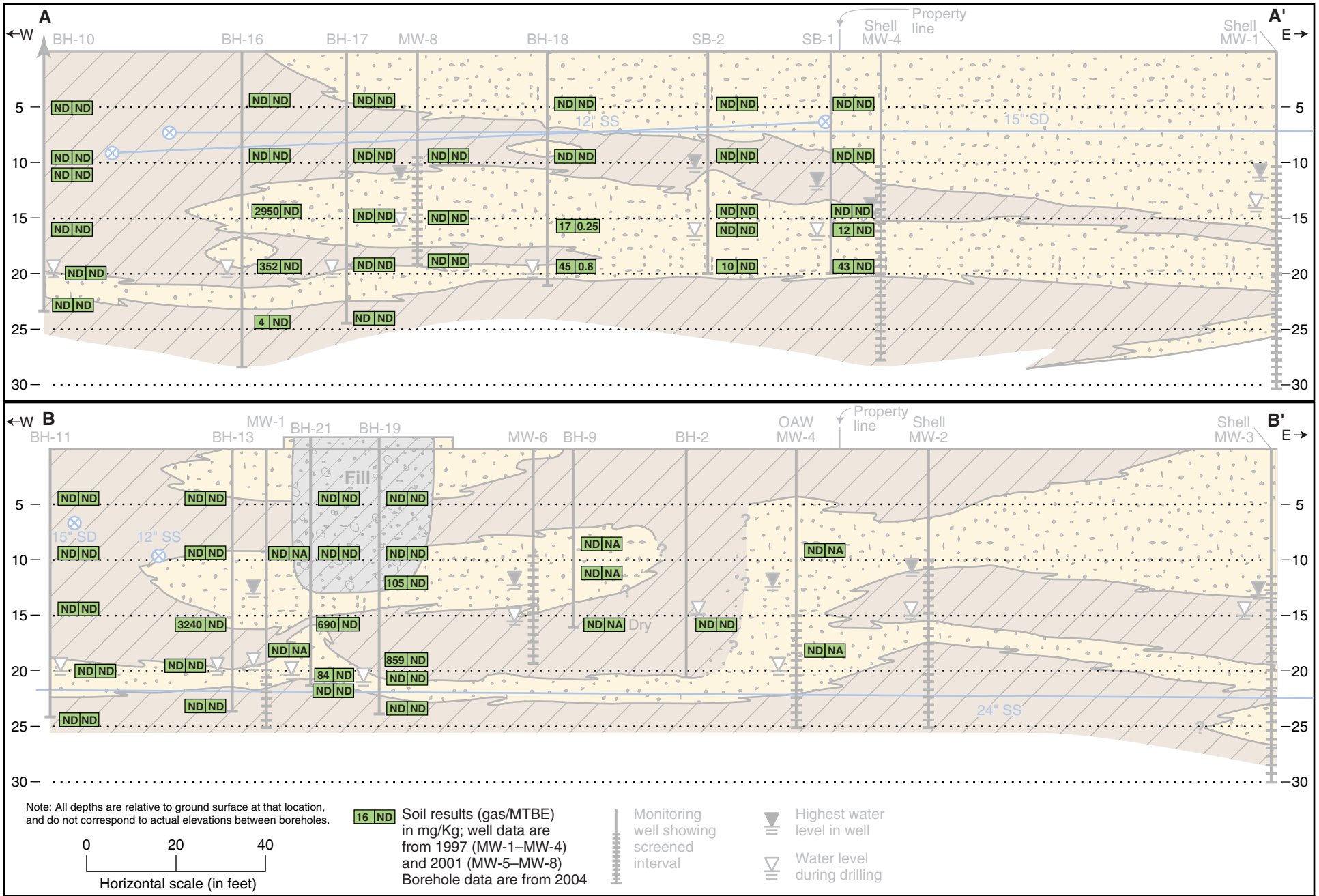
240 W. MacArthur Blvd.
Oakland, CA

By: MJC | DECEMBER 2004

**Figure 10**

Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

2003-43-91



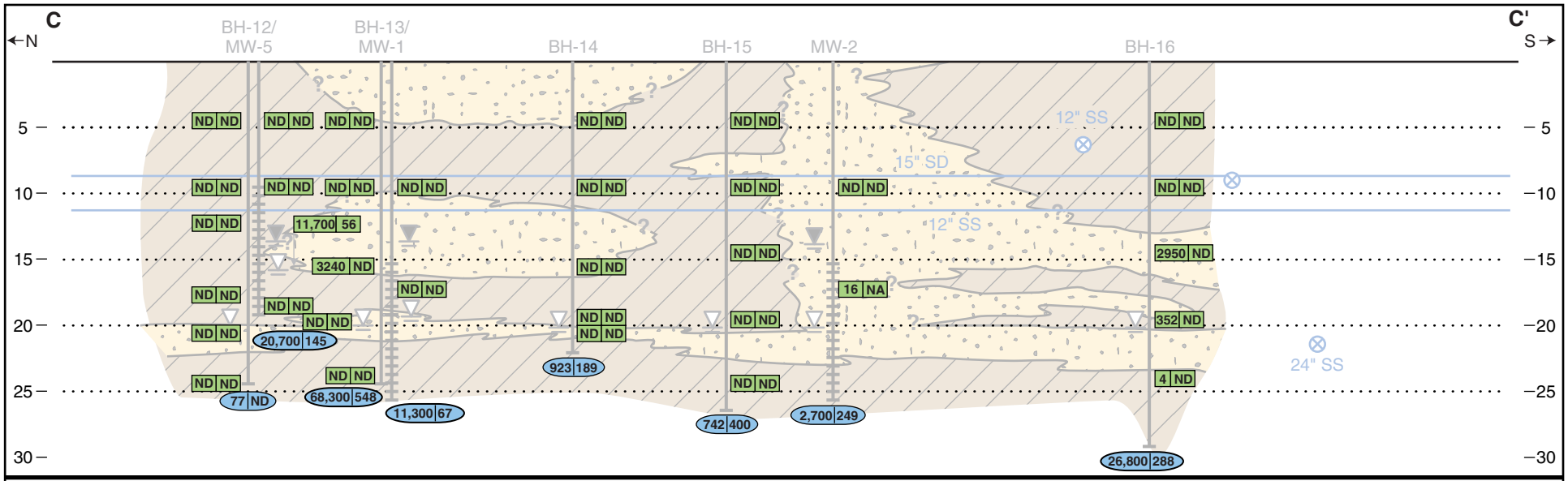

Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

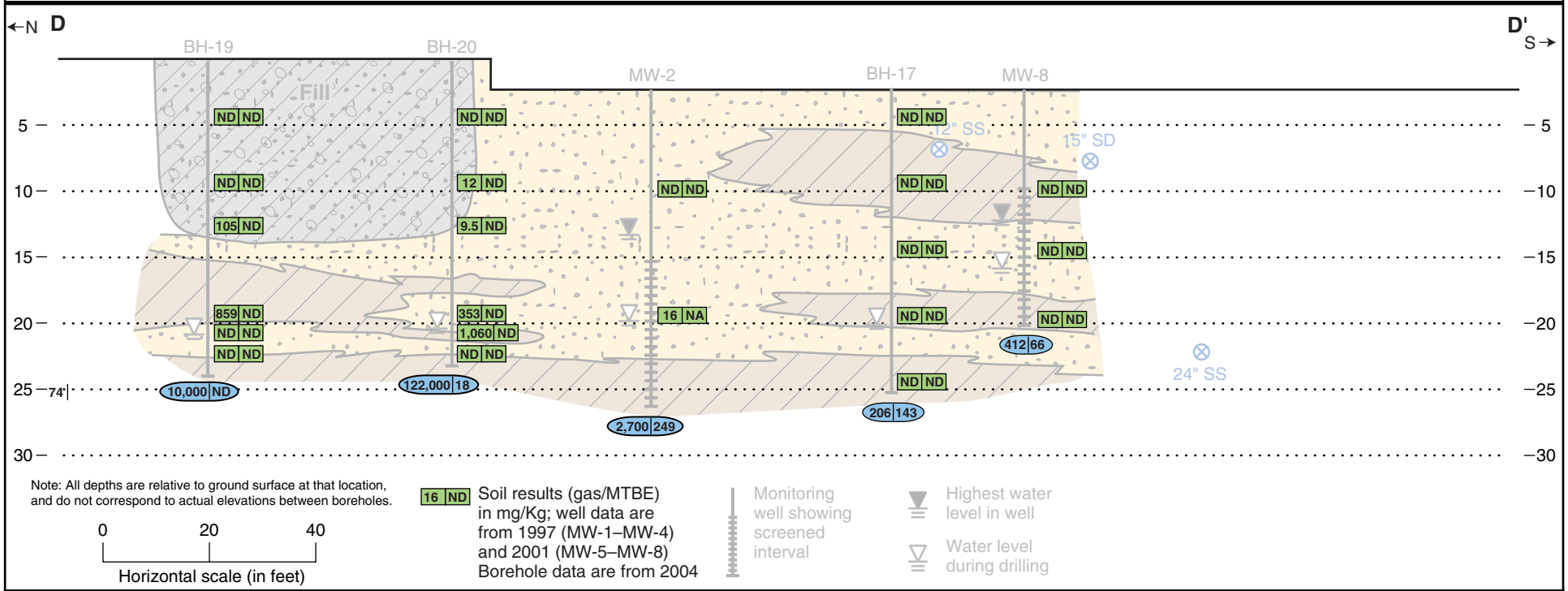
# GEOLOGIC CROSS SECTIONS A–A' AND B–B' WITH BOREHOLE SOIL ANALYTICAL RESULTS
## 240 W. MacArthur Blvd., Oakland, CA

**Figure 9**

by: MJC | MAY 2004

2003-43-74




Note: All depths are relative to ground surface at that location, and do not correspond to actual elevations between boreholes.

0 20 40

Horizontal scale (in feet)

16 ND Soil results (gas/MTBE) in mg/Kg; well data are from 1997 (MW-1–MW-4) and 2001 (MW-5–MW-8) Borehole data are from 2004

Monitoring well showing screened interval

Highest water level in well

Water level during drilling

Stellar Environmental Solutions, Inc.

Geoscience & Engineering Consulting

# GEOLOGIC CROSS SECTIONS C–C' AND D–D' WITH BOREHOLE SOIL ANALYTICAL RESULTS

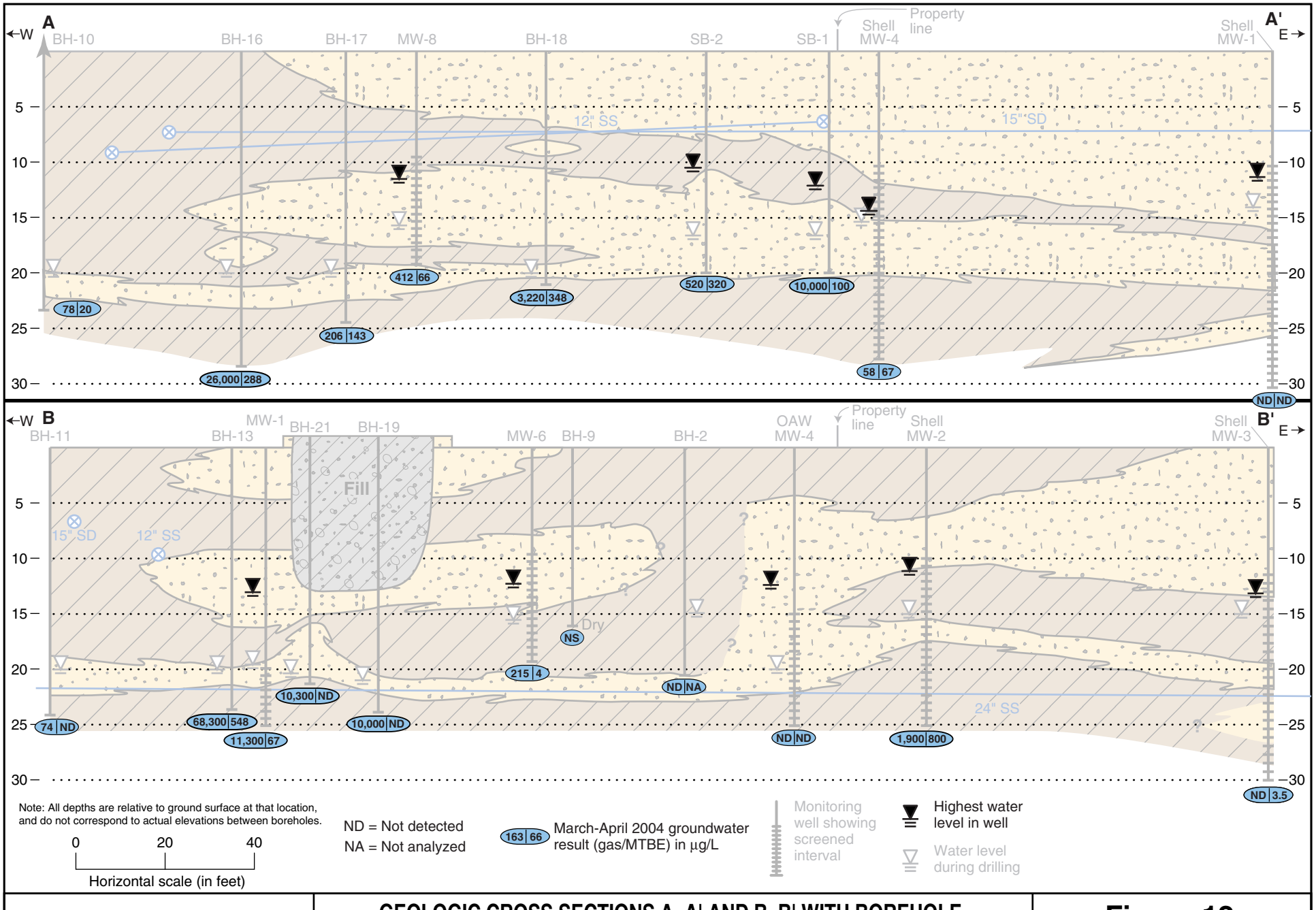
240 W. MacArthur Blvd., Oakland, CA

**Figure 10**

by: MJC

MAY 2004

2003-43-78




Note: All depths are relative to ground surface at that location, and do not correspond to actual elevations between boreholes.

0 20 40

Horizontal scale (in feet)

ND = Not detected
NA = Not analyzed

163 | 66 March-April 2004 groundwater result (gas/MTBE) in µg/L

Monitoring well showing screened interval

Highest water level in well

Water level during drilling

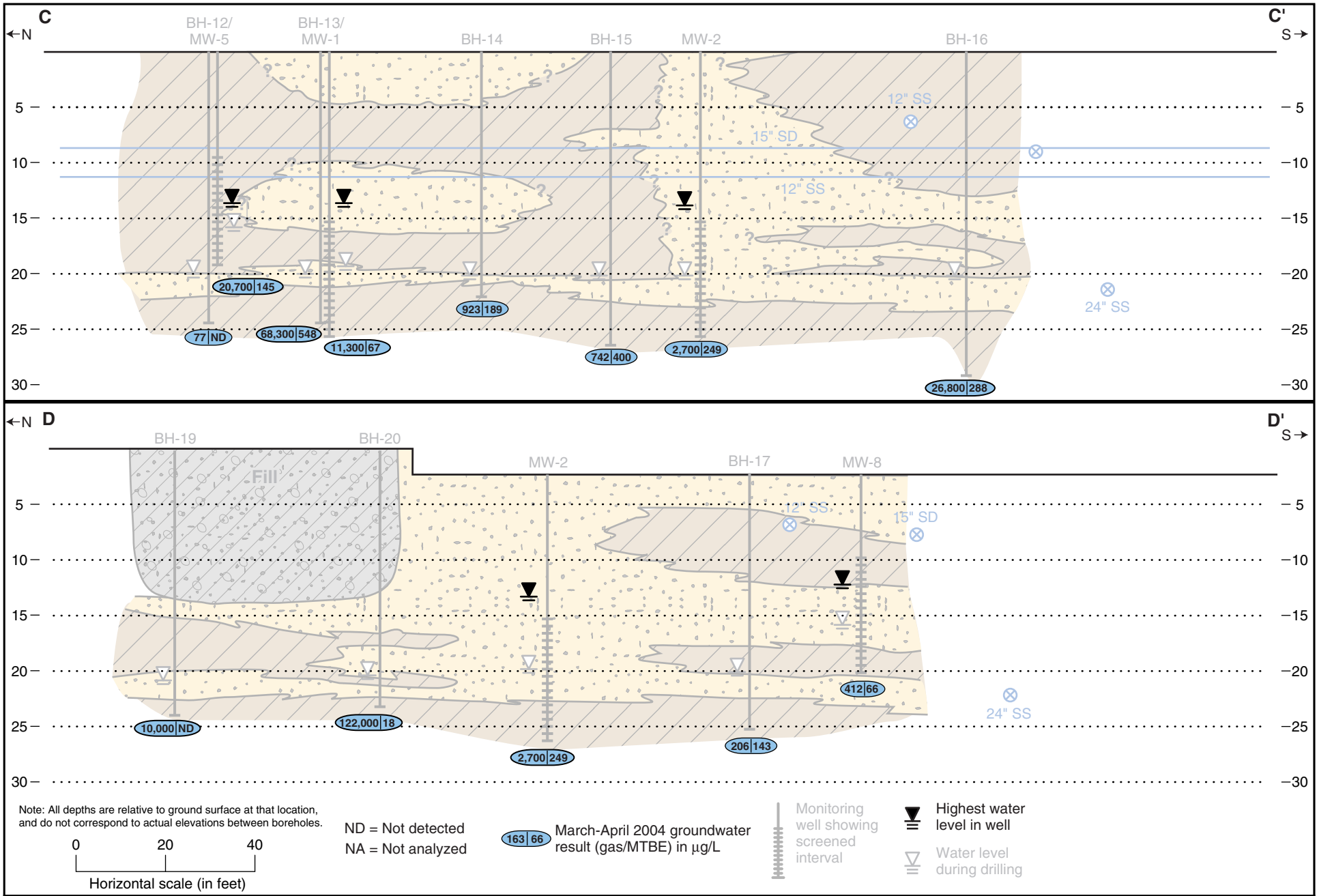
**Stellar Environmental Solutions, Inc.**
Geoscience & Engineering Consulting

# GEOLOGIC CROSS SECTIONS A–A' AND B–B' WITH BOREHOLE GROUNDWATER ANALYTICAL RESULTS
## 240 W. MacArthur Blvd., Oakland, CA

**Figure 12**

by: MJC | MAY 2004

2003-43-75



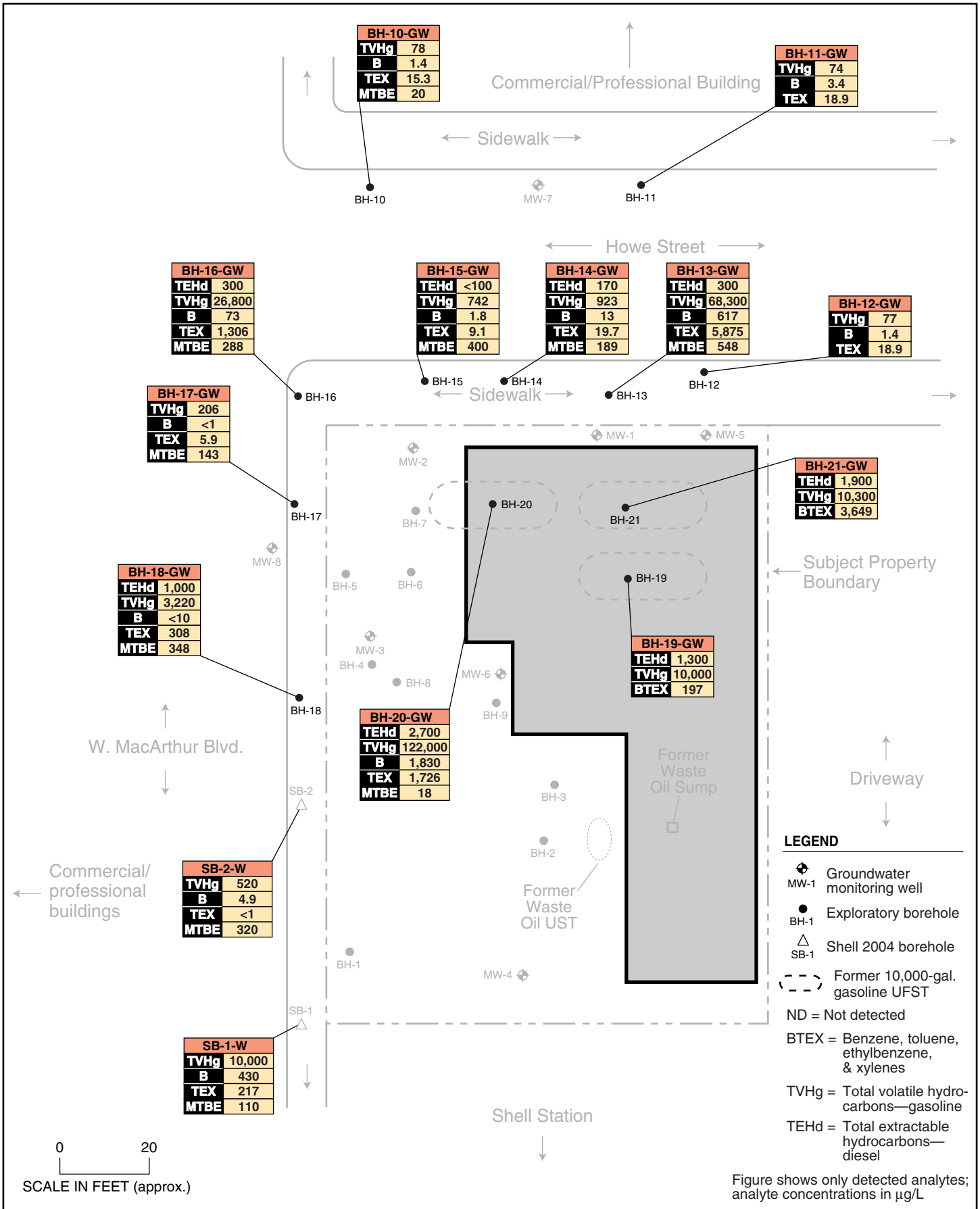

Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

# GEOLOGIC CROSS SECTIONS C–C' AND D–D' WITH BOREHOLE GROUNDWATER ANALYTICAL RESULTS
## 240 W. MacArthur Blvd., Oakland, CA

**Figure 13**

by: MJC | MAY 2004

2003-43-76




# APRIL 2004 BOREHOLE GROUNDWATER ANALYTICAL RESULTS

240 W. MacArthur Blvd.
Oakland, CA

By: MJC | NOVEMBER 2004

**Figure 11**

Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

2004-43-22

**TABLE A-1**
**Historical Borehole Soil Sample Analytical Results**
**Petroleum and Aromatic Hydrocarbons**
**240 W. MacArthur Boulevard, Oakland, Alameda, California**
(all concentrations in mg/Kg)

| Borehole / Well I.D. | Sample Depth (ft) | Date Sampled | TVH-g | TEH-d | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|---|---|---|
| BH-1 | 15' | Jan-97 | *<1.0* | *<1.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | *<0.05* |
| BH-2 | 15' | Jan-97 | *<1.0* | *<1.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | *<0.05* |
| BH-3 | 15' | Jan-97 | *<1.0* | *<1.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | *<0.05* |
| BH-4 | 15' | Jan-97 | 1,100 | 370 | *<0.02* | *<0.02* | 4.4 | 14 | *<3.0* |
| BH-5 | 15' | Jan-97 | 2.1 | 1.9 | 0.009 | 0.006 | *<0.005* | 0.016 | *<0.05* |
| BH-6 | 15' | Jan-97 | 190 | 140 | 0.25 | 0.50 | 8.4 | 3.6 | *<0.6* |
| BH-7 | 12' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| | 16' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| BH-8 | 8' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| | 12' | Aug-97 | 168 | <5.0 | 0.02 | *<0.005* | 5.1 | 0.045 | NA |
| | 16' | Aug-97 | 21 | <5.0 | 0.027 | 0.07 | 0.75 | *<0.005* | NA |
| BH-9 | 8' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | 0.032 | 0.28 | 0.029 | NA |
| | 12' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | 0.012 | *<0.005* | *<0.005* | NA |
| | 16' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| MW-1 | 10' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| | 17' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | 0.031 | *<0.005* | *<0.005* | NA |
| MW-2 | 10' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| | 17' | Aug-97 | 16 | *<5.0* | 0.035 | 0.037 | 0.15 | 0.018 | NA |
| MW-3 | 10' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| | 15' | Aug-97 | *<5.0* | *<5.0* | 0.027 | *<0.005* | *<0.005* | *<0.005* | NA |
| MW-4 | 10' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| | 17' | Aug-97 | *<5.0* | *<5.0* | *<0.005* | *<0.005* | *<0.005* | *<0.005* | NA |
| MW-5 | 5' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| | 10' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| | 15' | Feb-01 | 11,700 | NA | 25.6 | 12 | 38.6 | 55.8 | 55.8 |
| | 20' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| MW-7 | 10' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| | 15' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| | 20' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| MW-8 | 10' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| | 15' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.005* |
| | 20' | Feb-01 | *<10* | NA | *<0.005* | *<0.005* | *<0.015* | *<0.005* | *<0.0723* |

(Table continued on next page)

**TABLE A-1 (continued)**

| Borehole / Well I.D. | Sample Depth (ft) | Date Sampled | TVH-g | TEH-d | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|---|---|---|
| BH-10 | 9.5' | Apr-04 | *< 3.0* | 1.4 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 12' | Apr-04 | *< 3.0* | 1.4 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 17' | Apr-04 | *< 3.0* | 1.3 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 20.5' * | Apr-04 | *< 3.0* | 2.2 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 23.5' ** | Apr-04 | *< 3.0* | 1.2 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| BH-11 | 4.5' | Apr-04 | *< 3.0* | 1.6 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 9.5' | Apr-04 | *< 3.0* | 1.1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 15' | Apr-04 | *< 3.0* | 1.4 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 21.5' * | Apr-04 | *< 3.0* | 2.5 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 23.5' ** | Apr-04 | *< 3.0* | 1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| BH-12 | 4.5' | Apr-04 | *< 3.0* | 2.2 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 9.5' | Apr-04 | *< 3.0* | 1.1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 12' | Apr-04 | *< 3.0* | 1.5 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 20' (a) | Apr-04 | *< 3.0* | 1.8 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 20.5' * | Apr-04 | *< 3.0* | 1.6 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 23.5' ** | Apr-04 | *< 3.0* | 1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| BH-13 | 4.5' | Apr-04 | *< 3.0* | 1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 9.5' | Apr-04 | *< 3.0* | 1.5 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 15.5' | Apr-04 | 3,240 | 215 | 3.3 | 6.5 | 14 | 142 | *< 3.5* |
| | 19.5' | Apr-04 | *< 3.0* | 3 | 0.21 | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 23.5' ** | Apr-04 | *< 3.0* | *< 1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| BH-14 | 4.5' | Apr-04 | *< 3.0* | *< 1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 9.5' | Apr-04 | *< 3.0* | *< 1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 16' | Apr-04 | *< 3.0* | *< 1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 20' * | Apr-04 | *< 3.0* | *< 1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 21.5' ** | Apr-04 | *< 3.0* | *< 1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 4.5' | Apr-04 | *< 3.0* | *< 1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| BH-15 | 9.5' | Apr-04 | *< 3.0* | 1.2 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 15' | Apr-04 | *< 3.0* | <1.0 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 20' * | Apr-04 | *< 3.0* | <1.0 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 23.5' ** | Apr-04 | *< 3.0* | <1.0 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| BH-16 | 4.5' | Apr-04 | *< 3.0* | <1.0 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 9.5' | Apr-04 | *< 3.0* | 1.2 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 15' | Apr-04 | 2,950 | 10 | 2.8 | 12 | 19 | 72 | *< 17.5* |
| | 20' * | Apr-04 | 352 | 10 | *< 0.25* | 1.2 | *< 0.25* | 6.9 | *< 1.75* |
| | 23.5' ** | Apr-04 | 4 | 1.8 | *< 0.005* | 0.015 | 0.027 | 0.081 | *< 0.035* |
| | 27.5' ** | Apr-04 | *< 3.0* | <1.0 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | 0.043 |

(Table continued on next page)

**TABLE A-1 (continued)**

| Borehole / Well I.D. | Sample Depth (ft) | Date Sampled | TVH-g | TEH-d | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|---|---|---|
| BH-17 | 4.5' | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 9.5' | Apr-04 | *< 3.0* | 1.4 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 15' | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 20' * | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 23.5' ** | Apr-04 | *< 3.0* | 1.1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| BH-18 | 4.5' | Apr-04 | *< 3.0* | 1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 9.5' | Apr-04 | *< 3.0* | 1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.015* | *< 0.035* |
| | 17' | Apr-04 | 17 | 6 | *< 0.005* | 0.035 | 0.12 | 0.29 | 0.25 |
| | 20' * | Apr-04 | 45 | 3.8 | 0.049 | 0.15 | 0.24 | 0.56 | 0.84 |
| BH-19 | 4.5' | Apr-04 | *< 3.0* | 1.7 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 9' | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 13' | Apr-04 | 105 | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 18' | Apr-04 | 859 | 66 | *< 0.500* | *< 0.500* | 0.616 | 0.714 | *< 0.500* |
| | 21' * | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 23.5' ** | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| BH-20 | 4.5' | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 9' | Apr-04 | 12 | 21 | *< 0.025* | *< 0.025* | *< 0.025* | *< 0.025* | *< 0.025* |
| | 13' | Apr-04 | 9.5 | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 20' | Apr-04 | 353 | 20 | *< 0.050* | *< 0.050* | 0.0075 | 0.039 | *< 0.050* |
| | 21.5' * | Apr-04 | 1,060 | 50 | *< 0.500* | *< 0.500* | *< 0.500* | 5.34 | *< 0.500* |
| | 23.5' ** | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| BH-21 | 4.5' | Apr-04 | *< 3.0* | 1 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 9.5' | Apr-04 | *< 3.0* | 1.2 | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |
| | 15.5' | Apr-04 | 690 | 43 | *< 0.500* | *< 0.500* | 0.823 | 3.98 | *< 0.500* |
| | 20.5' * | Apr-04 | 84 | *<1.0* | 0.056 | *<0.025* | 0.06 | 0.245 | *<0.025* |
| | 21.5' ** | Apr-04 | *< 3.0* | *<1.0* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* | *< 0.005* |

Notes:

TVH-g = Total volatile hydrocarbons – gasoline range. TEH-d – Total extractable hydrocarbons – diesel range.

NA = Not analyzed for this constituent.

* Sample collected within the saturated zone

** Sample collected beneath the saturated zone

[a] Depth of sample uncertain due to minimal recovery in sampling sleeve.

**TABLE A-2**
**April 2004 Borehole Soil Sample Analytical Results**
**Lead Scavengers and Fuel Oxygenates**
**240 W. MacArthur Boulevard, Oakland, California**
(all results reported in mg/kg)

| Sample I.D. | EDC | EDB | ETBE | DIPE | TAME | TBA |
|---|---|---|---|---|---|---|
| BH-19-4.5' | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-19-9' | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-19-13' | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-19-18' | *< 0.500* | *< 0.500* | *< 1* | *< 1* | *< 1* | *< 5* |
| BH-19-21' * | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-19-23.5' ** | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-20-4.5' | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-20-9' | *< 0.025* | *< 0.025* | *< 0.05* | *< 0.05* | *< 0.05* | *< 0.25* |
| BH-20-13' | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-20-20' | *< 0.050* | *< 0.050* | *< 0.1* | *< 0.1* | *< 0.1* | *< 0.5* |
| BH-20-21.5' * | *< 0.500* | *< 0.500* | *< 1* | *< 1* | *< 1* | *< 5* |
| BH-20-23.5' ** | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-21-4.5' | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-21-9.5' | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |
| BH-21-15.5' | *< 0.500* | *< 0.500* | *< 1* | *< 1* | *< 1* | *< 5* |
| BH-21-20.5' * | *<0.025* | *<0.025* | *< 0.05* | *< 0.05* | *< 0.05* | *< 0.25* |
| BH-21-21.5' ** | *< 0.005* | *< 0.005* | *< 0.01* | *< 0.01* | *< 0.01* | *< 0.05* |

Notes:

Samples BH-10 through BH-18 (non-source area boreholes) were not analyzed for lead scavengers or fuel oxygenates.

* Sample collected within the saturated zone

** Sample collected beneath the saturated zone

(a) Depth of sample uncertain due to minimal recovery in sampling sleeve.

EDB = Ethylene dibromide (1,2-dibromoethane). EDC = Ethylene dichloride (1,2-dichloroethane).

DIPE = isopropyl ether. ETBE = Ethyl-tertbutyl ether. TAME = Tert-amylmethylether

TBA = Tertiary butyl alcohol NLP = No Level Published

**TABLE A-3**
**Summary of Soil Analytical Results - Metals**
**240 W. MacArthur Boulevard, Oakland, California**

| Sample I.D. | Metals Concentrations (mg/kg unless specified otherwise) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium (total) | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
| **1996 Waste Oil UST Removal** | | | | | | | | | | | | | | | | | |
| SW1 | *NA* | *NA* | *NA* | *NA* | *< 0.5* | **36** | *NA* | *NA* | **3.9** | *NA* | *NA* | **35** | *NA* | *NA* | *NA* | *NA* | **26** |
| SW2 | *NA* | *NA* | *NA* | *NA* | *< 0.5* | **33** | *NA* | *NA* | **4.5** | *NA* | *NA* | **44** | *NA* | *NA* | *NA* | *NA* | **28** |
| SW3 | *NA* | *NA* | *NA* | *NA* | *< 0.5* | **44** | *NA* | *NA* | **8.7** | *NA* | *NA* | **57** | *NA* | *NA* | *NA* | *NA* | **48** |
| SW4 | *NA* | *NA* | *NA* | *NA* | *< 0.5* | **26** | *NA* | *NA* | **6.3** | *NA* | *NA* | **40** | *NA* | *NA* | *NA* | *NA* | **37** |
| EB (7.0') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **3.4 mg/L** [c.] | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| EB (8.0') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *< 0.2 mg/L* [c.] | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| EB (9.0') | *NA* | *NA* | *NA* | *NA* | *< 0.5* | **29** | *NA* | *NA* | **3.4 mg/L** [c.] | *NA* | *NA* | **39** | *NA* | *NA* | *NA* | *NA* | **35** |
| STKP-1 | *NA* | *NA* | *NA* | *NA* | *< 0.5* | *NA* | *NA* | *NA* | 2.8 mg/L [c.] | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| STKP-2 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | 1.3 mg/L [c.] | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| STKP-3 | *< 2.5* | 4.5 | 78 | *< 0.5* | *< 0.5* | 33 | 9.1 | 14 | 62 | *< 0.06* | *< 2* | 39 | *< 2.5* | *< 1* | *NA* | 33 | 130 |
| **January 1997 Investigation** | | | | | | | | | | | | | | | | | |
| BH-1 (15') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **15** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-2 (15') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **8.4** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-3 (15') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **7.6** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-4 (15') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **6.2** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-5 (15') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **4.6** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-6 (15') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **23** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| **August 1997 Investigation** | | | | | | | | | | | | | | | | | |
| BH-8 (12') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **12.8** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-8 (16') | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | **47.8** | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| **California Hazardous Waste Criteria (10 X Soluble Threshold Limit Concentrations)** [a] | | | | | | | | | | | | | | | | | |
| | 150 | 50 | 1,000 | 7.5 | 10 | 50 | 800 | 250 | 50 | 2.0 | 3,500 | 200 | 10 | 50 | 70 | 240 | 2,500 |
| **California Hazardous Waste Criteria (Total Threshold Limit Concentrations)** | | | | | | | | | | | | | | | | | |
| | 500 | 500 | 10,000 | 75 | 100 | 2,500 | 8,000 | 2,500 | 1,000 | 20 | 3,500 | 2,000 | 100 | 500 | 700 | 2,400 | 5,000 |
| **California Regional Water Quality Control Board - San Francisco Bay Region Environmental Screening Levels for Commercial/Industrial Land Use** [b] | | | | | | | | | | | | | | | | | |
| | 40 | 2.7 | 1,500 | 8.0 | 12 | 750 | 80 | 225 | 750 | 10 | 40 | 150 | 10 | 40 | 27 | 600 | |

NA = Sample Not Analyzed for this constituent
(a) Guideline for determining if waste could be classified as hazardous based on soluble concentrations, and waste should therefore be analyzed for soluble concentrations.
(b) For coarse-grained soils at commercial/industrial sites where groundwater is a current or potential drinking water source.

# TABLE A-4
## Historical Borehole Grab Groundwater Sample Analytical Results
## Petroleum and Aromatic Hydrocarbons
## 240 W. MacArthur Boulevard, Oakland, Alameda, California
(all concentrations in µg/L)

| Borehole / Well I.D. | Date Sampled | TVH-g | TEH-d | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE |
|---|---|---|---|---|---|---|---|---|
| BH1W [(a)] | Jan-97 | 330 | 490 | 2 | 0.72 | *< 0.5* | 1.3 | 220 |
| BH2W [(b)] | Jan-97 | *< 50* | 320 | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 5.0* |
| BH4W | Jan-97 | 6,600 | *NA* | 58 | 13 | 110 | 270 | 170 |
| BH6W [(a)] | Jan-97 | 13,000 | 450,000 | 870.00 | 65.00 | 130 | 570 | 320 |
| BH-10-GW | Apr-04 | 78 | *< 100* | 1 | 7 | 2 | 7 | 20 |
| BH-11-GW | Apr-04 | 74 | *< 100* | 3 | 8 | 2 | 9 | *<5.0* |
| BH-12-GW | Apr-04 | 77 | *< 100* | 1 | 8 | 2 | 9 | *<5.0* |
| BH-13-GW | Apr-04 | 68,300 | 300 | 617 | 527 | 668 | 4,680 | 548 |
| BH-14-GW | Apr-04 | 923 | 170 | 13 | 5 | 6 | 9 | 189 |
| BH-15-GW | Apr-04 | 742 | *< 100* | 2 | 3 | 2 | 5 | 400 |
| BH-16-GW | Apr-04 | 26,800 | 300 | 73 | 138 | 222 | 946 | 288 |
| BH-17-GW | Apr-04 | 206 | *< 100* | *< 1.0* | 3 | *< 5* | 3 | 143 |
| BH-18-GW | Apr-04 | 3,220 | 1,000 | *< 10* | *< 10* | 76 | 232 | 348 |
| BH-19-GW | Apr-04 | 10,000 | 1,300 | 24 | *< 50* | 65 | 108 | *< 10* |
| BH-20-GW | Apr-04 | 122,000 | 2,700 | 1,830 | 69 | 227 | 1,430 | *18* |
| BH-21-GW | Apr-04 | 10,300 | 1,900 | 485 | 70 | 474 | 2,620 | *< 10* |

Notes:

TVH-g = Total volatile hydrocarbons – gasoline range. TEH-d – Total extractable hydrocarbons – diesel range.

NA = Not analyzed for this constituent.

(a) Sample also analyzed for lead. No concentrations of concern.

(b) Sample also analyzed for lead, total oil & grease, and Poly-nuclear-aromatic hydrocarbons: no concentrations of concern.

# TABLE A-5
## Historical Borehole Grab Groundwater Sample Analytical Results
## Oxygenates and Lead Scavengers
## 240 W. MacArthur Boulevard, Oakland, Alameda, California
(all concentrations in µg/L)

| Borehole / Well I.D. | Date Sampled | *Lead Scavengers* | | *Fuel Oxygenates* | | | |
|---|---|---|---|---|---|---|---|
| | | **EDB** | **EDC** | **ETBE** | **DIPE** | **TAME** | **TBA** |
| BH1W | Jan-97 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH2W | Jan-97 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH4W | Jan-97 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH6W | Jan-97 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-10-GW | Apr-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-11-GW | Apr-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-12-GW | Apr-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-13-GW | Apr-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-14-GW | Apr-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-15-GW | Apr-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-16-GW | Apr-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| BH-17-GW | Apr-04 | *< 5.0* | *< 5.0* | *< 1* | *< 1* | *< 1* | *< 10* |
| BH-18-GW | Apr-04 | *< 50* | *< 50* | *< 10* | *< 10* | *< 10* | *< 10* |
| BH-19-GW | Apr-04 | *< 50* | *< 50* | *< 10* | *< 10* | *< 10* | *< 10* |
| BH-20-GW | Apr-04 | *< 50* | *< 50* | *< 10* | *< 10* | *< 10* | 114 |
| BH-21-GW | Apr-04 | *< 50* | *< 50* | *< 10* | *< 10* | *< 10* | *< 100* |

Notes:

NA = Not analyzed for this constituent.

EDB = Ethylene dibromide (1,2-dibromoethane). EDC = Ethylene dichloride (1,2-dichloroethane).

DIPE = isopropyl ether. ETBE = Ethyl-tertbutyl ether. TAME = Tert-amylmethylether

TBA = Tertiary butyl alcohol

**TABLE C-1**
**Historical Groundwater Monitoring Well Groundwater Analytical Results**
**Petroleum and Aromatic Hydrocarbons (µg/L)**
**240 W. MacArthur Boulevard, Oakland, Alameda, California**

| MW-1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| Yes | 1 | Aug-97 | 1,140 | *< 1,000* | 110 | 16 | 15 | 112 | *NA* |
| Yes | 2 | Dec-97 | *ND* | *NA* | *ND* | *ND* | *ND* | 31 | *NA* |
| Yes | 3 | Mar-98 | 370 | *NA* | 8.9 | *< 0.5* | *< 0.5* | 2.2 | 18 |
| Yes | 4 | Jul-98 | 6,400 | *NA* | 1,300 | 23 | 3.7 | 58 | 97 |
| Yes | 5 | Oct-98 | 2,500 | *NA* | 360 | 44 | 1.3 | 150 | *< 0.5* |
| Yes | 6 | Jan-99 | 2,700 | *NA* | 1,200 | 28 | 140 | 78 | 130 |
| (a) | 7 | Jun-00 | 27,000 | *NA* | 5,200 | 500 | 320 | 3,100 | 1,300 |
| (a) | 8 | Dec-00 | 976,000 | *NA* | 2,490 | 1,420 | 3,640 | 10,100 | *< 150* |
| (a) | 9 | Feb-01 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| (a) | 10 | May-01 | 20,000 | *NA* | 2,900 | 310 | 230 | 1,900 | *< 30* |
| (a) | 11 | Jul-01 | 92,000 | *NA* | 2,900 | 580 | 2,800 | 20,000 | 560 |
| Pre"hi-vac" | 12 | Oct 22-01 | 20,000 | *NA* | 3,700 | 560 | 410 | 4,600 | 2,600 |
| Post "hi-vac" | 12 | Oct 26-01 | *< 0.05* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| (a) | 13 | Dec-01 | 3,300 | *NA* | 200 | 12 | 5.7 | 43 | 44 |
| No | 14 | Mar-02 | 4,600 | *NA* | 820 | 4.4 | 100 | 300 | 210 |
| No | 15 | May-02 | 1,600 | *NA* | 100 | 23 | 20 | 190 | 7.7 |
| No | 16 | Jul-02 | 2,300 | *NA* | 250 | 15 | 13 | 180 | 180 |
| No | 17 | Oct-02 | 1,820 | *NA* | 222 | 16 | *< 0.3* | 59 | 58 |
| No | 18 | Jan-03 | 2,880 | *NA* | 188 | *< 50* | *< 50* | 157 | 20 |
| No | 19 | Mar-03 | 6,700 | *NA* | 607 | 64 | 64 | 288 | *< 0.18* |
| No | 20 | Aug-03 | 4,900 | 5,000 | 740 | 45 | 85 | 250 | 14 |
| Pre-Purge | 21 | Dec-03 | 5,060 | 400 | 654 | 11 | 79 | 92 | 129 |
| Post-Purge | 21 | Dec-03 | 8,930 | 800 | 1,030 | 55 | 127 | 253 | 212 |
| Yes | 22 | Mar-04 | 11,300 | 1,100 | 483 | 97 | 122 | 452 | 67 |
| Yes | 23 | Jun-04 | 9,300 | 4,000 | 1,700 | 75 | 92 | 350 | 6.0 |
| Yes | 24 | Sep-04 | 9,100 | 97 | 920 | 19 | 82 | 201 | 7.2 |
| Yes | 25 | Dec-04 | 11,000 | 3,300 | 830 | 21 | 74 | 118 | 7.9 |
| Yes | 26 | Mar-05 | 4,700 | 3,500 | 450 | 28 | 42 | 97 | 6.7 |
| Yes | 27 | Jun-05 | 21,000 | 6,800 | 1,900 | 270 | 320 | 2,800 | *< 13* |
| Yes | 28 | Sep-05 | 23,000 | 2,500 | 2,100 | 100 | 200 | 880 | *< 2.5* |
| Yes | 29 | Dec-05 | 23,000 | 2,500 | 2,100 | 100 | 200 | 880 | *< 2.5* |
| Yes | 30 | Mar-06 | 11,000 | 3,000 | 340 | 45 | 89 | 630 | 4.3 |
| Yes | 31 | Jun-06 | 21,000 | 8,500 | 1,600 | 160 | 170 | 1,000 | *< 2.5* |

(table continued on next page; footnotes on final page)

**TABLE C-1 (continued)**

| MW-2 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| Yes | 1 | Aug-97 | 5,350 | *< 1,000* | 108 | 36 | 33 | 144 | *NA* |
| Yes | 2 | Dec-97 | 1,600 | *NA* | 73 | *ND* | *ND* | *ND* | *NA* |
| Yes | 3 | Mar-98 | 3,400 | *NA* | 830 | 100 | 210 | 240 | 870 |
| Yes | 4 | Jul-98 | 3,100 | *NA* | 25 | 2.2 | *< 0.5* | 0.9 | 1,900 |
| Yes | 5 | Oct-98 | 4,300 | *NA* | *< 0.5* | 1.2 | *< 0.5* | 1 | 4,200 |
| Yes | 6 | Jan-99 | 2,900 | *NA* | 160 | 8.9 | 6.9 | 78.4 | 2,100 |
| (a) | 7 | Jun-00 | 2,700 | *NA* | 200 | 17 | 30 | 16 | 680 |
| (a) | 8 | Dec-00 | 3,020 | *NA* | 56.7 | *< 1.5* | *< 1.5* | *< 3.0* | 3,040 |
| (a) | 9 | Feb-01 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| (a) | 10 | May-01 | 720 | *NA* | 49 | *< 3.0* | 4.6 | *< 3.0* | 380 |
| (a) | 11 | Jul-01 | 8,400 | *NA* | 350 | 44 | 77 | 78 | 550 |
| Pre“hi-vac” | 12 | Oct 22-01 | 850 | *NA* | 170 | 4.9 | 5.1 | 14 | 260 |
| Post “hi-vac” | 12 | Oct 26-01 | 770 | *NA* | 86 | 5.5 | 9.6 | 8.5 | 310 |
| (a) | 13 | Dec-01 | 1,300 | *NA* | 9.2 | *< 2.0* | *< 2.0* | *< 2.0* | 370 |
| No | 14 | Mar-02 | 1,300 | *NA* | 76 | 3.8 | 21 | 15 | 460 |
| No | 15 | May-02 | 320 | *NA* | 12 | 1.1 | 4.6 | 4.8 | 160 |
| No | 16 | Jul-02 | 1,300 | *NA* | 130 | 1.0 | 9.4 | 5.6 | 420 |
| No | 17 | Oct-02 | 1,060 | *NA* | 12 | 2.2 | 4.2 | 3.5 | 270 |
| No | 18 | Jan-03 | 581 | *NA* | 6.5 | *< 5.0* | *< 5.0* | *< 5.0* | 130 |
| No | 19 | Mar-03 | 1,250 | *NA* | *< 0.22* | *< 0.32* | *< 0.31* | *< 0.4* | 155 |
| No | 20 | Aug-03 | 2,200 | 730 | 58 | 9.2 | *< 0.5* | 28 | 240 |
| Pre-Purge | 21 | Dec-03 | 2,120 | 100 | 45 | 9.4 | 9.5 | 20 | 289 |
| Post-Purge | 21 | Dec-03 | 1,980 | 100 | 29 | 22.0 | 7.4 | 13 | 295 |
| Yes | 22 | Mar-04 | 2,700 | 100 | 12 | 16.0 | 9 | 12 | 249 |
| Yes | 23 | Jun-04 | 1,200 | 370 | 42 | 0.7 | 2.6 | 0.9 | 170 |
| Yes | 24 | Sep-04 | 1,500 | 280 | 14 | *< 0.5* | *< 0.5* | 0.6 | 130 |
| Yes | 25 | Dec-04 | 1,400 | 540 | 26 | 1.1 | 1.8 | 3.5 | 91 |
| Yes | 26 | Mar-05 | 2,300 | 420 | 5.3 | *< 1.0* | 3.7 | *< 2.0* | 120 |
| Yes | 27 | Jun-05 | 1,600 | 500 | 14 | *< 0.5* | 1.8 | 0.68 | 66 |
| Yes | 28 | Sep-05 | 1,400 | 210 | 30 | 1.3 | 12 | 26 | 58 |
| Yes | 29 | Dec-05 | 1,300 | 800 | 4.9 | 0.6 | 0.7 | 0.8 | 74 |
| Yes | 30 | Mar-06 | 1,300 | 400 | 3.2 | *< 0.7* | *< 0.7* | *< 0.7* | 120 |
| Yes | 31 | Jun-06 | 1,400 | 1,200 | 33.0 | 1.3 | 3.5 | *< 1.6* | 84 |

(table continued on next page; footnotes on final page)

**TABLE C-1 (continued)**

| MW-3 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| Yes | 1 | Aug-97 | 8,500 | *< 1,000* | 450 | 30 | 53 | 106 | *NA* |
| Yes | 2 | Dec-97 | 5,200 | *NA* | 180 | 6.0 | 5.0 | 9.3 | *NA* |
| Yes | 3 | Mar-98 | 1,000 | *NA* | 6.0 | *< 0.5* | *< 0.5* | *< 0.5* | 810 |
| Yes | 4 | Jul-98 | 6,400 | *NA* | 490 | 57 | 23 | 78 | 220 |
| Yes | 5 | Oct-98 | 2,100 | *NA* | *< 5.0* | *< 5.0* | *< 5.0* | *< 5.0* | 2,100 |
| Yes | 6 | Jan-99 | 4,400 | *NA* | 450 | 65 | 26 | 42 | 1,300 |
| (a) | 7 | Jun-00 | 1,700 | *NA* | 110 | 13 | 34 | 13 | 96 |
| (a) | 8 | Dec-00 | 5,450 | *NA* | 445 | *< 7.5* | 23.8 | *< 7.5* | 603 |
| (a) | 9 | Feb-01 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| (a) | 10 | May-01 | 1,900 | *NA* | 180 | 12 | *< 3.0* | 19 | 330 |
| (a) | 11 | Jul-01 | 10,000 | *NA* | 830 | 160 | 150 | 260 | 560 |
| Pre“hi-vac” | 12 | Oct 22-01 | 1,400 | *NA* | 240 | 7.8 | 4.1 | 15 | 220 |
| Post “hi-vac” | 12 | Oct 26-01 | 1,900 | *NA* | 200 | 16 | 51 | 30 | 290 |
| (a) | 13 | Dec-01 | 5,800 | *NA* | 93 | *< 20* | 31 | *< 20* | 330 |
| No | 14 | Mar-02 | 1,900 | *NA* | 220 | 16 | 31 | 24 | 400 |
| No | 15 | May-02 | 1,600 | *NA* | 110 | 3.4 | 29 | 14 | 320 |
| No | 16 | Jul-02 | 1,900 | *NA* | 210 | 27 | 30 | 55 | 200 |
| No | 17 | Oct. 2002 | 3,030 | *NA* | 178 | 19 | 6.2 | 36 | 178 |
| No | 18 | Jan-03 | 2,980 | *NA* | 47 | *< 5.0* | 7.6 | 6.3 | 105 |
| No | 19 | Mar-03 | 3,620 | *NA* | 124 | *< 0.32* | 22 | 12 | 139 |
| No | 20 | Aug-03 | 3,800 | 2,400 | 170 | 28 | 31 | 31 | 170 |
| Pre-Purge | 21 | Dec-03 | 5,550 | 400 | 311 | 20 | 41 | 48 | 357 |
| Post-Purge | 21 | Dec-03 | 6,860 | 500 | 312 | 20 | 55 | 58 | 309 |
| Yes | 22 | Mar-04 | 5,490 | 500 | 82 | 34 | 46 | 49 | 249 |
| Yes | 23 | Jun-04 | 5,400 | 1,100 | 150 | 30 | 45 | 66 | 130 |
| Yes | 24 | Sep-04 | 5,400 | 1,500 | 70 | 3.2 | 16 | 13 | 110 |
| Yes | 25 | Dec-04 | 5,300 | 2,400 | 91 | 7.4 | 21 | 19 | 92 |
| Yes | 26 | Mar-05 | 4,700 | 2,000 | 19 | 1.1 | 9.9 | 3.7 | 76 |
| Yes | 27 | Jun-05 | 4,200 | 1,800 | 49 | 4.5 | 23.0 | 16.2 | 66 |
| Yes | 28 | Sep-05 | 5,000 | 950 | 60 | 3.1 | 12 | 25.8 | 59 |
| Yes | 29 | Dec-05 | 3,200 | 1,800 | 29 | 1.3 | 6.6 | 5.6 | 80 |
| Yes | 30 | Mar-06 | 4,100 | 1,200 | 24 | 1.1 | 8.5 | 3.4 | 99 |
| Yes | 31 | Jun-06 | 4,000 | 1,400 | 89 | 8.4 | 14.0 | 16.7 | 75 |

(table continued on next page; footnotes on final page)

**TABLE C-1 (continued)**

| MW-4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| Yes | 1 | Aug-97 | *< 500* | *< 1,000* | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.5* | *NA* |
| Yes | 2 | Dec-97 | *ND* | *NA* | *ND* | *ND* | *ND* | *ND* | *NA* |
| Yes | 3 | Mar-98 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Yes | 4 | Jul-98 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Yes | 5 | Oct-98 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Yes | 6 | Jan-99 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| (a) | 7 | Jun-00 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| (a) | 8 | Dec-00 | *< 500* | *NA* | *< 0.3* | *< 0.3* | *< 0.6* | *< 0.3* | *< 0.3* |
| (a) | 9 | Feb-01 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| (a) | 10 | May-01 | *< 50* | *NA* | 1.2 | *< 0.3* | 0.55 | 1.2 | 2.9 |
| (a) | 11 | Jul-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Pre“hi-vac” | 12 | Oct 22-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Post “hi-vac” | 12 | Oct 26-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| (a) | 13 | Dec-01 | *ND* | *NA* | *ND* | *ND* | *ND* | *ND* | *ND* |
| No | 14 | Mar-02 | *< 50* | *NA* | *< 1* | *< 1* | *< 1* | *< 1* | *< 1* |
| No | 15 | May-02 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| No | 16 | Jul-02 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| No | 17 | Oct-02 | *< 100* | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 0.3* |
| No | 18 | Jan-03 | *< 100* | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | 14 |
| No | 19 | Mar-03 | *< 15* | *NA* | *< 0.4* | *< 0.02* | *< 0.02* | *< 0.06* | 5.2 |
| No | 20 | Aug-03 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Pre-Purge | 21 | Dec-03 | 71 | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 5.0* |
| Post-Purge | 21 | Dec-03 | 63 | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 5.0* |
| Yes | 22 | Mar-04 | *< 50* | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 5.0* |
| Yes | 23 | Jun-04 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | 0.9 |
| Yes | 24 | Sep-04 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | 2.3 |
| Yes | 25 | Dec-04 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 26 | Mar-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 27 | Jun-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 28 | Sep-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 29 | Dec-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 30 | Mar-06 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 31 | Jun-06 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |

(table continued on next page; footnotes on final page)

**TABLE C-1 (continued)**

| MW-5 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| (a) | 9 | Feb-01 | 5,660 | *NA* | 76.9 | 21.1 | 47.3 | 312 | *< 0.3* |
| (a) | 10 | May-01 | 22,000 | *NA* | 2,600 | 480 | 220 | 2,700 | *< 30* |
| (a) | 11 | Jul-01 | 72,000 | *NA* | 3,500 | 1,100 | 4,300 | 22,000 | 2,500 |
| Pre“hi-vac” | 12 | Oct 22-01 | 26,000 | *NA* | 2,800 | 980 | 6,000 | 950 | 2,300 |
| Post “hi-vac” | 12 | Oct 26-01 | 17,000 | *NA* | 1,200 | 470 | 2,900 | 440 | 900 |
| (a) | 13 | Dec-01 | 2,000 | *NA* | 620 | 190 | 110 | 910 | *< 20* |
| No | 14 | Mar-02 | 8,800 | *NA* | 1,200 | 72 | 7.4 | 350 | 1,200 |
| No | 15 | May-02 | 2,000 | *NA* | 150 | 38 | 21 | 260 | 13 |
| No | 16 | Jul-02 | 4,200 | *NA* | 480 | 68 | 29 | 280 | 450 |
| No | 17 | Oct-02 | 5,370 | *NA* | 236 | 45 | 23 | 39 | 135 |
| No | 18 | Jan-03 | 8,270 | *NA* | 615 | 156 | 174 | 1,010 | *< 10* |
| No | 19 | Mar-03 | 12,400 | *NA* | 824 | 195 | 213 | 1,070 | *< 0.18* |
| No | 20 | Aug-03 | 18,000 | 10,000 | 950 | 290 | 330 | 1,820 | *< 2.0* |
| Pre-Purge | 21 | Dec-03 | 12,800 | 600 | 1,140 | 327 | 354 | 1,530 | 682 |
| Post-Purge | 21 | Dec-03 | 11,900 | 800 | 627 | 263 | 288 | 1,230 | 595 |
| Yes | 22 | Mar-04 | 20,700 | 850 | 867 | 266 | 305 | 678 | 145 |
| Yes | 23 | Jun-04 | 12,000 | 1,700 | 920 | 240 | 260 | 1,150 | *< 3.1* |
| Yes | 24 | Sep-04 | 13,000 | 1,900 | 580 | 240 | 260 | 1,260 | *< 4.2* |
| Yes | 25 | Dec-04 | 16,000 | 3,300 | 730 | 200 | 250 | 1,100 | *< 4.2* |
| Yes | 26 | Mar-05 | 6,300 | 4,600 | 190 | 28 | 42 | 280 | *< 1.7* |
| Yes | 27 | Jun-05 | 16,000 | 4,100 | 1,100 | 260 | 380 | 1,590 | *< 7.1* |
| Yes | 28 | Sep-05 | 15,000 | 3,600 | 810 | 210 | 300 | 1,300 | *< 1.3* |
| Yes | 29 | Dec-05 | 9,600 | 3,600 | 270 | 80 | 110 | 710 | *< 1.7* |
| Yes | 30 | Mar-06 | 9,800 | 5,100 | 240 | 47 | 97 | 590 | *< 2.0* |
| Yes | 31 | Jun-06 | 28,000 | 4,900 | 920 | 250 | 350 | 1,480 | *< 2.0* |

(table continued on next page; footnotes on final page)

**TABLE C-1 (continued)**

| MW-6 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| (a) | 9 | Feb-01 | 1,340 | *NA* | 17 | 0.967 | 11.1 | 51.4 | *< 0.3* |
| (a) | 10 | May-01 | 610 | *NA* | 15 | 0.97 | *< 0.5* | 46 | *< 0.5* |
| (a) | 11 | Jul-01 | 2,500 | *NA* | 130 | 4.7 | 53 | 170 | 120 |
| Pre"hi-vac" | 12 | Oct 22-01 | 280 | *NA* | 18 | 1.2 | 6.2 | 4.7 | 6.0 |
| Post "hi-vac" | 12 | Oct 26-01 | 3,600 | *NA* | 210 | 20 | 170 | 62 | 120 |
| (a) | 13 | Dec-01 | 5,300 | *NA* | 69 | 5.6 | 14 | 17 | *< 2.0* |
| No | 14 | Mar-02 | 71 | *NA* | 54 | 4.2 | 27 | 17 | 8.5 |
| No | 15 | May-02 | 150 | *NA* | 9.3 | *< 0.5* | *< 0.5* | *< 0.5* | 1.5 |
| No | 16 | Jul-02 | 2,200 | *NA* | 98 | 32 | 46 | 150 | 66 |
| No | 17 | Oct-02 | 786 | *NA* | 48 | 5.0 | 2.2 | 44 | 16 |
| No | 18 | Jan-03 | 497 | *NA* | 6.8 | *< 5.0* | *< 5.0* | 11 | *< 1.0* |
| No | 19 | Mar-03 | 258 | *NA* | 5.4 | *< 0.32* | 3.3 | *< 1.1* | *< 0.18* |
| No | 20 | Aug-03 | 1,600 | 2,800 | 37 | 4.1 | 23 | 58 | *< 0.5* |
| Pre-Purge | 21 | Dec-03 | 444 | 100 | 4.7 | 4.9 | 1.8 | 5.9 | 4.4 |
| Post-Purge | 21 | Dec-03 | 365 | 200 | 2.5 | 3.8 | 1.4 | 6.1 | *< 5.0* |
| Yes | 22 | Mar-04 | 215 | 140 | 4.0 | 1.2 | 1.4 | 1.4 | 3.7 |
| Yes | 23 | Jun-04 | 710 | 830 | 14.0 | 0.7 | 5.2 | 6.6 | *< 0.5* |
| Yes | 24 | Sep-04 | 350 | 600 | *< 0.5* | 2.4 | *< 0.5* | *< 0.5* | *< 0.5* |
| Yes | 25 | Dec-04 | 280 | 1,100 | 4.9 | *< 0.5* | 1.4 | 4.4 | *< 0.5* |
| Yes | 26 | Mar-05 | 300 | 980 | 5.4 | *< 0.5* | 3.3 | 2.3 | *< 0.5* |
| Yes | 27 | Jun-05 | 150 | 1,100 | *< 0.5* | *< 0.5* | *< 0.5* | 0.77 | 28 |
| Yes | 28 | Sep-05 | 680 | 200 | 13 | 0.9 | 7 | 13 | *< 0.5* |
| Yes | 29 | Dec-05 | 240 | 890 | 3.6 | *< 0.5* | 0.7 | 2.4 | 0.5 |
| Yes | 30 | Mar-06 | 530 | 950 | 8.3 | *< 0.5* | 4.0 | 2.1 | 0.6 |
| Yes | 31 | Jun-06 | 460 | 1,300 | 8.3 | *< 0.5* | 1.4 | 2.6 | *< 0.5* |

(table continued on next page; footnotes on final page)

**TABLE C-1 (continued)**

| MW-7 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| (a) | 9 | Feb-01 | *ND* | *NA* | *ND* | *ND* | *ND* | *ND* | *ND* |
| (a) | 10 | May-01 | *< 50* | *NA* | 0.75 | 0.77 | 0.48 | 2.4 | 1.1 |
| (a) | 11 | Jul-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Pre"hi-vac" | 12 | Oct 22-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Post "hi-vac" | 12 | Oct 26-01 | 6,000 | *NA* | 170 | 550 | 110 | 120 | 970 |
| (a) | 13 | Dec-01 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | 43 |
| No | 14 | Mar-02 | *< 50* | *NA* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| No | 15 | May-02 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| No | 16 | Jul-02 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| No | 17 | Oct-02 | *< 100* | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 5.0* |
| No | 18 | Jan-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| No | 19 | Mar-03 | *< 15* | *NA* | *< 0.04* | *< 0.02* | *< 0.02* | *< 0.06* | *< 0.03* |
| No | 20 | Aug-03 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Pre-Purge | 21 | Dec-03 | *< 50* | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 5.0* |
| Post-Purge | 21 | Dec-03 | *< 50* | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 5.0* |
| Yes | 22 | Mar-04 | 86 | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | 57 |
| Yes | 23 | Jun-04 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Yes | 24 | Sep-04 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Yes | 25 | Dec-04 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 26 | Mar-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 27 | Jun-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 28 | Sep-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 29 | Dec-05 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 30 | Mar-06 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| Yes | 31 | Jun-06 | *< 50* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |

(table continued on next page; footnotes on final page)

**TABLE C-1 (continued)**

| MW-8 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Well Purged?** | **Sampling Event No.** | **Date Sampled** | **TVH-g** | **TEH-d** | **Benzene** | **Toluene** | **Ethylbenzene** | **Total Xylenes** | **MTBE** |
| (a) | 9 | Feb-01 | 1,000 | *NA* | 3.97 | < 0.3 | 3.78 | 1.63 | 620 |
| (a) | 10 | May-01 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | 4.4 |
| (a) | 11 | Jul-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Pre"hi-vac" | 12 | Oct 22-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| Post "hi-vac" | 12 | Oct 26-01 | *< 5.0* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| (a) | 13 | Dec-01 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| No | 14 | Mar-02 | *< 50* | *NA* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* | *< 1.0* |
| No | 15 | May-02 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| No | 16 | Jul-02 | *< 50* | *NA* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* |
| No | 17 | Oct-02 | 458 | *NA* | 1.7 | *< 0.3* | *< 0.3* | *< 0.6* | 233 |
| No | 18 | Jan-03 | *< 100* | *NA* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | *< 5.0* |
| No | 19 | Mar-03 | *< 15* | *NA* | *< 0.22* | *< 0.32* | *< 0.31* | *< 0.4* | *< 0.18* |
| No | 20 | Jul-03 | 190 | *< 50* | *< 0.5* | *< 0.5* | *< 0.5* | 0.6 | *< 0.5* |
| Pre-Purge | 21 | Dec-03 | 144 | *< 100* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | 7.6 |
| Post-Purge | 21 | Dec-03 | 163 | *< 100* | *< 0.3* | *< 0.3* | *< 0.3* | *< 0.6* | 66 |
| Yes | 22 | Mar-04 | 412 | *< 100* | 1.2 | *< 0.3* | 1.7 | 3.9 | 66 |
| Yes | 23 | Jun-04 | 320 | 68 | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | 120 |
| Yes | 24 | Sep-04 | 280 | 2600 | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | 120 |
| Yes | 25 | Dec-04 | 270 | 84 | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | 94 |
| Yes | 26 | Mar-05 | 270 | 120 | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.0* | 66 |
| Yes | 27 | Jun-05 | 510 | 63 | 6.8 | *< 0.5* | 2.4 | 5.3 | *< 0.5* |
| Yes | 28 | Sep-05 | 520 | *< 50* | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.0* | 65 |
| Yes | 29 | Dec-05 | 65 | *57* | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.0* | 29 |
| Yes | 30 | Mar-06 | 140 | 120 | *< 0.5* | *< 0.5* | *< 0.5* | 0.6 | 24 |
| Yes | 31 | Jun-06 | 710 | 170 | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.0* | 81 |

Notes:

(a) Data not available to SES as to whether the samples were collected "post-purge" or without purging.

"No Purge" means no purging was conducted before the groundwater sample was collected.

TVH-g = Total volatile hydrocarbons – gasoline range. TEH-d – Total extractable hydrocarbons – diesel range.

NA = Not analyzed for this constituent in this event.

ND = Not Detected (method reporting limit not specified in information available to SES).

**TABLE C-2**
**Historical Groundwater Monitoring Well Groundwater Analytical Results**
**Fuel Oxygenates and VOCs (µg/L)**
**240 W. MacArthur Boulevard, Oakland, California**

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | Jun-00 | *< 5.0* | *< 5.0* | 51 | *< 5* | *< 1,000* | *< 1000* | *< 50* | *<5* | *< 5* | *< 5* | *< 5* | *ND* |
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | *< 1* | 1.6 | < 10 | *NA* | *< 2* | *< 1* | *< 1* | *< 1* | *< 1* | *ND* |
| | 18 | Jan-03 | *< 50* | *< 50* | 150 | *< 50* | *NA* | 68 | *< 10* | *< 50* | *< 50* | *< 50* | *< 50* | *ND* |
| **MW-1** | 19 | Mar-03 | *< 0.26* | *< 0.17* | 373 | *< 0.49* | *NA* | *< 10* | *< 0.29* | *< 0.88* | *< 0.30* | *< 0.23* | *< 0.36* | *ND* |
| | 20 | Aug-03 | *< 1.0* | 7.2 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 21 | Dec-03 | *< 5.0* | *< 5.0* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *< 0.26* | *< 0.17* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 5.0* | *< 5.0* | *NA* | *NA* | *NA* | 270 | *< 5.0* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 5.0* | *< 5.0* | *NA* | *NA* | *NA* | 120 | *< 5.0* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *< 1.3* | *< 1.3* | *NA* | *NA* | *NA* | *< 25* | *< 1.3* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | *< 10* | *< 0.50* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *< 13* | *< 13* | *NA* | *NA* | *NA* | *< 250* | *< 13* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 28 | Sep-05 | *< 2.5* | 6.5 | *NA* | *NA* | *NA* | 240 | *< 2.5* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *< 1.3* | *< 1.3* | *NA* | *NA* | *NA* | 100 | *< 3.6* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *< 2.0* | *< 2.0* | *NA* | *NA* | *NA* | 83 | *< 2.0* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *< 2.5* | *< 2.5* | *NA* | *NA* | *NA* | 220 | *< 2.5* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *< 13* | *< 13* | *NA* | *NA* | *NA* | 320 | *< 13* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *< 13* | *< 13* | *NA* | *NA* | *NA* | 320 | *< 13* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *< 13* | *< 13* | *NA* | *NA* | *NA* | *<250* | *< 13* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NA* | *<1.7* | *NA* | *NA* | *NA* | 37 | *<1.7* | *NA* | *NA* | *NA* | *NA* | *NA* |

*(table continued on next page)*

*Table C-2 Continued*

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | Jun-00 | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 100* | *< 100* | *< 5.0* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *ND* |
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | *< 1* | *< 1* | 220 | *NA* | *< 2* | *< 1* | *< 1* | *< 1* | *< 1* | *ND* |
| | 18 | Jan-03 | *< 5* | *< 5* | *< 5* | *< 5* | *NA* | 34 | *< 1* | *< 5* | 24 | *< 5* | *< 5* | *ND* |
| | 19 | Mar-03 | *< 0.26* | *< 0.17* | *< 0.49* | *< 0.26* | *NA* | 94 | *< 0.29* | *< 0.88* | 15 | *< 0.23* | *< 0.36* | *ND* |
| **MW-2** | 21 | Dec-03 | *< 0.6* | *< 0.6* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 20 | Aug-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 21 | Dec-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 0.5* | 2.0 | *NA* | *NA* | *NA* | 190 | 1.1 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 0.5* | 1.2 | *NA* | *NA* | *NA* | 130 | 0.9 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *< 10* | 0.8 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *< 1.0* | *< 1.0* | *NA* | *NA* | *NA* | *< 20* | 1.3 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 200 | 0.79 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 28 | Sep-05 | *< 0.50* | 0.6 | *NA* | *NA* | *NA* | 150 | 0.8 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 54 | 1.0 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *< 0.7* | *< 0.7* | *NA* | *NA* | *NA* | 56 | 1.2 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *< 0.8* | 1.4 | *NA* | *NA* | *NA* | 56 | *< 0.8* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *< 0.5* | 1.3 | *NA* | *NA* | *NA* | 59 | 0.8 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *< 0.5* | 1.3 | *NA* | *NA* | *NA* | 59 | 0.8 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *< 0.5* | 2.5 | *NA* | *NA* | *NA* | 65 | 1.2 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NA* | <0.5 | *NA* | *NA* | *NA* | 24 | 6.1 | *NA* | *NA* | *NA* | *NA* | *NA* |

*(table continued on next page)*

*Table C-2 Continued*

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | 1.8 | 4.7 | 180 | *NA* | *< 2* | 2.2 | *< 1* | *< 1* | *< 1* | *ND* |
| | 18 | Jan-03 | *< 5* | *< 5* | *< 5* | 5.0 | *NA* | 76 | *< 1* | *< 5* | 21 | *< 5* | *< 5* | (a) |
| | 19 | Mar-03 | *< 0.26* | *< 0.17* | *< 0.49* | *< 0.26* | *NA* | *< 10* | *< 0.29* | *< 0.88* | 24 | *< 0.23* | *< 0.36* | *ND* |
| **MW-3** | 20 | Aug-03 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 21 | Dec-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | 130 | 1.9 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | 82 | 1.5 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *< 0.7* | *< 0.7* | *NA* | *NA* | *NA* | *< 14* | 1.3 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *< 1.0* | *< 1.0* | *NA* | *NA* | *NA* | *< 20* | 1.1 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *< 0.5* | *< 0.5* | | | | 160 | 1.4 | | | | | |
| | 28 | Sep-05 | *< 0.5* | 1.5 | *NA* | *NA* | *NA* | 94 | 0.9 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *< 0.7* | *< 0.7* | *NA* | *NA* | *NA* | 67 | 1.2 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | 29 | 1.0 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | 52 | 2.2 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *<1.7* | 1.8 | *NA* | *NA* | *NA* | 53 | 1.7 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *<1.7* | 1.8 | *NA* | *NA* | *NA* | 53 | 1.7 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *<0.5* | *<0.5* | *NA* | *NA* | *NA* | 37 | 1.9 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NA* | *<0.5* | *NA* | *NA* | *NA* | 10 | 1.0 | *NA* | *NA* | *NA* | *NA* | *NA* |

*(table continued on next page)*

*Table C-2 Continued*

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | Jun-00 | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *< 100* | *< 100* | *< 5.0* | *< 0.5* | *< 0.5* | *< 0.5* | *< 0.5* | *ND* |
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | *< 1* | *< 1* | *< 10* | *NA* | *< 2* | *< 1* | 2.9 | 3.7 | 5.0 | *ND* |
| | 18 | Jan-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *ND* |
| **MW-4** | 19 | Mar-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *ND* |
| | 20 | Aug-03 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 21 | Dec-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *< 10* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *< 10* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 28 | Sep-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |

*(table continued on next page)*

*Table C-2 Continued*

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | *< 1* | 2.7 | 640 | *NA* | *< 2* | *< 1* | *< 1* | *< 1* | *< 1* | *ND* |
| | 18 | Jan-03 | *< 50* | *< 50* | 512 | 122 | *NA* | *< 100* | *< 10* | 120 | *< 50* | *< 50* | *< 50* | *ND* |
| | 19 | Mar-03 | *< 0.26* | *< 0.17* | 554 | 107 | *NA* | *< 10* | *< 0.29* | 251 | *< 0.3* | *< 0.23* | *< 0.36* | (b) |
| **MW-5** | 20 | Aug-03 | *< 2.0* | 6.1 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 21 | Dec-03 | *< 5.0* | *< 5.0* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *< 0.26* | *< 0.17* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 3.1* | *< 3.1* | *NA* | *NA* | *NA* | 120 | *< 3.1* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 4.2* | 18 | *NA* | *NA* | *NA* | 87 | *< 4.2* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *< 4.2* | *< 4.2* | *NA* | *NA* | *NA* | *< 83* | *< 4.2* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *< 1.7* | *< 1.7* | *NA* | *NA* | *NA* | *< 33* | *< 1.7* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *< 7.1* | *< 7.1* | *NA* | *NA* | *NA* | *< 140* | *< 7.1* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 28 | Sep-05 | *< 1.3* | 7.7 | *NA* | *NA* | *NA* | 87 | *< 0.50* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *< 1.7* | *< 1.7* | *NA* | *NA* | *NA* | *< 33* | *< 1.7* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *< 2.0* | *< 2.0* | *NA* | *NA* | *NA* | *< 2.0* | *< 2.0* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *< 2.0* | 10 | *NA* | *NA* | *NA* | 61 | *< 2.0* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *< 3.6* | 5.5 | *NA* | *NA* | *NA* | 76 | *< 3.6* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *< 3.6* | 5.5 | *NA* | *NA* | *NA* | 76 | *< 3.6* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *< 3.6* | *< 3.6* | *NA* | *NA* | *NA* | *<71* | *< 3.6* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* |

*(table continued on next page)*

*Table C-2 Continued*

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | *< 1* | 2.2 | *< 10* | *NA* | *< 2* | 1.6 | *< 1* | *< 1* | *< 1* | *ND* |
| | 18 | Jan-03 | *< 5.0* | *< 5.0* | 13 | *< 5* | *NA* | 46 | *< 1* | *< 5* | *< 5* | *< 5* | *< 5* | *ND* |
| | 19 | Mar-03 | *< 0.26* | 6.9 | *< 0.49* | *< 0.26* | *NA* | 40 | *< 0.29* | *< 0.88* | *< 0.3* | *< 0.23* | *< 0.36* | (c.) |
| | 20 | Aug-03 | *< 0.5* | 12.0 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| **MW-6** | 21 | Dec-03 | *< 5.0* | 11 / 17.1 [(d)] | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *< 0.26* | 31 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 0.5* | 19 | *NA* | *NA* | *NA* | 54 | 1.0 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 0.5* | 31 | *NA* | *NA* | *NA* | 43 | 1.0 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *< 0.5* | 24 | *NA* | *NA* | *NA* | 32 | 0.7 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 26 | *< 0.50* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 28 | Sep-05 | *< 0.50* | 15 | *NA* | *NA* | *NA* | 43 | 0.7 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *< 0.50* | 13 | *NA* | *NA* | *NA* | 30 | 0.9 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *< 0.50* | 15 | *NA* | *NA* | *NA* | 19 | 0.6 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *< 0.50* | 28 | *NA* | *NA* | *NA* | 53 | 1.3 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *< 0.50* | 11 | *NA* | *NA* | *NA* | 46 | 0.7 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *< 0.50* | 11 | *NA* | *NA* | *NA* | 46 | 0.7 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *< 0.5* | 10 | *NA* | *NA* | *NA* | 25 | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* | *NS* |

*(table continued on next page)*

*Table C-2 Continued*

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | *< 1* | *< 1* | *< 10* | *NA* | *< 2* | *< 1* | *< 1* | *< 1* | *< 1* | *ND* |
| | 18 | Jan-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *ND* |
| | 19 | Mar-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *ND* |
| **MW-7** | 20 | Aug-03 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 21 | Dec-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *< 10* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *< 10* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 28 | Sep-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |

*(table continued on next page)*

*Table C-2 Continued*

| Well I.D. | Sampling Event No. | Date Sampled | EDB | EDC | 1,2,4-TMB | 1,3,5-TMB | t-Butanol | TBA | DIPE | Naphthalene | cis-1,2-DCE | TCE | PCE | Others |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14 | Mar-02 | *< 1.0* | *< 1.0* | *< 1* | *< 1* | *< 10* | *NA* | *< 2* | *< 1* | *< 1* | *< 1* | *< 1* | *ND* |
| | 18 | Jan-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *ND* |
| | 19 | Mar-03 | *< 0.26* | *< 0.17* | *< 0.49* | *< 0.26* | *NA* | *< 10* | *< 0.29* | *< 0.88* | *< 0.3* | *< 0.23* | *< 0.36* | *ND* |
| **MW-8** | 20 | Aug-03 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 21 | Dec-03 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 22 | Mar-04 | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 23 | Jun-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | 61 | 1.0 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 24 | Sep-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | 96 | 1.1 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 25 | Dec-04 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *< 10* | 1.0 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 26 | Mar-05 | *< 0.5* | *< 0.5* | *NA* | *NA* | *NA* | *< 10* | 0.6 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 27 | Jun-05 | *< 0.50* | 25.0 | *NA* | *NA* | *NA* | 42 | 1.1 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 28 | Sep-05 | *< 0.50* | *< 0.5* | *NA* | *NA* | *NA* | 120 | 1.4 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 29 | Dec-05 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 27 | *< 0.50* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 30 | Mar-06 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 17 | 0.6 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 31 | Jun-06 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 20 | 0.9 | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 32 | Sep-06 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 12 | *< 0.50* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 33 | Dec-06 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | 12 | *< 0.50* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 34 | Mar-07 | *< 0.50* | *< 0.50* | *NA* | *NA* | *NA* | *<10* | *< 0.50* | *NA* | *NA* | *NA* | *NA* | *NA* |
| | 35 | Jun-07 | *NA* | *<0.5* | *NA* | *NA* | *NA* | 14 | 1.3 | *NA* | *NA* | *NA* | *NA* | *NA* |

*Table C-2 - Footnotes*

Notes:

Table includes only detected contaminants.

EDB = Ethylene dibromide, aka 1,2-Dibromoethane (lead scavenger)

EDC = Ethylene dichloride, aka 1,2-Dichloroethane (lead scavenger)

PCE = Tetrachloroethylene DCE = Dichloroethylene

TCE = Trichloroethyene TMB = Trimethylbenzene

DIPE = Isopropyl Ether (a.k.a. di-isopropyl ether)

TBA = Tertiary butyl alcohol

NLP = No Level Published

NA = Not analyzed for this constituent. ND = Not Detected

(a) Also detected were: n-propylbenzene (5.4 mg/L); p-Isopropyltoluene (14 mg/L); sec-Butylbenzene (7.2 mg/L)

(b) Also detected were: isopropylbenzene (38 mg/L); n-Butylbenzene (20 mg/L); n-propylbenzene (36 mg/L); p-Isopropyltoluene (14 mg/L).

(c.) Also detected were: isopropylbenzene (3.4 mg/L); n-propylbenzene (2.3 mg/L).

(d) Pre-purge / post-purge sampling, conducted in same event.

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 07/14/1988 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.30 | 60.59 |
| MW-1 | 10/04/1988 | ND | 8 | 4.3 | ND | 9 | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.65 | 60.24 |
| MW-1 | 11/10/1988 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.55 | 60.34 |
| MW-1 | 12/09/1988 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.22 | 60.67 |
| MW-1 | 01/10/1989 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.86 | 61.03 |
| MW-1 | 01/20/1989 | ND | ND | NA | NA | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.91 | 60.98 |
| MW-1 | 02/06/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.94 | 60.95 |
| MW-1 | 03/10/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.59 | 61.30 |
| MW-1 | 06/06/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.05 | 59.84 |
| MW-1 | 09/07/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.92 | 58.97 |
| MW-1 | 12/18/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.88 | 59.01 |
| MW-1 | 03/08/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.08 | 59.81 |
| MW-1 | 06/07/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.89 | 60.00 |
| MW-1 | 09/05/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.83 | 59.06 |
| MW-1 | 12/03/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 15.05 | 58.84 |
| MW-1 | 03/01/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.34 | 59.55 |
| MW-1 | 06/03/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.16 | 59.73 |
| MW-1 | 09/04/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.60 | 59.29 |
| MW-1 | 03/13/1992 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.40 | 60.49 |
| MW-1 | 06/03/1992 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.76 | 60.13 |
| MW-1 | 08/19/1992 | 87 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.57 | 59.32 |
| MW-1 | 11/16/1992 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.78 | 59.11 |
| MW-1 | 02/18/1993 | 59 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.14 | 61.75 |
| MW-1 | 06/01/1993 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.30 | 60.59 |
| MW-1 | 08/30/1993 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.32 | 59.57 |
| MW-1 | 12/13/1993 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.06 | 59.83 |
| MW-1 | 03/03/1994 | 100 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.12 | 60.77 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 06/06/1994 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.20 | 59.69 |
| MW-1 | 09/12/1994 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 15.72 | 58.17 |
| MW-1 | 12/15/1994 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.98 | 60.91 |
| MW-1 | 3/13/1995 b | 60 | 4.7 | 9.8 | ND | 2.9 | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 11.74 | 62.15 |
| MW-1 | 04/21/1995 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | NA | NA |
| MW-1 | 06/26/1995 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.00 | 60.89 |
| MW-1 | 09/12/1995 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.14 | 59.75 |
| MW-1 | 03/21/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | ND | NA | NA | NA | NA | NA | NA | NA | 73.89 | 11.03 | 62.86 |
| MW-1 | 06/28/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.53 | 60.36 |
| MW-1 | 09/19/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | NA | NA | NA | NA | NA | NA | NA | 73.89 | 14.33 | 59.56 |
| MW-1 | 12/19/1996 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.20 | 60.69 |
| MW-1 | 12/05/1997 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.39 | 61.50 |
| MW-1 | 12/24/1998 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.59 | 60.30 |
| MW-1 | 12/23/1999 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 15.63 | 58.26 |
| MW-1 | 12/11/2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 15.36 | 58.53 |
| MW-1 | 12/27/2001 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.09 | 61.80 |
| MW-1 | 03/12/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 12.33 | 61.56 |
| MW-1 | 03/14/2002 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | NA | NA | NA | NA | NA | NA | 73.89 | 12.08 | 61.81 |
| MW-1 | 06/13/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.89 | 13.47 | 60.42 |
| MW-1 | 09/09/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 14.30 | 62.62 |
| MW-1 | 12/12/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 14.48 | 62.44 |
| MW-1 | 03/10/2003 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | NA | <5.0 | NA | NA | NA | NA | NA | NA | 76.92 | 12.76 | 64.16 |
| MW-1 | 06/10/2003 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 13.17 | 63.75 |
| MW-1 | 09/16/2003 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 14.10 | 62.82 |
| MW-1 | 12/03/2003 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 13.93 | 62.99 |
| MW-1 | 03/11/2004 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | <0.50 | NA | NA | NA | NA | NA | NA | 76.92 | 12.04 | 64.88 |
| MW-1 | 06/17/2004 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 13.75 | 63.17 |
| MW-1 | 09/13/2004 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 14.47 | 62.45 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 12/07/2004 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 13.04 | 63.88 |
| MW-1 | 03/03/2005 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | <0.50 | <2.0 | <2.0 | <2.0 | <5.0 | NA | NA | 76.92 | 11.31 | 65.61 |
| MW-1 | 06/14/2005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 11.87 | 65.05 |
| MW-1 | 09/19/2005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 13.91 | 63.01 |
| MW-1 | 03/30/2006 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | NA | <0.500 | NA | NA | NA | NA | <0.500 | <0.500 | 76.92 | 10.60 | 66.32 |
| MW-1 | 09/27/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 14.06 | 62.86 |
| MW-1 | 09/28/2006 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | NA | <0.500 | <0.500 | <0.500 | <0.500 | <10.0 | NA | NA | 76.92 | NA | NA |
| MW-1 | 12/26/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.92 | 13.05 | 63.87 |
| MW-1 | 03/29/2007 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | NA | <1.0 | NA | NA | NA | NA | NA | NA | 76.92 | 12.87 | 64.05 |
| **MW-1** | **06/07/2007** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **76.92** | **15.53** | **61.39** |
| MW-2 | 07/14/1988 | ND | 7.9 | 2.6 | 1.1 | 4 | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.18 | 60.06 |
| MW-2 | 10/04/1988 | 90 | ND | 1.3 | 2.3 | 12 | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.30 | 59.94 |
| MW-2 | 11/10/1988 | ND | ND | ND | ND | 2 | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.17 | 60.07 |
| MW-2 | 12/09/1988 | ND | ND | 0.6 | ND | 3 | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.82 | 60.42 |
| MW-2 | 01/20/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.54 | 60.70 |
| MW-2 | 02/06/1989 | NA | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.59 | 60.65 |
| MW-2 | 03/10/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.88 | 60.36 |
| MW-2 | 06/06/1989 | ND | ND | 0.5 | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.30 | 59.94 |
| MW-2 | 09/07/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.76 | 58.48 |
| MW-2 | 12/18/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.65 | 58.59 |
| MW-2 | 03/08/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.92 | 59.32 |
| MW-2 | 06/07/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.10 | 59.14 |
| MW-2 | 09/05/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.61 | 58.63 |
| MW-2 | 12/03/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 17.06 | 58.18 |
| MW-2 | 03/01/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.62 | 58.62 |
| MW-2 | 06/03/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.65 | 58.59 |
| MW-2 | 09/04/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.57 | 58.67 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 | 03/13/1992 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.66 | 60.58 |
| MW-2 | 06/03/1992 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.90 | 59.34 |
| MW-2 | 08/19/1992 | 67 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.72 | 58.52 |
| MW-2 | 11/16/1992 | 50 | ND | ND | ND | 1.2 | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.66 | 58.58 |
| MW-2 | 02/18/1993 | 52 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 13.88 | 61.36 |
| MW-2 (D) | 02/18/1993 | 52 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 13.88 | 61.36 |
| MW-2 | 06/01/1993 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.74 | 60.50 |
| MW-2 | 08/30/1993 | 70 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.85 | 59.39 |
| MW-2 | 12/13/1993 | 68 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.83 | 59.41 |
| MW-2 | 03/03/1994 | 280 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.80 | 60.44 |
| MW-2 | 06/06/1994 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.65 | 58.59 |
| MW-2 | 09/12/1994 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.72 | 58.52 |
| MW-2 | 12/15/1994 | 230 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.25 | 59.99 |
| MW-2 | 03/13/1995 | ND | 2.9 | 6.3 | ND | 2.7 | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.32 | 59.92 |
| MW-2 | 04/21/1995 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | NA | NA |
| MW-2 | 06/26/1995 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.65 | 60.59 |
| MW-2 | 09/12/1995 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.78 | 59.46 |
| MW-2 | 03/21/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | ND | NA | NA | NA | NA | NA | NA | NA | 75.24 | 12.72 | 62.52 |
| MW-2 | 06/28/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 160 | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.95 | 60.29 |
| MW-2 | 09/19/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 27 | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.64 | 59.60 |
| MW-2 | 12/19/1996 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.47 | 60.77 |
| MW-2 | 12/05/1997 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.22 | 61.02 |
| MW-2 | 12/24/1998 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 14.97 | 60.27 |
| MW-2 | 12/23/1999 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 16.07 | 59.17 |
| MW-2 | 12/11/2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 75.24 | 15.78 | 59.46 |
| MW-2 | 12/27/2001 | NA | NA | NA | NA | NA | NA | 95 | NA | NA | NA | NA | NA | NA | 75.24 | 14.25 | 60.99 |
| MW-2 | 03/14/2002 | 120 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 31 | NA | NA | NA | NA | NA | NA | 75.24 | 14.59 | 60.65 |
| MW-2 | 06/13/2002 | 100 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 32 | NA | NA | NA | NA | NA | NA | 75.24 | 14.58 | 60.66 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 | 09/09/2002 | 90 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 54 | NA | NA | NA | NA | NA | NA | 78.25 | 15.49 | 62.76 |
| MW-2 | 12/12/2002 | 92 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 21 | NA | NA | NA | NA | NA | NA | 78.25 | 16.21 | 62.04 |
| MW-2 | 03/10/2003 | 110 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 33 | NA | NA | NA | NA | NA | NA | 78.25 | 14.33 | 63.92 |
| MW-2 | 06/10/2003 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | 49 | NA | NA | NA | NA | NA | NA | 78.25 | 14.48 | 63.77 |
| MW-2 | 09/16/2003 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | 39 | NA | NA | NA | NA | NA | NA | 78.25 | 15.45 | 62.80 |
| MW-2 | 12/03/2003 | 56 a | <0.50 | <0.50 | <0.50 | <1.0 | NA | 3.6 | NA | NA | NA | NA | NA | NA | 78.25 | 15.60 | 62.65 |
| MW-2 | 03/11/2004 | 58 a | <0.50 | <0.50 | <0.50 | <1.0 | NA | 67 | NA | NA | NA | NA | NA | NA | 78.25 | 13.78 | 64.47 |
| MW-2 | 06/17/2004 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | 40 | NA | NA | NA | NA | NA | NA | 78.25 | 14.87 | 63.38 |
| MW-2 | 09/13/2004 | 68 d | <0.50 | <0.50 | <0.50 | <1.0 | NA | 44 | <2.0 | <2.0 | <2.0 | <5.0 | NA | NA | 78.25 | 15.85 | 62.40 |
| MW-2 | 12/07/2004 | <50 e | <0.50 | <0.50 | <0.50 | <1.0 | NA | 54 | NA | NA | NA | NA | NA | NA | 78.25 | 15.17 | 63.08 |
| MW-2 | 03/03/2005 | 110 e | <0.50 | <0.50 | <0.50 | <1.0 | NA | 82 | NA | NA | NA | NA | NA | NA | 78.25 | 13.38 | 64.87 |
| MW-2 | 06/14/2005 | <50 e | <0.50 | <0.50 | <0.50 | <1.0 | NA | 29 | NA | NA | NA | NA | NA | NA | 78.25 | 13.95 | 64.30 |
| MW-2 | 09/19/2005 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | 31 | <2.0 | <2.0 | <2.0 | 5.6 | NA | NA | 78.25 | 14.78 | 63.47 |
| MW-2 | 03/30/2006 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | NA | 39.1 | NA | NA | NA | NA | <0.500 | <0.500 | 78.25 | 11.60 | 66.65 |
| MW-2 | 09/27/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 78.25 | 15.42 | 62.83 |
| MW-2 | 09/28/2006 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | NA | 16.7 | <0.500 | <0.500 | <0.500 | <10.0 | NA | NA | 78.25 | NA | NA |
| MW-2 | 12/26/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 78.25 | 14.60 | 63.65 |
| MW-2 | 03/29/2007 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | NA | 13 | NA | NA | NA | NA | NA | NA | 78.25 | 14.28 | 63.97 |
| **MW-2** | **06/07/2007** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **78.25** | **18.20** | **60.05** |
| MW-3 | 07/14/1988 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.05 | 60.63 |
| MW-3 | 10/04/1988 | ND | ND | ND | ND | 5 | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.60 | 60.08 |
| MW-3 | 11/10/1988 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.35 | 60.33 |
| MW-3 | 12/09/1988 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.04 | 60.64 |
| MW-3 | 01/10/1989 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.70 | 60.98 |
| MW-3 | 01/20/1989 | NA | NA | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.72 | 60.96 |
| MW-3 | 02/06/1989 | 70 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.75 | 60.93 |
| MW-3 | 03/10/1989 | 150 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.42 | 61.26 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-3 | 06/06/1989 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.52 | 60.16 |
| MW-3 | 09/07/1989 | ND | 0.65 | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.52 | 59.16 |
| MW-3 | 12/18/1989 | 46 | 1.3 | ND | 0.44 | 0.66 | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 19.59 | 55.09 |
| MW-3 | 03/08/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.72 | 59.96 |
| MW-3 | 06/07/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.65 | 60.03 |
| MW-3 | 09/05/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.51 | 59.17 |
| MW-3 | 12/03/1990 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.85 | 59.83 |
| MW-3 | 03/01/1991 | 1.9 | 59 | ND | 22 | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.92 | 59.76 |
| MW-3 | 06/03/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.75 | 59.93 |
| MW-3 | 09/04/1991 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.14 | 59.54 |
| MW-3 | 03/13/1992 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.50 | 61.18 |
| MW-3 | 06/03/1992 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.39 | 60.29 |
| MW-3 | 08/19/1992 | 92 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.08 | 59.60 |
| MW-3 (D) | 08/19/1992 | 76 | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.08 | 59.60 |
| MW-3 | 11/16/1992 | 200 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.43 | 59.25 |
| MW-3 (D) | 11/16/1992 | 140 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.43 | 59.25 |
| MW-3 | 02/18/1993 | 680 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 12.96 | 61.72 |
| MW-3 | 06/01/1993 | 160 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.98 | 60.70 |
| MW-3 (D) | 06/01/1993 | 150 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.98 | 60.70 |
| MW-3 | 08/30/1993 | 110 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.82 | 59.86 |
| MW-3 | 12/13/1993 | 140 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.70 | 59.98 |
| MW-3 (D) | 12/13/1993 | 110 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.70 | 59.98 |
| MW-3 | 03/03/1994 | 61 a | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.92 | 60.76 |
| MW-3 | 06/06/1994 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.73 | 59.95 |
| MW-3 | 09/12/1994 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.42 | 59.26 |
| MW-3 | 12/15/1994 | ND | ND | 0.9 | ND | 0.6 | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.80 | 60.88 |
| MW-3 | 03/13/1995 | 100 a | 7.9 | 17 | 0.7 | 6.1 | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 12.41 | 62.27 |
| MW-3 | 04/21/1995 | 60 | 0.9 | 1.1 | ND | 1 | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | NA | NA |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-3 | 06/26/1995 | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.79 | 60.89 |
| MW-3 | 09/12/1995 b | ND | ND | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.77 | 59.91 |
| MW-3 | 03/21/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 17 | NA | NA | NA | NA | NA | NA | NA | 74.68 | 11.80 | 62.88 |
| MW-3 | 06/28/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.19 | 60.49 |
| MW-3 | 09/19/1996 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.85 | 59.83 |
| MW-3 | 12/19/1996 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.61 | 61.07 |
| MW-3 | 12/05/1997 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 13.16 | 61.52 |
| MW-3 | 12/24/1998 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.08 | 60.60 |
| MW-3 | 12/23/1999 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.92 | 58.76 |
| MW-3 | 12/11/2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 15.31 | 59.37 |
| MW-3 | 12/27/2001 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 12.84 | 61.84 |
| MW-3 | 03/12/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 12.54 | 62.14 |
| MW-3 | 03/14/2002 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 40 | NA | NA | NA | NA | NA | NA | 74.68 | 12.78 | 61.90 |
| MW-3 | 06/13/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 74.68 | 14.06 | 60.62 |
| MW-3 | 09/09/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 14.77 | 62.92 |
| MW-3 | 12/12/2002 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 15.11 | 62.58 |
| MW-3 | 03/10/2003 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | NA | 5.4 | NA | NA | NA | NA | NA | NA | 77.69 | 13.52 | 64.17 |
| MW-3 | 06/10/2003 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 13.82 | 63.87 |
| MW-3 | 09/16/2003 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 14.60 | 63.09 |
| MW-3 | 12/03/2003 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 14.53 | 63.16 |
| MW-3 | 03/11/2004 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | 3.5 | NA | NA | NA | NA | NA | NA | 77.69 | 12.38 | 65.31 |
| MW-3 | 06/17/2004 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 14.28 | 63.41 |
| MW-3 | 09/13/2004 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 14.78 | 62.91 |
| MW-3 | 12/07/2004 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 13.77 | 63.92 |
| MW-3 | 03/03/2005 | 120 | 1.3 | <0.50 | <0.50 | 2.7 | NA | 2.3 | <2.0 | <2.0 | <2.0 | 37 | NA | NA | 77.69 | 11.84 | 65.85 |
| MW-3 | 06/14/2005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 12.29 | 65.40 |
| MW-3 | 09/19/2005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 14.33 | 63.36 |
| MW-3 | 03/30/2006 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | NA | 1.72 | NA | NA | NA | NA | <0.500 | <0.500 | 77.69 | 10.30 | 67.39 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-3 | 09/27/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 14.62 | 63.07 |
| MW-3 | 09/28/2006 | 610 | <0.500 | <0.500 | <0.500 | <0.500 | NA | 2.83 | <0.500 | <0.500 | <0.500 | <10.0 | NA | NA | 77.69 | NA | NA |
| MW-3 | 12/26/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 77.69 | 13.82 | 63.87 |
| MW-3 | 03/29/2007 | <50 | <0.50 | <1.0 | <1.0 | <1.0 | NA | 0.78 f | NA | NA | NA | NA | NA | NA | 77.69 | 13.55 | 64.14 |
| **MW-3** | **06/07/2007** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **77.69** | **16.38** | **61.31** |
| MW-4 | 01/23/1990 | 1,600 | 100 | 10 | 30 | 20 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.68 | 59.15 |
| MW-4 | 03/08/1990 | 4,200 | 260 | 18 | 88 | 39 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.38 | 59.45 |
| MW-4 | 06/07/1990 | 2,000 | 150 | 6.9 | 14 | 17 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.27 | 59.56 |
| MW-4 | 09/05/1990 | 1,700 | 130 | 10 | 7.2 | 19 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 15.40 | 58.43 |
| MW-4 | 12/03/1990 | 2,600 | 108 | 41 | 17 | 59 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 15.90 | 57.93 |
| MW-4 | 06/03/1991 | 2,800 | 160 | 15 | 8.8 | 32 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.60 | 59.23 |
| MW-4 | 09/04/1991 | Sheen | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 15.25 | 58.58 |
| MW-4 | 03/13/1992 | 2,700 | 180 | 70 | 5.9 | 29 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 12.72 | 61.11 |
| MW-4 | 06/03/1992 | 1,700 | 190 | ND | 30 | 23 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.33 | 59.50 |
| MW-4 | 08/19/1992 | 170 | 4.2 | ND | 0.6 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 15.18 | 58.65 |
| MW-4 | 11/16/1992 | 2,600 | 92 | 49 | 50 | 81 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 15.39 | 58.44 |
| MW-4 | 02/18/1993 | 7,400 | 120 | 38 | 51 | 87 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 12.62 | 61.21 |
| MW-4 | 06/01/1993 | 7,000 | 1,800 | 1,700 | 1,600 | 1,700 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.68 | 60.15 |
| MW-4 | 08/30/1993 | 2,100 | 80 | 11 | ND | 11 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.83 | 59.00 |
| MW-4 (D) | 08/30/1993 | 2,100 | 77 | 5.6 | ND | 5.5 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.83 | 59.00 |
| MW-4 | 12/13/1993 | 2,000 a | 20 | ND | 21 | 52 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.50 | 59.33 |
| MW-4 | 03/03/1994 | 3,500 | 150 | 86 | 85 | 90 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.48 | 60.35 |
| MW-4 (D) | 03/03/1994 | 3,200 | 130 | 73 | 74 | 76 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.48 | 60.35 |
| MW-4 | 06/06/1994 | 590 | 25 | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.26 | 59.57 |
| MW-4 (D) | 06/06/1994 | 400 | 16 | ND | ND | ND | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.26 | 59.57 |
| MW-4 | 09/12/1994 | 1,800 | 42 | ND | 3.7 | 4.7 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 15.42 | 58.41 |
| MW-4 (D) | 09/12/1994 | 2,000 | 40 | ND | 5.7 | 8 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 15.42 | 58.41 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4 | 12/15/1994 | 2,900 | 78 | 14 | 94 | 17 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.43 | 60.40 |
| MW-4 (D) | 12/15/1994 | 2,900 | 90 | 7 | 96 | 18 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.43 | 60.40 |
| MW-4 | 03/13/1995 | 2,700 | 240 | 24 | 99 | 34 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 12.13 | 61.70 |
| MW-4 (D) | 03/13/1995 | 2,500 | 300 | 24 | 140 | 28 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 12.13 | 61.70 |
| MW-4 | 06/25/1995 | 2,100 | 87 | 10 | 67 | 25 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.26 | 60.57 |
| MW-4 (D) | 06/25/1995 | 2,300 | 92 | 12 | 74 | 26 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.26 | 60.57 |
| MW-4 | 09/12/1995 b | 1,300 | 33 | 13 | 9.3 | 15 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.64 | 59.19 |
| MW-4 (D) | 09/12/1995 b | 1,500 | 2.1 | 16 | 11 | 17 | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.64 | 59.19 |
| MW-4 | 03/21/1996 | 2,100 | 50 | 3.2 | 40 | 5.4 | ND | NA | NA | NA | NA | NA | NA | NA | 73.83 | 11.55 | 62.28 |
| MW-4 (D) | 03/21/1996 | 1,700 | 24 | <0.5 | 39 | 7.2 | 740 | NA | NA | NA | NA | NA | NA | NA | 73.83 | 11.55 | 62.28 |
| MW-4 | 06/28/1996 | 1,300 | 61 | 6.2 | 53 | 11 | 1,000 | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.86 | 59.97 |
| MW-4 (D) | 06/28/1996 | 1,200 | 29 | 6.2 | 50 | 8.3 | 1,000 | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.86 | 59.97 |
| MW-4 | 09/19/1996 | 820 | 12 | <2.5 | 2.8 | 4.3 | 720 | NA | NA | NA | NA | NA | NA | NA | 73.83 | 14.72 | 59.11 |
| MW-4 (D) | 09/19/1996 | 580 | 9.6 | <2.5 | <2.5 | <2.5 | 760 | 1,200 | NA | NA | NA | NA | NA | NA | 73.83 | 14.72 | 59.11 |
| MW-4 | 12/19/1996 | 1,200 | 28 | <5.0 | <5.0 | <5.0 | <25 | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.06 | 60.77 |
| MW-4 | 12/05/1997 | 1,900 | 36 | 9 | 16 | 18 | 630 | NA | NA | NA | NA | NA | NA | NA | 73.83 | 12.89 | 60.94 |
| MW-4 | 12/24/1998 | 1,100 | 23 | 5.3 | 38 | 7.9 | 1,100 | NA | NA | NA | NA | NA | NA | NA | 73.83 | 13.92 | 59.91 |
| MW-4 | 12/17/1999 | 1,100 | 22 | 21 | 13 | 11 | 3,800 | 3,200 | NA | NA | NA | NA | NA | NA | 73.83 | 14.28 | 59.55 |
| MW-4 | 12/23/1999 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73.83 | 16.24 | 57.59 |
| MW-4 | 12/11/2000 | 975 | 25.0 | 11.3 | <5.00 | <5.00 | 1,960 | 1,730 c | NA | NA | NA | NA | NA | NA | 73.83 | 14.15 | 59.68 |
| MW-4 | 12/27/2001 | 2,000 | 9.9 | <5.0 | 18 | <5.0 | NA | 1,400 | NA | NA | NA | NA | NA | NA | 73.83 | 12.61 | 61.22 |
| MW-4 | 03/14/2002 | 1,700 | 6.6 | <2.0 | 2.1 | 2.1 | NA | 1,100 | NA | NA | NA | NA | NA | NA | 73.83 | 12.35 | 61.48 |
| MW-4 | 06/13/2002 | 1,200 | 4.7 | <2.0 | <2.0 | <2.0 | NA | 1,100 | NA | NA | NA | NA | NA | NA | 73.83 | 13.72 | 60.11 |
| MW-4 | 09/09/2002 | 620 | 3.7 | <2.0 | <2.0 | <2.0 | NA | 760 | NA | NA | NA | NA | NA | NA | 76.82 | 14.56 | 62.26 |
| MW-4 | 12/12/2002 | 1,500 | 3.9 | <2.0 | <2.0 | <2.0 | NA | 880 | NA | NA | NA | NA | NA | NA | 76.82 | 14.82 | 62.00 |
| MW-4 | 03/10/2003 | 2,300 | 5.7 | 0.95 | 3.8 | 0.63 | NA | 1,200 | NA | NA | NA | NA | NA | NA | 76.82 | 13.63 | 63.19 |
| MW-4 | 06/10/2003 | 2,200 | 5.3 | <5.0 | <5.0 | <10 | NA | 880 | NA | NA | NA | NA | NA | NA | 76.82 | 13.68 | 63.14 |
| MW-4 | 09/16/2003 | 1,400 | <5.0 | <5.0 | <5.0 | <10 | NA | 420 | NA | NA | NA | NA | NA | NA | 76.82 | 14.35 | 62.47 |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4 | 12/03/2003 | 2,600 | 5.0 | <5.0 | <5.0 | <10 | NA | 840 | NA | NA | NA | NA | NA | NA | 76.82 | 14.27 | 62.55 |
| MW-4 | 03/11/2004 | 1,900 a | 6.3 | <5.0 | <5.0 | <10 | NA | 800 | NA | NA | NA | NA | NA | NA | 76.82 | 12.62 | 64.20 |
| MW-4 | 06/17/2004 | 1,000 | 7.4 | <2.5 | <2.5 | <5.0 | NA | 460 | NA | NA | NA | NA | NA | NA | 76.82 | 13.90 | 62.92 |
| MW-4 | 09/13/2004 | 1,100 | 4.6 | <2.5 | <2.5 | <5.0 | NA | 300 | <10 | <10 | <10 | 160 | NA | NA | 76.82 | 14.67 | 62.15 |
| MW-4 | 12/07/2004 | 2,200 | 4.6 | <2.5 | <2.5 | <5.0 | NA | 430 | NA | NA | NA | NA | NA | NA | 76.82 | 13.92 | 62.90 |
| MW-4 | 03/03/2005 | 2,500 | 5.3 | <2.5 | <2.5 | <5.0 | NA | 620 | NA | NA | NA | NA | NA | NA | 76.82 | 11.75 | 65.07 |
| MW-4 | 06/14/2005 | <50 | <0.50 | <0.50 | <0.50 | <1.0 | NA | 51 | NA | NA | NA | NA | NA | NA | 76.82 | 12.20 | 64.62 |
| MW-4 | 09/19/2005 | 1,200 | 2.7 | <0.50 | <0.50 | <1.0 | NA | 140 | 8.4 | <2.0 | <2.0 | 280 | NA | NA | 76.82 | 14.08 | 62.74 |
| MW-4 | 03/30/2006 | 2,740 | 2.01 | <0.500 | <0.500 | <0.500 | NA | 222 | NA | NA | NA | NA | <0.500 | <0.500 | 76.82 | 10.25 | 66.57 |
| MW-4 | 09/27/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.82 | 14.18 | 62.64 |
| MW-4 | 09/28/2006 | 1,660 | 0.950 | <0.500 | <0.500 | <0.500 | NA | 73.3 | 6.92 | <0.500 | <0.500 | 77.0 | NA | NA | 76.82 | NA | NA |
| MW-4 | 12/26/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.82 | 13.25 | 63.57 |
| MW-4 | 03/29/2007 | 2,100 | 12 | 0.49 f | <1.0 | 0.21 f | NA | 150 | NA | NA | NA | NA | NA | NA | 76.82 | 13.18 | 63.64 |
| **MW-4** | **06/07/2007** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **76.82** | **18.01** | **58.81** |
| MW-5 | 09/22/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.97 | 14.21 | 62.76 |
| MW-5 | 09/27/2006 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76.97 | 14.35 | 62.62 |
| MW-5 | 09/28/2006 | 10,800 | 36.6 | 2.08 | 119 | 9.04 | NA | 15.1 | 3.61 | <0.500 | <0.500 | <10.0 | NA | NA | 76.97 | NA | NA |
| MW-5 | 12/26/2006 | 5,000 | 150 | 5.2 | 70 | 16 | NA | 35 | NA | NA | NA | NA | NA | NA | 76.97 | 13.32 | 63.65 |
| MW-5 | 03/29/2007 | 7,700 | 320 | 10 | 77 | 19.0 f | NA | 32 | NA | NA | NA | NA | NA | NA | 76.97 | 13.22 | 63.75 |
| **MW-5** | **06/07/2007** | **7,600** | **47** | **4.6** | **71** | **13.7** | **NA** | **40** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **76.97** | **17.88** | **59.09** |

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to December 27, 2001, by EPA Method 8015.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to December 27, 2001, by EPA Method 8020.
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether, analyzed by EPA Method 8260B
ETBE = Ethyl tertiary butyl ether, analyzed by EPA Method 8260B
TAME = Tertiary amyl methyl ether, analyzed by EPA Method 8260B
TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B
1,2-DCA = 1,2-Dichloroethane, analyzed by EPA Method 8260B
EDB = 1,2-Dibromoethane or Ethylene Dibromide, analyzed by EPA Method 8260B
TOC = Top of Casing Elevation
GW = Groundwater
ug/L = Parts per billion
MSL = Mean sea level
ft. = Feet
<n = Below detection limit
(D) = Duplicate sample
ND = Not detected at or above the quantitative limit.
NA = Not applicable

# WELL CONCENTRATIONS
## Shell-branded Service Station
## 230 West MacArthur Boulevard
## Oakland, CA

| Well ID | Date | TPPH (ug/L) | B (ug/L) | T (ug/L) | E (ug/L) | X (ug/L) | MTBE 8020 (ug/L) | MTBE 8260 (ug/L) | DIPE (ug/L) | ETBE (ug/L) | TAME (ug/L) | TBA (ug/L) | 1,2-DCA (ug/L) | EDB (ug/L) | TOC (MSL) | Depth to Water (ft.) | GW Elevation (MSL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Notes:

a = Chromatogram pattern indicates the presence of an unidentified hydrocarbon/Hydrocarbon does not match pattern of laboratory's standard.

b = The laboratory noted the sample was analyzed after the method specified holding time.

c = This sample was analyzed outside of EPA recommended hold time.

d = Sample contains discrete peak in gasoline range.

e = The concentration reported reflects individual or discrete unidentified peaks not matching a typical fuel pattern.

f = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

Site surveyed January 30, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.

Well MW-5 surveyed on May 10, 2006 by Virgil Chavez Land Surveying of Vallejo, CA.

# APPENDIX B

## Borehole Geologic Logs and Historical Groundwater Well Hydrologic Data

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# Soil Boring Log

BORING NUMBER B27 Page 1 of 1

PROJECT Oakland Auto Works
OWNER Mr. Glen Poy-Wing
LOCATION 240 W. MacArthur Blvd., Oakland
PROJECT NUMBER 2003-43
TOTAL DEPTH 24 feet (bgs)
BOREHOLE DIA. 2-inch
SURFACE ELEV. 78 feet (amsl)
WATER FIRST ENCOUNTERED 21 feet (bgs)
DRILLING COMPANY Enprob Env. Drilling
DRILLING METHOD GeoProbe (direct push)
DRILLER Jeff
GEOLOGIST H. Pietropaoli
DATE DRILLED 5/23/07

| DEPTH (feet) | GRAPHIC LOG | PID | DESCRIPTION/SOIL CLASSIFICATION | REMARKS |
|---|---|---|---|---|
| 0 | | | 6" asphalt, with underlying gravel | |
| | | 0 | CL, Blue green soft clay, damp, plastic, grades to light brown @1.5' | |
| 5 | | 0 | GP, fine sandy gravel, chert fragments, damp, med. loose | |
| | | | Gravelly clay, hard, stiff, mottled red/brown/black, friable, damp | |
| 10 | B27-11 | 0 | CL, light brown silty clay, sl. plastic, damp, soft | |
| | B27-13 | 0 | | |
| 15 | B27-15 | | | |
| | B27-17 | 0 | CL, mottled, light brown/grey, silty clay, <5% black spots, sl. plastic, damp to moist, soft | |
| | B27-19 | | ▼ | |
| 20 | | | SW, fine sand, loose grain, saturated, well sorted, light brown | |
| | | | CL, silty clay, light brown, wet, plastic, soft | |
| 25 | | | Bottom of boring=24 feet (bgs) | |

Notes:
PID = Photoionization Detector "Readings" are in parts per million per volume air (ppmv)

Continuous core sampling—100% core recovery unless specified otherwise

Sample B30-19
Sample collected for analysis

Grab groundwater sample collected. Temporary screen set @ 18-23 feet bgs.

▼ Equilibrated groundwater level

2003-43-152

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# Soil Boring Log

BORING NUMBER B29 Page 1 of 1

PROJECT Oakland Auto Works
OWNER Mr. Glen Poy-Wing
LOCATION 240 W. MacArthur Blvd., Oakland
PROJECT NUMBER 2003-43
TOTAL DEPTH 23 feet (bgs)
BOREHOLE DIA. 2-inch
SURFACE ELEV. 78 feet (amsl)
WATER FIRST ENCOUNTERED 21 feet (bgs)
DRILLING COMPANY Enprob Env. Drilling
DRILLING METHOD GeoProbe (direct push)
DRILLER Jeff
GEOLOGIST S. Bittman
DATE DRILLED 5/24/07

| DEPTH (feet) | GRAPHIC LOG | PID | DESCRIPTION/SOIL CLASSIFICATION | REMARKS |
|---|---|---|---|---|
| 0 | | | 6" Asphalt | |
| | | | ML, clayey silt, grey, dry, stiff | |
| 5 | | 0 | CL/CH, Silty clay, yellow brown, damp, medium plasticity, very stiff, no odor | |
| | | 0 | CL, Gravelly clay, yellow brown, w/black mottling, damp to moist, no odor, chert fragments ≤1", discolored sandy stringers | |
| 10 | B29-11 | | | |
| | B29-13 | 0 | CL, Silty clay, olive brown, with blue grey mottling, damp, medium plasticitiy, very stiff | |
| 15 | B29-15 | | | |
| | B29-17 | 0 | Increasing silt content ~17 ft. | |
| | B29-19 | | No discoloration below 17 ft., increasing sand content @20' | |
| 20 | | | ▼ | |
| | | | Sand, medium grained, loose, wet | |
| 25 | | | Bottom of boring: 23 ft. (bgs) | |

Notes:
PID = Photoionization Detector "Readings" are in parts per million per volume air (ppmv)

Continuous core sampling—100% core recovery unless specified otherwise

Sample B29-19
Sample collected for analysis

Grab groundwater sample collected. Temporary screen set @ 18-23 feet bgs.

▼ Equilibrated groundwater level

2003-43-153

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# Soil Boring Log

BORING NUMBER B30 Page 1 of 1

PROJECT Oakland Auto Works
OWNER Mr. Glen Poy-Wing
LOCATION 240 W. MacArthur Blvd., Oakland
PROJECT NUMBER 2003-43
TOTAL DEPTH 26 feet (bgs)
BOREHOLE DIA. 2-inch
SURFACE ELEV. 78 feet (amsl)
WATER FIRST ENCOUNTERED 22 feet (bgs)
DRILLING COMPANY Enprob Env. Drilling
DRILLING METHOD GeoProbe (direct push)
DRILLER Jeff
GEOLOGIST S. Bittman
DATE DRILLED 5/23/07

| DEPTH (feet) | GRAPHIC LOG | PID | DESCRIPTION/SOIL CLASSIFICATION | REMARKS |
|---|---|---|---|---|
| 0 | | | 6" asphalt | |
| | | | ML, light brown silt, dry | |
| | | 22 | CL, clay. dry, stiff | |
| 5 | | 41 | SC, sand fill w/red brick fragments to 3-4;, heavy petroleum odor, moist, wet, fine-grained sand, diesel odor | |
| | | 52 | CL, clay fill, stiff w/brick fragments (Interbedded sandy fill) | Boring caves in; switch to dual-tube system |
| 10 | B30-SG-10, B30-11 | 28 | | |
| | B30-14, B30-SG-14 | 187 | ML, yellow brown w/blue discoloration, damp, slightly plastic, fuel odor | |
| 15 | B30-15 | 633 | | |
| | B30-17 | 401 | CL, clay, plastic, soft, blue green, moist, becomes mottled blue green-brown @ 17' | |
| | B30-SG-18, B30-19 | 353 | SP, sand, fine to med. grained, moist, blue green, loose, grades downward into gravelly sand, clasts <1/2", fuel odor | |
| 20 | | 259 | ▼ | |
| 25 | B30-25 | 2.2 | CL, clay, dark brown, stiff, hard | |
| | | | Bottom of boring=26 feet (bgs) | |

Notes:
PID = Photoionization Detector "Readings" are in parts per million per volume air (ppmv)

Continuous core sampling—100% core recovery unless specified otherwise

B30-19
Soil sample collected for analysis

B30-SG-10
Soil gas sample collected in adjacent bore

Grab groundwater sample collected. Temporary screen set @ 20-25 feet bgs.

▼ Equilibrated groundwater level

2003-43-154

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# Soil Boring Log

BORING NUMBER B31 Page 1 of 1

PROJECT Oakland Auto Works
OWNER Mr. Glen Poy-Wing
LOCATION 240 W. MacArthur Blvd., Oakland
PROJECT NUMBER 2003-43
TOTAL DEPTH 32.5 (bgs)
BOREHOLE DIA. 2-inch
SURFACE ELEV. 78 feet (amsl)
WATER FIRST ENCOUNTERED 21 feet (bgs)
DRILLING COMPANY Enprob Env. Drilling
DRILLING METHOD Geoprobe (direct push)
DRILLER Jeff
GEOLOGIST H. Pietropaoli
DATE DRILLED 5/23/07

| DEPTH (feet) | GRAPHIC LOG | DESCRIPTION/SOIL CLASSIFICATION | REMARKS |
|---|---|---|---|
| 0 | | 6” concrete w/underlying gravel | |
| 5 | | | |
| 10 | B31-SG-10 | | |
| 15 | B31-SG-14 | | |
| 20 | B31-SG-18 | CL, light brown silty clay, damp, slightly plastic, soft | |
| | | SW, fine grained sand, well sorted, loose, saturated, light brown | |
| 25 | B31-27 | CL, silty clay, light brown, wet, plastic, soft | |
| 30 | B31-32 | | |
| 35 | | Bottom of boring = 32.5 feet (bgs) | |

Notes:
Continuously logged from 20-32 feet (bgs)

Continuous core sampling—100% core recovery unless specified otherwise

Sample B31-27
Soil sample collected for analysis

B31-SG-14
Soil gas sample collected for analysis

Grab groundwater sample collected. Temporary screen set @ 18-23 feet bgs.

2003-43-164

▼ Equilibrated groundwater level

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

# Soil Boring Log

BORING NUMBER B32 Page 1 of 1

PROJECT Oakland Auto Works
OWNER Mr. Glen Poy-Wing
LOCATION 240 W. MacArthur Blvd., Oakland
PROJECT NUMBER 2003-43
TOTAL DEPTH 32.5 (bgs)
BOREHOLE DIA. 2-inch
SURFACE ELEV. 78 feet (amsl)
WATER FIRST ENCOUNTERED 21.5 feet (bgs)
DRILLING COMPANY Enprob Env. Drilling
DRILLING METHOD Geoprobe (direct push)
DRILLER Jeff
GEOLOGIST H. Pietropaoli
DATE DRILLED 5/23/07

| DEPTH (feet) | GRAPHIC LOG | DESCRIPTION/SOIL CLASSIFICATION | REMARKS |
|---|---|---|---|
| 0 | | 6” concrete w/underlying gravel | |
| 5 | | | |
| 10 | B32-SG-10 | | |
| 15 | B32-SG-14 | | |
| 20 | B32-SG-18 | CL, light brown/grey silty clay, slightly plastic, damp to moist, soft | |
| | | SW, fine sand, loose, light brown, saturated, well sorted | |
| 25 | | CL, silty clay, light brown, wet, plastic, soft | |
| 30 | B32-27 | | |
| 35 | B32-32 | Bottom of boring = 32.5 feet (bgs) | |

Notes:
Continuously logged from 20-32 feet (bgs)

Continuous core sampling—100% core recovery unless specified otherwise

Sample B32-27

Sample collected for analysis

Grab groundwater sample collected. Temporary screen set @ 18-23 feet bgs.

2003-43-165

▼ Equilibrated groundwater level

# CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

# REMOVED

**Table D-1**
**Historical Water Levels in Monitoring Wells**
**240 W. MacArthur Boulevard, Oakland, Alameda, California**

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| MW-1 | 1 | Aug-97 | 16.83 | 62.32 |
| | 2 | Dec-97 | NA | NA |
| | 3 | Mar-98 | 13.58 | 65.57 |
| | 4 | Jul-98 | 15.55 | 63.60 |
| | 5 | Oct-98 | 15.70 | 63.45 |
| | 6 | Jan-99 | 15.21 | 63.94 |
| | 7 | Jun-00 | 15.41 | 63.74 |
| | 8 | Dec-00 | NA | NA |
| | 9 | Feb-01 | NA | NA |
| | 10 | May-01 | 15.57 | 63.58 |
| | 11 | Jul-01 | 16.42 | 62.73 |
| | 12 | Oct-01 | 16.82 | 62.33 |
| | 13 | Dec-01 | 15.08 | 64.07 |
| | 14 | Mar-02 | 14.53 | 64.62 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 16.39 | 62.76 |
| | 17 | Oct-02 | 17.03 | 62.12 |
| | 18 | Jan-03 | 14.91 | 64.24 |
| | 19 | Mar-03 | 15.26 | 63.89 |
| | 20 | Aug-03 | 16.24 | 62.91 |
| | 21 | Dec-03 | 16.90 | 62.25 |
| | 22 | Mar-04 | 14.33 | 64.82 |
| | 23 | Jun-04 | 16.28 | 62.87 |
| | 24 | Sep-04 | 17.03 | 62.12 |
| | 25 | Dec-04 | 16.38 | 62.77 |
| | 26 | Mar-05 | 14.30 | 64.85 |
| | 27 | Jun-05 | 15.53 | 63.82 |
| | 28 | Sep-05 | 16.42 | 62.73 |
| | 29 | Dec-05 | 15.67 | 63.48 |
| | 30 | Mar-06 | 12.75 | 66.40 |
| | 31 | Jun-06 | 14.60 | 64.55 |
| | 32 | Sep-06 | 16.52 | 62.63 |
| | 33 | Dec-06 | 15.89 | 63.26 |
| | 34 | Mar-07 | 15.50 | 63.65 |
| | 35 | Jun-07 | 20.90 | 58.25 |

Notes:
(a) Feet below well top of casing. (b) Relative to mean sea level.
NA = Data Not Available
Data prior to August 2003 are likely not valid as well elevations were not surveyed.

## Table D-1 (continued)

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| | | | | |
| | 1 | Aug-97 | 16.32 | 62.13 |
| | 2 | Dec-97 | NA | NA |
| | 3 | Mar-98 | 13.05 | 64.95 |
| | 4 | Jul-98 | 14.95 | 63.50 |
| | 5 | Oct-98 | 15.09 | 63.36 |
| | 6 | Jan-99 | 14.61 | 63.84 |
| | 7 | Jun-00 | 14.80 | 63.65 |
| | 8 | Dec-00 | NA | NA |
| | 9 | Feb-01 | NA | NA |
| **MW-2** | 10 | May-01 | 14.98 | 63.47 |
| | 11 | Jul-01 | 15.86 | 62.59 |
| | 12 | Oct-01 | 16.69 | 61.76 |
| | 13 | Dec-01 | 13.49 | 64.96 |
| | 14 | Mar-02 | 13.07 | 65.38 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 15.86 | 62.59 |
| | 17 | Oct-02 | 16.54 | 61.91 |
| | 18 | Jan-03 | 14.37 | 64.08 |
| | 19 | Mar-03 | 14.74 | 63.71 |
| | 20 | Aug-03 | 15.75 | 62.70 |
| | 21 | Dec-03 | 16.11 | 62.34 |
| | 22 | Mar-04 | 13.83 | 64.82 |
| | 23 | Jun-04 | 15.76 | 62.69 |
| | 24 | Sep-04 | 16.48 | 61.97 |
| | 25 | Dec-04 | 15.74 | 62.71 |
| | 26 | Mar-05 | 13.48 | 64.97 |
| | 27 | Jun-05 | 14.48 | 63.97 |
| | 28 | Sep-05 | 16.00 | 62.45 |
| | 29 | Dec-05 | 14.88 | 63.57 |
| | 30 | Mar-06 | 12.20 | 66.25 |
| | 31 | Jun-06 | 14.15 | 64.30 |
| | 32 | Sep-06 | 16.00 | 62.45 |
| | 33 | Dec-06 | 15.19 | 63.26 |
| | 34 | Mar-07 | 14.78 | 63.67 |
| | 35 | Jun-07 | 20.60 | 57.85 |

Notes:

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

## Table D-1 (continued)

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| MW-3 | 1 | Aug-97 | 15.36 | 62.22 |
| | 2 | Dec-97 | NA | NA |
| | 3 | Mar-98 | 12.18 | 65.40 |
| | 4 | Jul-98 | 14.08 | 63.50 |
| | 5 | Oct-98 | 14.24 | 63.34 |
| | 6 | Jan-99 | 13.74 | 63.84 |
| | 7 | Jun-00 | 13.94 | 63.64 |
| | 8 | Dec-00 | NA | NA |
| | 9 | Feb-01 | NA | NA |
| | 10 | May-01 | 14.08 | 63.50 |
| | 11 | Jul-01 | 14.99 | 62.59 |
| | 12 | Oct-01 | 16.26 | 61.32 |
| | 13 | Dec-01 | 13.62 | 63.96 |
| | 14 | Mar-02 | 13.19 | 64.39 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 14.97 | 62.61 |
| | 17 | Oct. 2002 | 15.44 | 62.14 |
| | 18 | Jan-03 | 13.49 | 64.09 |
| | 19 | Mar-03 | 13.83 | 63.75 |
| | 20 | Aug-03 | 14.90 | 62.68 |
| | 21 | Dec-03 | 15.10 | 62.48 |
| | 22 | Mar-04 | 12.93 | 64.65 |
| | 23 | Jun-04 | 14.90 | 62.68 |
| | 24 | Sep-04 | 15.61 | 61.97 |
| | 25 | Dec-04 | 14.77 | 62.81 |
| | 26 | Mar-05 | 12.60 | 64.98 |
| | 27 | Jun-05 | 13.73 | 63.85 |
| | 28 | Sep-05 | 15.14 | 62.44 |
| | 29 | Dec-05 | 13.94 | 63.64 |
| | 30 | Mar-06 | 11.25 | 66.33 |
| | 31 | Jun-06 | 13.27 | 64.31 |
| | 32 | Sep-06 | 15.12 | 62.46 |
| | 33 | Dec-06 | 14.34 | 63.24 |
| | 34 | Mar-07 | 13.96 | 63.62 |
| | 35 | Jun-07 | 19.60 | 57.98 |

Notes:

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

## Table D-1 (continued)

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| MW-4 | 1 | Aug-97 | NA | NA |
| | 2 | Dec-97 | NA | NA |
| | 3 | Mar-98 | 11.87 | 65.87 |
| | 4 | Jul-98 | 13.90 | 63.84 |
| | 5 | Oct-98 | 14.10 | 63.64 |
| | 6 | Jan-99 | 13.56 | 64.18 |
| | 7 | Jun-00 | 13.75 | 63.99 |
| | 8 | Dec-00 | NA | NA |
| | 9 | Feb-01 | NA | NA |
| | 10 | May-01 | 13.65 | 64.09 |
| | 11 | Jul-01 | 14.87 | 62.87 |
| | 12 | Oct-01 | 15.78 | 61.96 |
| | 13 | Dec-01 | 13.54 | 64.20 |
| | 14 | Mar-02 | 13.02 | 64.72 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 14.81 | 62.93 |
| | 17 | Oct-02 | 15.56 | 62.18 |
| | 18 | Jan-03 | 13.39 | 64.35 |
| | 19 | Mar-03 | 13.75 | 63.99 |
| | 20 | Aug-03 | 14.75 | 62.99 |
| | 21 | Dec-03 | 15.11 | 62.63 |
| | 22 | Mar-04 | 12.78 | 64.96 |
| | 23 | Jun-04 | 14.68 | 63.06 |
| | 24 | Sep-04 | 15.17 | 62.57 |
| | 25 | Dec-04 | 14.90 | 62.84 |
| | 26 | Mar-05 | 12.57 | 65.17 |
| | 27 | Jun-05 | 13.43 | 64.31 |
| | 28 | Sep-05 | 15.13 | 62.61 |
| | 29 | Dec-05 | 13.83 | 63.91 |
| | 30 | Mar-06 | 10.90 | 66.84 |
| | 31 | Jun-06 | 13.02 | 64.72 |
| | 32 | Sep-06 | 15.16 | 62.58 |
| | 33 | Dec-06 | 14.35 | 63.39 |
| | 34 | Mar-07 | 13.85 | 63.89 |
| | 35 | Jun-07 | 18.41 | 59.33 |

Notes:

(a) Feet below well top of casing.

(b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

## Table D-1 (continued)

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| MW-5 | 9 | Feb-01 | NA | NA |
| | 10 | May-01 | 15.65 | 63.71 |
| | 11 | Jul-01 | 16.50 | 62.86 |
| | 12 | Oct-01 | 17.46 | 61.90 |
| | 13 | Dec-01 | 15.28 | 64.08 |
| | 14 | Mar-02 | 14.62 | 64.74 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 16.46 | 62.90 |
| | 17 | Oct-02 | 17.18 | 62.18 |
| | 18 | Jan-03 | 14.99 | 64.37 |
| | 19 | Mar-03 | 15.33 | 64.03 |
| | 20 | Aug-03 | 16.34 | 63.02 |
| | 21 | Dec-03 | 16.90 | 62.46 |
| | 22 | Mar-04 | 14.44 | 64.92 |
| | 23 | Jun-04 | 16.43 | 62.93 |
| | 24 | Sep-04 | 17.07 | 62.29 |
| | 25 | Dec-04 | 16.59 | 62.77 |
| | 26 | Mar-05 | 14.08 | 65.28 |
| | 27 | Jun-05 | 15.33 | 64.03 |
| | 28 | Sep-05 | 16.61 | 62.75 |
| | 29 | Dec-05 | 15.81 | 63.55 |
| | 30 | Mar-06 | 12.75 | 66.61 |
| | 31 | Jun-06 | 14.65 | 64.71 |
| | 32 | Sep-06 | 16.66 | 62.70 |
| | 33 | Dec-06 | 16.10 | 63.26 |
| | 34 | Mar-07 | 15.22 | 64.14 |
| | 35 | Jun-07 | 19.29 | 60.07 |

Notes:

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

## Table D-1 (continued)

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| MW-6 | 9 | Feb-01 | NA | NA |
| | 10 | May-01 | 15.54 | 62.89 |
| | 11 | Jul-01 | 15.56 | 62.87 |
| | 12 | Oct-01 | 16.41 | 62.02 |
| | 13 | Dec-01 | 14.37 | 64.06 |
| | 14 | Mar-02 | 13.75 | 64.68 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 15.55 | 62.88 |
| | 17 | Oct-02 | 16.24 | 62.19 |
| | 18 | Jan-03 | 14.17 | 64.26 |
| | 19 | Mar-03 | 14.52 | 63.91 |
| | 20 | Aug-03 | 15.50 | 62.93 |
| | 21 | Dec-03 | 16.19 | 62.24 |
| | 22 | Mar-04 | 13.51 | 64.92 |
| | 23 | Jun-04 | 15.42 | 63.01 |
| | 24 | Sep-04 | 16.13 | 62.30 |
| | 25 | Dec-04 | 15.40 | 63.03 |
| | 26 | Mar-05 | 13.28 | 65.15 |
| | 27 | Jun-05 | 14.14 | 64.29 |
| | 28 | Sep-05 | 15.61 | 62.82 |
| | 29 | Dec-05 | 14.90 | 63.53 |
| | 30 | Mar-06 | 11.85 | 66.58 |
| | 31 | Jun-06 | 13.73 | 64.70 |
| | 32 | Sep-06 | 15.71 | 62.72 |
| | 33 | Dec-06 | 15.15 | 63.28 |
| | 34 | Mar-07 | 14.58 | 63.85 |
| | 35 | Jun-07 | 19.40 | 59.03 |

Notes:

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

## Table D-1 (continued)

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| MW-7 | 9 | Feb-01 | NA | NA |
| | 10 | May-01 | 15.04 | 62.23 |
| | 11 | Jul-01 | 15.69 | 62.58 |
| | 12 | Oct-01 | 16.59 | 61.68 |
| | 13 | Dec-01 | 14.30 | 63.97 |
| | 14 | Mar-02 | 13.87 | 64.40 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 15.72 | 62.55 |
| | 17 | Oct-02 | 16.36 | 61.91 |
| | 18 | Jan-03 | 14.22 | 64.05 |
| | 19 | Mar-03 | 14.57 | 63.70 |
| | 20 | Aug-03 | 15.61 | 62.66 |
| | 21 | Dec-03 | 16.04 | 62.23 |
| | 22 | Mar-04 | 13.57 | 64.70 |
| | 23 | Jun-04 | 15.63 | 62.64 |
| | 24 | Sep-04 | 16.33 | 61.94 |
| | 25 | Dec-04 | 15.70 | 62.57 |
| | 26 | Mar-05 | 13.42 | 64.85 |
| | 27 | Jun-05 | 14.53 | 63.74 |
| | 28 | Sep-05 | 15.81 | 62.46 |
| | 29 | Dec-05 | 14.88 | 63.39 |
| | 30 | Mar-06 | 13.00 | 65.27 |
| | 31 | Jun-06 | 13.98 | 64.29 |
| | 32 | Sep-06 | 15.82 | 62.45 |
| | 33 | Dec-06 | 15.12 | 63.15 |
| | 34 | Mar-07 | 14.66 | 63.61 |
| | 35 | Jun-07 | 19.18 | 59.09 |

Notes:

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

## Table D-1 (continued)

| Well I.D. | Sampling Event No. | Date Measured | Water Level Depth (a) | Water Level Elevation (b) |
|---|---|---|---|---|
| MW-8 | 10 | May-01 | 12.75 | 63.64 |
| | 11 | Jul-01 | 13.84 | 62.55 |
| | 12 | Oct-01 | 14.65 | 61.74 |
| | 13 | Dec-01 | 12.39 | 64.00 |
| | 14 | Mar-02 | 11.89 | 64.50 |
| | 15 | May-02 | NA | NA |
| | 16 | Jul-02 | 13.96 | 62.43 |
| | 17 | Oct-02 | 14.48 | 61.91 |
| | 18 | Jan-03 | 12.49 | 63.90 |
| | 19 | Mar-03 | 12.85 | 63.54 |
| | 20 | Aug-03 | 13.75 | 62.65 |
| | 21 | Dec-03 | 14.50 | 61.89 |
| | 22 | Mar-04 | 11.78 | 64.61 |
| | 23 | Jun-04 | 13.71 | 62.68 |
| | 24 | Sep-04 | 14.43 | 61.96 |
| | 25 | Dec-04 | 13.64 | 62.75 |
| | 26 | Mar-05 | 11.52 | 64.87 |
| | 27 | Jun-05 | 12.50 | 63.89 |
| | 28 | Sep-05 | 13.90 | 62.49 |
| | 29 | Dec-05 | 12.75 | 63.64 |
| | 30 | Mar-06 | 10.80 | 65.59 |
| | 31 | Jun-06 | 12.10 | 64.29 |
| | 32 | Sep-06 | 13.93 | 62.46 |
| | 33 | Dec-06 | 13.12 | 63.27 |
| | 34 | Mar-07 | 12.76 | 63.63 |
| | 35 | Jun-07 | 18.40 | 57.99 |

Notes:

(a) Feet below well top of casing. (b) Relative to mean sea level.

NA = Data Not Available

Data prior to August 2003 are likely not valid as well elevations were not surveyed.

# APPENDIX C

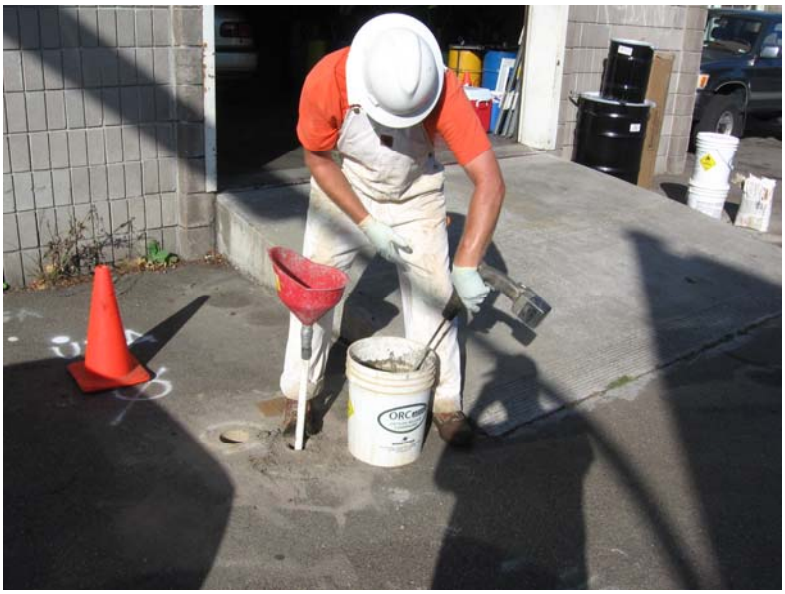
## Current Investigation Photodocumentation

| | |
|---|---|
| Subject: View of soil-gas collection at boring B32 | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 23, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 01 |

| | |
|---|---|
| Subject: View of drill at boring B31. | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 23, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 02 |

| | |
|---|---|
| Subject: View of drilling activities at boring B30 | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 24, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 03 |


| | |
|---|---|
| Subject: View of drilling activities at boring B27 | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 24, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 04 |



| | |
|---|---|
| Subject: View of tremie grouting of boring B30. | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 24, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 05 |


| | |
|---|---|
| Subject: View of the soil vapor extraction pilot test apparatus. | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 31, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 06 |


| | |
|---|---|
| Subject: View of vacuum monitoring measurement at well MW-6 | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 31, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 07 |

| | |
|---|---|
| Subject: Concrete coring at borehole location B24 | |
| Site: Oakland Autoworks: 240 W. MacArthur Boulevard, Oakland, CA | |
| Date Taken: May 23, 2007 | Project No.: SES 2003-43 |
| Photographer: Henry Pietropaoli | Photo No.: 08 |

# APPENDIX D

## Drilling-Related Permits

# Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

**Application Approved on: 04/16/2007 By cesarji**

**Permit Numbers: W2007-0526**
**Permits Valid from 05/22/2007 to 05/25/2007**

**Application Id:** 1175885911861
**City of Project Site:** Oakland
**Site Location:** 240 W. MacArthur Blvd
Oakland
**Project Start Date:** 05/22/2007
**Completion Date:** 05/25/2007

**Applicant:** Stellar Environmental Solutions Inc - Henry Pietropaoli
2198 Sixth St., Berkeley, CA 94710
**Phone:** 510-644-3123

**Property Owner:** Glen Poywing
240 W. MacArthur Blvd, Oakland, CA 94711
**Phone:** 510-597-8388

**Client:** ** same as Property Owner **

**Contact:** henry Pietropaoli
**Phone:** --
**Cell:** 510-295-3544

**Total Due:** $200.00
**Receipt Number: WR2007-0168** **Total Amount Paid:** $200.00
**Payer Name : stellar Environmental Solutions c/o Ruchard Makdis** Paid By: MC **PAID IN FULL**

**Works Requesting Permits:**

Borehole(s) for Investigation-Contamination Study - 11 Boreholes
Driller: Enprob - Lic #: 777007 - Method: DP **Work Total: $200.00**

**Specifications**

| Permit Number | Issued Dt | Expire Dt | # Boreholes | Hole Diam | Max Depth |
|---|---|---|---|---|---|
| W2007-0526 | 04/16/2007 | 08/20/2007 | 11 | 3.00 in. | 35.00 ft |

**Specific Work Permit Conditions**

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the

permits and requirements have been approved or obtained.

5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

7. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

# Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

**Application Approved on: 06/07/2007 By jamesy**

**Permit Numbers: W2007-0687**
**Permits Valid from 06/25/2007 to 07/25/2007**

| | | |
|---|---|---|
| **Application Id:** | 1181174561023 | **City of Project Site:** Oakland |
| **Site Location:** | 240 West MacArthur Blvd | |
| **Project Start Date:** | 06/25/2007 | **Completion Date:** 07/25/2007 |
| **Applicant:** | Stellar Environmental Solutions - Glen Pietropaoli<br>2198 Sixth St., Berkeley, CA 94710 | **Phone:** 510-644-3123 |
| **Property Owner:** | Glen Poywing<br>240 W. MacArthur Blvd, oakland, CA 94711 | **Phone:** 510-597-8388 |
| **Client:** | ** same as Property Owner ** | |
| **Contact:** | Henry Pietropaoli | **Phone:** 510-644-3123<br>**Cell:** 510-295-3544 |

**Total Due:** $200.00
**Receipt Number: WR2007-0260** **Total Amount Paid:** $200.00
**Payer Name : Henry Pietropaoli** Paid By: MC **PAID IN FULL**

**Works Requesting Permits:**

Remedian Well Construction-Extraction - 1 Wells
Driller: Enprobe - Lic #: 777007 - Method: DP **Work Total: $200.00**

**Specifications**

| Permit # | Issued Date | Expire Date | Owner Well Id | Hole Diam. | Casing Diam. | Seal Depth | Max. Depth |
|---|---|---|---|---|---|---|---|
| W2007-0687 | 06/07/2007 | 09/23/2007 | B32 | 2.00 in. | 1.00 in. | 3.00 ft | 17.00 ft |

**Specific Work Permit Conditions**

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Minimum seal depth (Neat Cement Seal) is 2 feet below ground surface (BGS).

6. Minimum surface seal thickness is two inches of cement grout placed by tremie

7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

8. Work already completed on May 24, 2007.

# SPECIAL PROVISION 7-10.1 TRAFFIC REQUIREMENTS

Project Name: _____
Project Number: TSD-07-0055
Reviewed By: JWatson
Date: _4/04/2007_
Permit good from___5/23/2007___
to____5/24/2007___

ADD NEW SUBSECTION TO READ:
SP 7-10.1.4 Vehicular Traffic

Attention is directed to Section 7-10. Public Convenience and Safety, of the City of Oakland Standard Specification for Public Works Construction, 2000 Edition (Include this paragraph for p-jobs, excavation permits or obstruction permits).

The Contractor shall conduct its work in such a manner as to provide public convenience and safety and according to the provisions in this subsection. The provisions shall not be modified or altered without written approval from the Engineer.

Standard traffic control devices shall be placed at the construction zone according to the latest edition of the Work Area Traffic Control Handbook or Caltrans Traffic Manual, Chapter 5 – "Traffic Controls for Construction and Maintenance Work Zone," or as directed by the Engineer.

All trenches and excavations in any public street or roadway shall be back filled and opened to traffic, or covered with suitable steel plates securely placed and opened to traffic at all times except during actual construction operations unless otherwise permitted by the Engineer.

Each section of work shall be completed or temporarily paved and open to traffic in not more than 5 days after commencing work unless otherwise permitted in writing by the Engineer.

Where construction encroaches into the sidewalk area, a minimum of 5 ½ feet of unobstructed sidewalk shall be maintained at all times for pedestrian use. Pedestrian barricades, shelter, and detour signs per Caltrans standards may be required.

The contractor shall conduct its operation in such a manner as to leave the following traffic lanes unobstructed and in a condition satisfactory for vehicular travel during the Obstruction Period. At all times traffic lanes will be restricted and reopened to travel. Emergency access shall be provided at all times.

| Street Name Limits | Obstruction Period | North Bound | South Bound | East Bound | West Bound |
|---|---|---|---|---|---|
| Howe Street between W. Macarthur Blvd and 40th Street | Mon – Fri 9am – 4pm | N/A | N/A | N/A | Sidewalk Closure |
| W. Macarthur Blvd between Howe Street and Piedmont Avenue | Mon – Fri 9am – 4pm | Sidewalk Closure | N/A | N/A | N/A |
| Note: The contractor will also be working on the median strip located on W. Macarthur Blvd between Howe Street and Piedmont Avenue. Road Work Head signs will be required for Traffic Control devices when the contractor is working in the median strip. | | | | | |

**The Contractor Shall Also include all check item:**

1. ☐ Design a construction traffic control plan and submit (2) copies to the Engineer for approval prior to starting any work.
2. ☒ Replace all signs, pavement markings, and traffic detector loops damaged or removed due to construction within 3 days of completion of work or the final pavement lift.
3. ☒ Provide advance notice to Oakland Police at (510) 615-5874 (24-hrs) and Oakland Fire at (510) 238-3331 (2-rhs) when a single lane of traffic or less is provided on any street.
4. ☒ Provide 72-hour advance notice to AC Transit at (510) 891-4909 when affecting a bus stop.
5. ☒ For Caltrans roadways, ramps, or maintained facilities, the Contractor shall obtain appropriate permits and notify the Traffic Management Center 24 hours in advance of any work.
6. ☒ Flagger control is required. Certified Flagger is required.
7. ☒ Pedestrian walkway by K-rail, Canopy or Plywood is required. (See detour plan)
8. ☒ Pedestrian traffic shall be maintained and guided through the project at all times.
9. ☒ Provide advance notice to Business and Residence within 72-hours.
10. ☒ Allow all traffic movement at intersection.

Nothing specified herein shall prohibit emergency work and/or repair necessary to ensure public health and safety.

CITY OF OAKLAND
Office of Planning and Building

# EXCAVATION PERMIT

## TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING



Permit valid for 90 days from date of issuance.

| PERMIT NUMBER | SITE ADDRESS/LOCATION |
|---|---|
| X 0 7 0 0 3 4 2 * | 240. W. Macarthur Blvd. |
| APPROX. START DATE: 5/23/07 — APPROX. END DATE: 5/24/07 | 24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number): 510 295 3544 |
| CONTRACTOR'S LICENSE # AND CLASS: CA 777007 | CITY BUSINESS TAX #: 3222462 |

ATTENTION:

1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # _____

2- 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.

3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. _____, B&PC for this reason _____.

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

X Harry Pedrozo

Signature of Permittee ☑ Agent for ☐ Contractor ☐ Owner — Date

| DATE STREET LAST RESURFACED | SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☐ NO | HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☐ NO | LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☐ NO |
|---|---|---|---|
| ISSUED BY | | DATE ISSUED | |

CITY OF OAKLAND
Office of Planning and Building

# EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING



Permit valid for 90 days from date of issuance.

| PERMIT NUMBER | SITE ADDRESS/LOCATION |
|---|---|
| X 0 7 0 0 3 4 4 * | 240. W. Macarthur Blvd. |
| APPROX. START DATE: 5/23/07 — APPROX. END DATE: 5/24/07 | 24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number): 510 295 3544 |
| CONTRACTOR'S LICENSE # AND CLASS: CA 777007 | CITY BUSINESS TAX #: 3222462 |

ATTENTION:

1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # _____

2- 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.

3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. _____, B&PC for this reason _____.

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

X _____ _____

Signature of Permittee ☐ Agent for ☐ Contractor ☐ Owner — Date

| DATE STREET LAST RESURFACED | SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☐ NO | HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☐ NO | LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☐ NO |
|---|---|---|---|
| ISSUED BY | | DATE ISSUED | |

forms/ops/excavate.pg2 (04/98)

**CITY OF OAKLAND • Community and Economic Development Agency**
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-2263

Applications for which no permit is issued within 180 days shall expire by limitation.

Job Site 240 W MACARTHUR BL Parcel# 012 -0986-028-00 Appl# OB070228

soil boring Block portion of s/w per approved TCP Permit Issued 04/05/07

Nbr of days: 2 Linear feet: 150
Effective: 05/23/07 Expiration: 05/24/07

SHORT TERM NON-METERED

| | | Applcnt | Phone# | Lic# | --License Classes-- |
|---|---|---|---|---|---|
| Owner | POYWING GLEN & ELIZABETH | | | | |
| Contractor | ENPROB ENVIRONMENTAL PROBING | X | (530)589-2019 | 777007 | C57 |
| Arch/Engr | | | | | |
| Agent | STELLER ENVIRON/H PIETROPAOLI | | (510)644-3123 | | |
| Applic Addr | P O BOX 6093, OROVILLE, CA, 95966 | | | | |

$276.55 TOTAL FEES PAID AT ISSUANCE

| | | | |
|---|---|---|---|
| $61.00 | Applic | $180.00 | Permit |
| $.00 | Process | $22.90 | Rec Mgmt |
| $.00 | Gen Plan | $.00 | Invstg |
| $.00 | Other | $12.65 | Tech Enh |

ADDRESS:

JOB SITE

DIST:



TCP needs to be approved by Transportation Services every 30 days or whenever deviated from the previously approved plan.

Applicant: _____ 4/5/07

Issued by: _____ _____

# SPECIAL PROVISION 7-10.1 TRAFFIC REQUIREMENTS

Project Name: _____
Project Number: TSD-07-0055
Reviewed By: JWatson
Date: _4/04/2007_
Permit good from___5/23/2007___
to____5/24/2007___

ADD NEW SUBSECTION TO READ:
SP 7-10.1.4 Vehicular Traffic

Attention is directed to Section 7-10. Public Convenience and Safety, of the City of Oakland Standard Specification for Public Works Construction, 2000 Edition (Include this paragraph for p-jobs, excavation permits or obstruction permits).

The Contractor shall conduct its work in such a manner as to provide public convenience and safety and according to the provisions in this subsection. The provisions shall not be modified or altered without written approval from the Engineer.

Standard traffic control devices shall be placed at the construction zone according to the latest edition of the Work Area Traffic Control Handbook or Caltrans Traffic Manual, Chapter 5 – "Traffic Controls for Construction and Maintenance Work Zone," or as directed by the Engineer.

All trenches and excavations in any public street or roadway shall be back filled and opened to traffic, or covered with suitable steel plates securely placed and opened to traffic at all times except during actual construction operations unless otherwise permitted by the Engineer.

Each section of work shall be completed or temporarily paved and open to traffic in not more than 5 days after commencing work unless otherwise permitted in writing by the Engineer.

Where construction encroaches into the sidewalk area, a minimum of 5 ½ feet of unobstructed sidewalk shall be maintained at all times for pedestrian use. Pedestrian barricades, shelter, and detour signs per Caltrans standards may be required.

The contractor shall conduct its operation in such a manner as to leave the following traffic lanes unobstructed and in a condition satisfactory for vehicular travel during the Obstruction Period. At all times traffic lanes will be restricted and reopened to travel. Emergency access shall be provided at all times.

| Street Name Limits | Obstruction Period | North Bound | South Bound | East Bound | West Bound |
|---|---|---|---|---|---|
| Howe Street between W. Macarthur Blvd and 40th Street | Mon – Fri 9am – 4pm | N/A | N/A | N/A | Sidewalk Closure |
| W. Macarthur Blvd between Howe Street and Piedmont Avenue | Mon – Fri 9am – 4pm | Sidewalk Closure | N/A | N/A | N/A |
| Note: The contractor will also be working on the median strip located on W. Macarthur Blvd between Howe Street and Piedmont Avenue. Road Work Head signs will be required for Traffic Control devices when the contractor is working in the median strip. | | | | | |

**The Contractor Shall Also include all check item:**

1. ☐ Design a construction traffic control plan and submit (2) copies to the Engineer for approval prior to starting any work.
2. ☒ Replace all signs, pavement markings, and traffic detector loops damaged or removed due to construction within 3 days of completion of work or the final pavement lift.
3. ☒ Provide advance notice to Oakland Police at (510) 615-5874 (24-hrs) and Oakland Fire at (510) 238-3331 (2-rhs) when a single lane of traffic or less is provided on any street.
4. ☒ Provide 72-hour advance notice to AC Transit at (510) 891-4909 when affecting a bus stop.
5. ☒ For Caltrans roadways, ramps, or maintained facilities, the Contractor shall obtain appropriate permits and notify the Traffic Management Center 24 hours in advance of any work.
6. ☒ Flagger control is required. Certified Flagger is required.
7. ☒ Pedestrian walkway by K-rail, Canopy or Plywood is required. (See detour plan)
8. ☒ Pedestrian traffic shall be maintained and guided through the project at all times.
9. ☒ Provide advance notice to Business and Residence within 72-hours.
10. ☒ Allow all traffic movement at intersection.

Nothing specified herein shall prohibit emergency work and/or repair necessary to ensure public health and safety.

CITY OF OAKLAND
Office of Planning and Building

# EXCAVATION PERMIT

## TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING



Permit valid for 90 days from date of issuance.

| PERMIT NUMBER | SITE ADDRESS/LOCATION |
|---|---|
| X 0 7 0 0 3 4 2 * | 240. W. Macarthur Blvd. |
| APPROX. START DATE: 5/23/07 — APPROX. END DATE: 5/24/07 | 24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number): 510 295 3544 |
| CONTRACTOR'S LICENSE # AND CLASS: CA 777007 | CITY BUSINESS TAX #: 3222462 |

ATTENTION:

1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # _____

2- 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.

3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. _____, B&PC for this reason _____.

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

X Harry Pedrozo

Signature of Permittee ☑ Agent for ☐ Contractor ☐ Owner — Date

| DATE STREET LAST RESURFACED | SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☐ NO | HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☐ NO | LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☐ NO |
|---|---|---|---|
| ISSUED BY | | DATE ISSUED | |

CITY OF OAKLAND
Office of Planning and Building

# EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING



Permit valid for 90 days from date of issuance.

| PERMIT NUMBER | SITE ADDRESS/LOCATION |
|---|---|
| X 0 7 0 0 3 4 4 * | 240. W. Macarthur Blvd. |
| APPROX. START DATE: 5/23/07 — APPROX. END DATE: 5/24/07 | 24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number): 510 295 3544 |
| CONTRACTOR'S LICENSE # AND CLASS: CA 777007 | CITY BUSINESS TAX #: 3222462 |

ATTENTION:

1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # _____

2- 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.

3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

☐ I am exempt under Sec. _____, B&PC for this reason _____.

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars ($100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

X _____ _____

Signature of Permittee ☐ Agent for ☐ Contractor ☐ Owner — Date

| DATE STREET LAST RESURFACED | SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☐ NO | HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☐ NO | LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☐ NO |
|---|---|---|---|
| ISSUED BY | | DATE ISSUED | |

forms/ops/excavate.pg2 (04/98)

**CITY OF OAKLAND • Community and Economic Development Agency**
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • Fax (510) 238-2263

Applications for which no permit is issued within 180 days shall expire by limitation.

Job Site 240 W MACARTHUR BL Parcel# 012 -0986-028-00 Appl# OB070228

soil boring Block portion of s/w per approved TCP Permit Issued 04/05/07

Nbr of days: 2 Linear feet: 150
Effective: 05/23/07 Expiration: 05/24/07

SHORT TERM NON-METERED

| | | Applcnt | Phone# | Lic# | --License Classes-- |
|---|---|---|---|---|---|
| Owner | POYWING GLEN & ELIZABETH | | | | |
| Contractor | ENPROB ENVIRONMENTAL PROBING | X | (530)589-2019 | 777007 | C57 |
| Arch/Engr | | | | | |
| Agent | STELLER ENVIRON/H PIETROPAOLI | | (510)644-3123 | | |
| Applic Addr | P O BOX 6093, OROVILLE, CA, 95966 | | | | |

$276.55 TOTAL FEES PAID AT ISSUANCE

| | | | |
|---|---|---|---|
| $61.00 | Applic | $180.00 | Permit |
| $.00 | Process | $22.90 | Rec Mgmt |
| $.00 | Gen Plan | $.00 | Invstg |
| $.00 | Other | $12.65 | Tech Enh |

ADDRESS:

JOB SITE

DIST:



TCP needs to be approved by Transportation Services every 30 days or whenever deviated from the previously approved plan.

Applicant: _____ 4/5/07

Issued by: _____ _____

# APPENDIX E

# Waste Disposal Documentation

# NON ZARDOUS WASTE MANIF ST

EES19

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No.

Manifest Document No. NH 6276

2. Page 1 of 1

3. Generator's Name and Mailing Address
OAKLAND AUTO WORKS
240 W MACARTHUR BLVD
OAKLAND CA 94611

4. Generator's Phone ( 510 ) 597-8388

5. Transporter 1 Company Name
EVERGREEN ENVIRONMENTAL SERVICES

6. US EPA ID Number
CAD982413262

A. State Transporter's ID

B. Transporter 1 Phone 510 795-4400

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
EVERGREEN OIL, INC.
6880 Smith Avenue
Newark, CA 94560

10. US EPA ID Number
CAD980887418

E. State Facility's ID
CAD980887418

F. Facility's Phone
510 795-4400

| 11. WASTE DESCRIPTION | 12. Containers No. | 12. Containers Type | 13. Total Quantity | 14. Unit Wt/Vol. |
|---|---|---|---|---|
| a. Non-Hazardous waste, liquid (WATER, TRACE HYDROCARBONS) | 7 ~~001M5~~ | DM ~~FT 415~~ | 385 | G |
| b. | | | | |
| c. | | | | |
| d. | | | | |

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above
11a) H135

15. Special Handling Instructions and Additional Information

Invoice: 10910
Sales Order:

Profile # _____
Do not ingest
Wear protective clothing
In case of emergency call: CHEMTREC 800-424-9300
DOT ERG 171

**GENERATOR**

16. **GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

| Printed/Typed Name | Signature | Date (Month / Day / Year) |
|---|---|---|
| Greg Poy-Wing | | 6 / 11 / 07 |

**TRANSPORTER**

17. Transporter 1 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Date (Month / Day / Year) |
|---|---|---|
| Malcolm Smith | Malcolm Smith | 6 / 14 / 07 |

18. Transporter 2 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Date (Month / Day / Year) |
|---|---|---|
| | | |

**FACILITY**

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

| Printed/Typed Name | Signature | Date (Month / Day / Year) |
|---|---|---|
| Gino Alvezi | | 06 / 12 / 07 |

NON-HAZARDOUS WASTE

# APPENDIX F

## Analytical Laboratory Reports and Chain-of-Custody Records

# Soil and Groundwater
# Analytical Results

**ASSOCIATED LABORATORIES**
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)
ATTN: Richard Makdisi
2198 Sixth Street
Suite #201
Berkeley, CA 94710

LAB REQUEST 191099
REPORTED 06/05/2007
RECEIVED 05/26/2007

PROJECT Oakland Autoworks #2003-43

SUBMITTER Client

COMMENTS Global ID: T0600102243

REVISED REPORT 6/8/07.

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

| Order No. | Client Sample Identification |
|---|---|
| 803202 | B29-11 |
| 803203 | B29-13 |
| 803204 | B29-15 |
| 803205 | B29-17 |
| 803206 | B29-19 |
| 803207 | B29-GW |
| 803208 | B28-GW |
| 803209 | B24-GW |
| 803210 | B25-GW |
| 803211 | Laboratory Method Blank (Solid) |

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Bellare, Ph.D.
Vice President

*NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.*



*TESTING & CONSULTING*
*Chemical*
*Microbiological*
*Environmental*

**ASSOCIATED LABORATORIES**
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)
ATTN: Richard Makdisi
2198 Sixth Street
Suite #201
Berkeley, CA 94710

LAB REQUEST 191099
REPORTED 06/05/2007
RECEIVED 05/26/2007

PROJECT Oakland Autoworks #2003-43

SUBMITTER Client

COMMENTS Global ID: T0600102243

REVISED REPORT 6/8/07.

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

| Order No. | Client Sample Identification |
|---|---|
| 803212 | Laboratory Method Blank (Water) |

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

*NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.*



*TESTING & CONSULTING*
*Chemical*
*Microbiological*
*Environmental*

**Order #:** 803202 **Client Sample ID:** B29-11

**Matrix:** SOLID

**Date Sampled:** 05/24/2007
**Time Sampled:** 09:20

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 85 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 85 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/30/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/30/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/30/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/30/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/30/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/30/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 88 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 135 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 99 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 92 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 79 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803203 **Client Sample ID:** B29-13

**Matrix:** SOLID

**Date Sampled:** 05/24/2007
**Time Sampled:** 09:25

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 92 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 92 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/30/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/30/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/30/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/30/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/30/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/30/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 91 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 128 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 100 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 95 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | 1.6 | 1 | 1.0 | 0.37 | mg/Kg | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 116 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803204 **Client Sample ID:** B29-15

**Matrix:** SOLID

**Date Sampled:** 05/24/2007
**Time Sampled:** 09:35

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 108 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 108 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/30/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/30/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/30/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/30/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/30/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/30/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 86 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 122 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 111 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 94 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 95 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803205 **Client Sample ID:** B29-17

**Matrix:** SOLID

**Date Sampled:** 05/24/2007
**Time Sampled:** 09:45

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 115 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 115 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/30/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/30/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/30/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/30/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/30/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/30/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 89 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 120 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 110 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 96 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 104 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803206 **Client Sample ID:** B29-19

**Matrix:** SOLID

**Date Sampled:** 05/24/2007
**Time Sampled:** 09:50

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 124 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 124 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/30/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/30/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/30/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/30/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/30/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/30/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 86 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 131 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 99 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 91 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | 1.8 | 1 | 1.0 | 0.37 | mg/Kg | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 110 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803207 **Client Sample ID:** B29-GW

**Matrix:** WATER

**Date Sampled:** 05/24/2007
**Time Sampled:** 10:05

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.3 | 0.15 | ug/L | 06/04/07 LT |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.3 | 0.09 | ug/L | 06/04/07 LT |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 5 | 0.75 | ug/L | 06/04/07 LT |
| 8021B/AVO | Toluene | ND | 1 | 0.3 | 0.12 | ug/L | 06/04/07 LT |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.6 | 0.26 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 88 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 50 | 5.6 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 88 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 1 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/31/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 10 | 10 | ug/L | 05/31/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 97 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 105 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 102 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 98 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | ND | 1 | 0.1 | 0.032 | mg/L | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 193 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803208 **Client Sample ID:** B28-GW

**Matrix:** WATER

**Date Sampled:** 05/24/2007
**Time Sampled:** 13:10

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.3 | 0.15 | ug/L | 06/04/07 LT |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.3 | 0.09 | ug/L | 06/04/07 LT |
| 8021B/AVO | Methyl t - butyl ether | 588 | 10 | 50.0 | 0.75 | ug/L | 06/04/07 LT |
| 8021B/AVO | Toluene | ND | 1 | 0.3 | 0.12 | ug/L | 06/04/07 LT |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.6 | 0.26 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 89 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 291 | 1 | 50 | 5.6 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 89 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 1 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/31/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | 11 | 1 | 10 | 10 | ug/L | 05/31/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 97 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 110 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 100 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 97 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | 0.040 J | 1 | 0.1 | 0.032 | mg/L | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 177 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803209 **Client Sample ID:** B24-GW

**Matrix:** WATER

**Date Sampled:** 05/24/2007
**Time Sampled:** 12:45

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 44 | 5 | 1.5 | 0.15 | ug/L | 06/04/07 LT |
| 8021B/AVO | Ethyl benzene | 70 | 5 | 1.5 | 0.09 | ug/L | 06/04/07 LT |
| 8021B/AVO | Methyl t - butyl ether | 79 | 5 | 25.0 | 0.75 | ug/L | 06/04/07 LT |
| 8021B/AVO | Toluene | 35 | 5 | 1.5 | 0.12 | ug/L | 06/04/07 LT |
| 8021B/AVO | Xylene (total) | 35 | 5 | 3.0 | 0.26 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 258* | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 3410 | 5 | 250.0 | 5.6 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 258* | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | 3.4 | 1 | 1 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/31/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 10 | 10 | ug/L | 05/31/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 92 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 85 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 106 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 102 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | 0.25 | 1 | 0.1 | 0.032 | mg/L | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 124 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803210 **Client Sample ID:** B25-GW

**Matrix:** WATER

**Date Sampled:** 05/24/2007
**Time Sampled:** 13:45

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 2.5 | 1 | 0.3 | 0.15 | ug/L | 06/04/07 LT |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.3 | 0.09 | ug/L | 06/04/07 LT |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 5 | 0.75 | ug/L | 06/04/07 LT |
| 8021B/AVO | Toluene | 4.3 | 1 | 0.3 | 0.12 | ug/L | 06/04/07 LT |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.6 | 0.26 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 89 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 62 | 1 | 50 | 5.6 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 89 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 1 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/31/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 10 | 10 | ug/L | 05/31/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 102 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 120 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 103 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 92 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | 0.22 | 1 | 0.1 | 0.032 | mg/L | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 139 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803211 **Client Sample ID:** Laboratory Method Blank (Solid)

**Matrix:** SOLID

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 06/02/07 YL |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 103 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 06/02/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 103 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/30/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/30/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/30/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/30/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/30/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/30/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 90 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 124 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 105 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 93 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 129 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 803212 **Client Sample ID:** Laboratory Method Blank (Water)

**Matrix:** WATER

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.3 | 0.15 | ug/L | 06/04/07 LT |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.3 | 0.09 | ug/L | 06/04/07 LT |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 5 | 0.75 | ug/L | 06/04/07 LT |
| 8021B/AVO | Toluene | ND | 1 | 0.3 | 0.12 | ug/L | 06/04/07 LT |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.6 | 0.26 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 77 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 50 | 5.6 | ug/L | 06/04/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 77 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 1 | 0.20 | ug/L | 05/31/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/31/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/31/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 10 | 10 | ug/L | 05/31/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 98 | | | | % | 70 - 135 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 109 | | | | % | 70 - 135 |
| 8260B | Surr3 - Toluene-d8 | 98 | | | | % | 70 - 135 |
| 8260B | Surr4 - p-Bromofluorobenzene | 101 | | | | % | 70 - 135 |
| 8015 | TEPH Diesel | ND | 1 | 0.1 | 0.032 | mg/L | 05/31/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 110 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

ASSOCIATED LABORATORIES
**LCS REPORT FORM**

QC Sample: G#14-LCS/LCSD

Matrix: SOLID

Prep. Date: June 2, 2007

Analysis Date June 2, 2007

Lab ID#'s in Batch: LR 191163, 191099

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = mg/Kg

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| TPH | 8015M-G | ND | 5.00 | 4.68 | 4.83 | 94 | 97 | 3 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 103 |
| LCS | 47 |
| LCSD | 54 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES
**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: SOLID

Extraction Method : 3545

Prep. Date: May 30, 2007

Analysis Date May 31, 2007

Lab ID#'s in Batch: 191099, 191129

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = mg/Kg

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| DIESEL | 8015D | ND | 25 | 26 | 20 | 104 | 80 | 26 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | O-Terphenyl |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 129 |
| LCS | 167 |
| LCSD | 143 |

ASSOCIATED LABORATORIES
**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: WATER

Extraction Method : 3510C

Prep. Date: May 30, 2007

Analysis Date May 31, 2007

Lab ID#'s in Batch: 191062, 191099, 191043, 191135

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = mg/L

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| DIESEL | 8015D | ND | 1.00 | 0.70 | 0.73 | 70 | 73 | 4 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | O-Terphenyl |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 110 |
| LCS | 135 |
| LCSD | 130 |

ASSOCIATED LABORATORIES
**LCS REPORT FORM**

QC Sample: G1-LCS&LCSD

Matrix: WATER

Prep. Date: June 4, 2007

Analysis Date 6/4/07-6/5/07

Lab ID#'s in Batch: LR 191135 , 191368 , 191099 , 191310 , 191410 , 191352 .

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = µg/L

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| TPH | 8015M-G | ND | 500 | 441 | 421 | 88 | 84 | 5 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 77 |
| LCS | 173 |
| LCSD | 163 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: SOLID

Prep. Date: Jun 01-07

Analysis Date: Jun 01-07

Lab ID#'s in Batch: 191130, 190956, 191099, 191307, 191126

REPORTING UNITS = mg/Kg

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

| Test | Method | Sample Result | Spike Added | Matrix LCS | Matrix LCSD | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8021 | ND | 0.02 | 0.0 | 0.0 | 88 | 105 | 18 |
| Toluene | 8021 | ND | 0.02 | 0.0 | 0.0 | 89 | 105 | 16 |
| Ethylbenzene | 8021 | ND | 0.02 | 0.0 | 0.0 | 86 | 102 | 17 |
| Xylenes | 8021 | ND | 0.06 | 0.1 | 0.1 | 91 | 108 | 17 |

*ND = Not Detected*
*RPD = Relative Percent Difference of Matrix LCS and Matrix LCSD*
*%REC-LCS & LCSD = Percent Recovery of LCS & LCSD*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 88 |
| LCS | 64 |
| LCSD | 80 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: WATER

Prep. Date: Jun 04-07

Analysis Date: 6/4/07-6/5/07

Lab ID#'s in Batch: LR 191135 , 191368 , 191099 , 191410 .

REPORTING UNITS = µg/L

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

| Test | Method | Sample Result | Spike Added | Matrix LCS | Matrix LCSD | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8021 | ND | 20 | 17.3 | 16.6 | 87 | 83 | 4 |
| Toluene | 8021 | ND | 20 | 17.2 | 16.7 | 86 | 84 | 3 |
| Ethylbenzene | 8021 | ND | 20 | 17.2 | 16.5 | 86 | 83 | 4 |
| Xylenes | 8021 | ND | 60 | 53.5 | 51.4 | 89 | 86 | 4 |

*ND = Not Detected*

*RPD = Relative Percent Difference of Matrix LCS and Matrix LCSD*

*%REC-LCS & LCSD = Percent Recovery of LCS & LCSD*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 77 |
| LCS | 94 |
| LCSD | 89 |

*AAA-TFT = a,a,a-Trifluorotoluene*

# ASSOCIATED LABORATORIES

## QA / QC EPA Methods 8260 - GCMS # 3

Sample ID: *MS/MSD Water Sample* 191084-086-2
Date Prepared: May 31, 2007
Date Analyzed: May 31, 2007
Sample Matrix: Water
Units: µg/L

Lab ID#'s in Batch: 191084, 191099, 189005, 191027, 191062, 190917

| Compound | Sample Conc. | Spike Added | Spike Res | Dup Res | Spike % Rec | Dup % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.00 | 50.0 | 59.10 | 60.90 | 118 | 122 | 3 | 22 | 59 - 172 |
| MTBE | 0.00 | 50.0 | 46.60 | 46.40 | 93 | 93 | 0 | 24 | 62 - 137 |
| Benzene | 0.00 | 50.0 | 43.40 | 43.60 | 87 | 87 | 0 | 24 | 62 - 137 |
| Trichloroethene | 0.00 | 50.0 | 48.10 | 50.30 | 96 | 101 | 4 | 21 | 66 - 142 |
| Toluene | 0.00 | 50.0 | 45.70 | 46.70 | 91 | 93 | 2 | 21 | 59 - 139 |
| Chlorobenzene | 0.00 | 50.0 | 46.10 | 47.30 | 92 | 95 | 3 | 21 | 60 - 133 |

Sample ID: *LCS*

| Compound | Spike Added | Spike Res | Spike % Rec | Limits % Rec |
|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 49.60 | 99 | 59 - 172 |
| MTBE | 50.0 | 45.40 | 91 | 62 - 137 |
| Benzene | 50.0 | 43.70 | 87 | 62 - 137 |
| Trichloroethene | 50.0 | 46.30 | 93 | 66 - 142 |
| Toluene | 50.0 | 45.50 | 91 | 59 - 139 |
| Chlorobenzene | 50.0 | 45.10 | 90 | 60 - 133 |

*=Outside QC limits due to high concentration in sample

If Sample Result > 4 times Spike Added, then "NC"

## Surrogate Recovery

| Compound | MB 1 % Rec | MB 2 % Rec | | MS % Rec | MSD % Rec | | LCS % Rec | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 102 | 112 | | 117 | 113 | | 116 | 70 - 135 |
| 1,2-Dichloroethane-d4 | 120 | 122 | | 119 | 117 | | 119 | 70 - 135 |
| Toluene-d8 | 100 | 102 | | 105 | 106 | | 104 | 70 - 135 |
| p-Bromofluorobenzene | 92 | 95 | | 92 | 93 | | 93 | 70 - 135 |

# ASSOCIATED LABORATORIES

## QA / QC EPA Methods 8260 - GCMS # 5

Sample ID: *MS/MSD Solid Sample* 191099-205
Date Prepared: May 30, 2007
Date Analyzed: May 30, 2007 7:04pm
Sample Matrix: Solid
Units: µg/Kg

Lab ID#'s in Batch: LR190812, 191099, 191044, 189005

| Compound | Sample Conc. | Spike Added | Spike Res | Dup Res | Spike % Rec | Dup % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.00 | 50.0 | 50.90 | 50.80 | 102 | 102 | 0 | 22 | 59 - 172 |
| MTBE | 0.00 | 50.0 | 52.10 | 37.40 | 104 | 75 | 33 | 24 | 62 - 137 |
| Benzene | 0.00 | 50.0 | 52.80 | 44.80 | 106 | 90 | 16 | 24 | 62 - 137 |
| Trichloroethene | 0.00 | 50.0 | 46.90 | 45.20 | 94 | 90 | 4 | 21 | 66 - 142 |
| Toluene | 0.00 | 50.0 | 45.90 | 42.40 | 92 | 85 | 8 | 21 | 59 - 139 |
| Chlorobenzene | 0.00 | 50.0 | 44.00 | 37.80 | 88 | 76 | 15 | 21 | 60 - 133 |

Sample ID: LCS/LCSD

| Compound | True Value | LCS Res | LCSD Res | LCS % Rec | LCSD % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 59.10 | 47.60 | 118 | 95 | 22 | 22 | 59 - 172 |
| MTBE | 50.0 | 58.60 | 58.20 | 117 | 116 | 1 | 24 | 62 - 137 |
| Benzene | 50.0 | 57.40 | 54.40 | 115 | 109 | 5 | 24 | 62 - 137 |
| Trichloroethene | 50.0 | 52.20 | 45.30 | 104 | 91 | 14 | 21 | 66 - 142 |
| Toluene | 50.0 | 52.20 | 46.00 | 104 | 92 | 13 | 21 | 59 - 139 |
| Chlorobenzene | 50.0 | 51.60 | 46.40 | 103 | 93 | 11 | 21 | 60 - 133 |

*=Outside QC limits due to high concentration in sample

If Sample Result > 4 times Spike Added, then "NC"

## Surrogate Recovery

| Compound | MB 1 % Rec | MB 2 % Rec | | MS % Rec | MSD % Rec | | LCS % Rec | LCSD % Rec | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 90 | 91 | | 95 | 92 | | 95 | 91 | 70 - 135 |
| 1,2-Dichloroethane-d4 | 124 | 127 | | 122 | 124 | | 107 | 110 | 70 - 135 |
| Toluene-d8 | 105 | 105 | | 98 | 100 | | 101 | 95 | 70 - 135 |
| p-Bromofluorobenzene | 93 | 94 | | 94 | 94 | | 94 | 98 | 70 - 135 |

# ASSOCIATED LABORATORIES

## QA / QC EPA Methods 8260, 624, & 524.2 GCMS # 7

Sample ID: *MS/MSD Water Sample* 191085-109-3
Date Prepared: May 30, 2007
Date Analyzed: May 31, 2007
Sample Matrix: Water
Units: µg/L

Lab ID#'s in Batch: 190485, 191099, 189905, 191059, 191085, 191012

| Compound | Sample Conc. | Spike Added | Spike Res | Dup Res | Spike % Rec | Dup % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.00 | 50.0 | 49.30 | 46.50 | 99 | 93 | 6 | 22 | 59 - 172 |
| MTBE | 0.00 | 50.0 | 46.00 | 44.10 | 92 | 88 | 4 | 24 | 62 - 137 |
| Benzene | 0.00 | 50.0 | 51.10 | 47.10 | 102 | 94 | 8 | 24 | 62 - 137 |
| Trichloroethene | 0.00 | 50.0 | 48.80 | 48.10 | 98 | 96 | 1 | 21 | 66 - 142 |
| Toluene | 0.00 | 50.0 | 44.10 | 44.20 | 88 | 88 | 0 | 21 | 59 - 139 |
| Chlorobenzene | 0.00 | 50.0 | 44.10 | 42.40 | 88 | 85 | 4 | 21 | 60 - 133 |

Sample ID: *LCS*

| Compound | Spike Added | Spike Res | Spike % Rec | Limits % Rec |
|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 49.40 | 99 | 59 - 172 |
| MTBE | 50.0 | 49.20 | 98 | 62 - 137 |
| Benzene | 50.0 | 51.40 | 103 | 62 - 137 |
| Trichloroethene | 50.0 | 50.80 | 102 | 66 - 142 |
| Toluene | 50.0 | 47.90 | 96 | 59 - 139 |
| Chlorobenzene | 50.0 | 45.20 | 90 | 60 - 133 |

*=Outside QC limits due to high concentration in sample
If Sample Result > 4 times Spike Added, then "NC"

## Surrogate Recovery

| Compound | MB 1 % Rec | MB 2 % Rec | | MS % Rec | MSD % Rec | | LCS % Rec | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 98 | 97 | | 96 | 98 | | 97 | 70 - 135 |
| 1,2-Dichloroethane-d4 | 109 | 104 | | 106 | 103 | | 104 | 70 - 135 |
| Toluene-d8 | 98 | 101 | | 94 | 97 | | 96 | 70 - 135 |
| p-Bromofluorobenzene | 101 | 94 | | 89 | 94 | | 97 | 70 - 135 |

# Chain of Custody Record

Lab job no. 191099

Date

Page 1 of 1

Laboratory: Associated Laboratories
Address: 806 N. Batavia St., Orange, CA 92868
Tel. (714) 771-6900

Project Owner: Mr. Glen Poywing
Site Address: 240 W. MacArthur Blvd, Oakland, CA 94612

Project Name: Oakland Autoworks
Project Number: 2003-43

Method of Shipment: ~~Hand Delivery~~ Golden State # 28785271793
Shipment No.:
Airbill No.:
Cooler No.:
Project Manager: Richard Makdisi
Telephone No.: (510) 644-3123
Fax No.: (510) 644-3859
Samplers: (Signature) Steve Bittman

Analysis Required: 8015/8021 8015 (EDF) 8260

| Field Sample Number | Location/ Depth | Date | Time | Sample Type | Type/Size of Container | Preservation: Cooler | Preservation: Chemical | Filtered | No. of Containers | TPH-gas | BTEX MTBE | TPH-diesel | Gas Oxygenates (8260) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B29-11 | 11-12' | 5/24/07 | 0920 | Soil | acetate sleeve | yes | — | No | 1 | X | X | X | X | |
| B29-13 | 13-14' | | 0925 | | | | — | | 1 | | | | | |
| B29-15 | 15-16' | | 0935 | | | | — | | 1 | | | | | |
| B29-17 | 17-18' | | 0945 | | | | — | | 1 | | | | | |
| B29-19 | 19-20' | | 0950 | | | | — | | 1 | | | | | |
| B29-GW | — | | 1005 | $H_2O$ | 1L / 6 VOAs | | NO/HCl | | 7 | | | | | |
| B28-GW | — | | 1310 | | | | | | 7 | | | | | |
| B24-GW | — | | 1245 | | | | | | 7 | | | | | |
| B25-GW | — | | 1345 | | | | | | 7 | | | | | |

| Relinquished by: | Date | Received by: | Date |
|---|---|---|---|
| Signature: [signature] | 5/25/07 | Signature: Kristen Walker | 5/26/07 |
| Printed: H. Pietropaoli | Time: 0800 | Printed: KRISTEN WALKER | Time: 11:30 |
| Company: Stellar Environmental | | Company: ASL | |

| Relinquished by: | Date | Received by: | Date |
|---|---|---|---|
| Signature: | | Signature: | |
| Printed: | Time: | Printed: | Time: |
| Company: | | Company: | |

| Relinquished by: | Date | Received by: | Date |
|---|---|---|---|
| Signature: | | Signature: | |
| Printed: | Time: | Printed: | Time: |
| Company: | | Company: | |

Turnaround Time: 5 Day TAT — STD

Comments: Global ID: TO600102243 EDF
Silica gel cleanup for diesel

2000-00-01

**ASSOCIATED LABORATORIES**
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)
ATTN: Richard Makdisi
2198 Sixth Street
Suite #201
Berkeley, CA 94710

LAB REQUEST 190956
REPORTED 06/05/2007
RECEIVED 05/25/2007

PROJECT Oakland Autoworks
Proj# 2003-43

SUBMITTER Client

COMMENTS Global ID #TO600102243

* Matrix Interference.

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

| Order No. | Client Sample Identification |
|---|---|
| 802630 | B32-27 |
| 802631 | B32-32 |
| 802632 | B32-GW |
| 802633 | B31-27 |
| 802634 | B31-32 |
| 802635 | B31-GW |
| 802636 | B30-11 |
| 802637 | B30-14 |
| 802638 | B30-15 |

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

*NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.*



*TESTING & CONSULTING*
*Chemical*
*Microbiological*
*Environmental*

**ASSOCIATED LABORATORIES**
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)
ATTN: Richard Makdisi
2198 Sixth Street
Suite #201
Berkeley, CA 94710

LAB REQUEST 190956
REPORTED 06/05/2007
RECEIVED 05/25/2007

PROJECT Oakland Autoworks
Proj# 2003-43

SUBMITTER Client

COMMENTS Global ID #TO600102243

* Matrix Interference.

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

| Order No. | Client Sample Identification |
|---|---|
| 802639 | B30-17 |
| 802640 | B30-19 |
| 802641 | B30-25 |
| 802642 | B30-GW |
| 802643 | B27-11 |
| 802644 | B27-13 |
| 802645 | B27-15 |
| 802646 | B27-GW |
| 802647 | Laboratory Method Blank (Solid) |
| 802648 | Laboratory Method Blank (Water) |

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

*NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.*



*TESTING & CONSULTING*
*Chemical*
*Microbiological*
*Environmental*

**ASSOCIATED LABORATORIES**
806 North Batavia - Orange, California 92868 - 714/771-6900 FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)
ATTN: Richard Makdisi
2198 Sixth Street
Suite #201
Berkeley, CA 94710

LAB REQUEST 190956
REPORTED 06/05/2007
RECEIVED 05/25/2007

PROJECT Oakland Autoworks
Proj# 2003-43

SUBMITTER Client

COMMENTS Global ID #TO600102243

* Matrix Interference.

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

| Order No. | Client Sample Identification |
|---|---|
| 802664 | B27-17 |
| 802665 | B27-19 |

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.
Vice President

*NOTE: Unless notified in writing , all samples will be discarded by appropriate disposal protocol 30 days from date reported.*



*TESTING & CONSULTING*
*Chemical*
*Microbiological*
*Environmental*

**Order #:** 802630 **Client Sample ID:** B32-27

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 09:45

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | 0.007 | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | 0.02 | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 87 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 101 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 94 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 133 S | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 104 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 96 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 89 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802631 **Client Sample ID:** B32-32

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 10:00

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 06/01/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 145 S | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 131 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 91 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 127 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 104 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 95 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 71 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802632 **Client Sample ID:** B32-GW

**Matrix:** WATER

**Date Sampled:** 05/23/2007
**Time Sampled:** 10:45

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 86 | 1 | 0.3 | 0.15 | ug/L | 05/30/07 LT |
| 8021B/AVO | Ethyl benzene | 41 | 1 | 0.3 | 0.09 | ug/L | 05/30/07 LT |
| 8021B/AVO | Methyl t - butyl ether | 77 | 1 | 5 | 0.75 | ug/L | 05/30/07 LT |
| 8021B/AVO | Toluene | 29 | 1 | 0.3 | 0.12 | ug/L | 05/30/07 LT |
| 8021B/AVO | Xylene (total) | 185 | 1 | 0.6 | 0.26 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 420* | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 2330 | 1 | 50 | 5.6 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 420* | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 1 | 0.20 | ug/L | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | 82 | 1 | 10 | 10 | ug/L | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 92 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 111 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 107 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 104 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | 0.11 | 1 | 0.1 | 0.032 | mg/L | 05/29/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 119 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802633 **Client Sample ID:** B31-27

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 11:15

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 83 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 138 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/29/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/29/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/29/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/29/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/29/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/29/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 91 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 127 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 102 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 94 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 87 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802634 **Client Sample ID:** B31-32

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 11:35

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 92 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 94 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/29/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/29/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/29/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/29/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/29/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/29/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 91 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 122 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 112 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 96 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 69 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802635 **Client Sample ID:** B31-GW

**Matrix:** WATER

**Date Sampled:** 05/23/2007
**Time Sampled:** 12:20

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 362 | 10 | 3.0 | 0.15 | ug/L | 05/30/07 LT |
| 8021B/AVO | Ethyl benzene | 18 | 1 | 0.3 | 0.09 | ug/L | 05/30/07 LT |
| 8021B/AVO | Methyl t - butyl ether | 39 | 1 | 5 | 0.75 | ug/L | 05/30/07 LT |
| 8021B/AVO | Toluene | 9.4 | 1 | 0.3 | 0.12 | ug/L | 05/30/07 LT |
| 8021B/AVO | Xylene (total) | 27 | 1 | 0.6 | 0.26 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 112 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 1290 | 1 | 50 | 5.6 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 112 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | 7.5 | 1 | 5 | 0.20 | ug/L | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 1 | 0.20 | ug/L | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | 262 | 1 | 10 | 10 | ug/L | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 98 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 101 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 106 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 101 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | 0.10 | 1 | 0.1 | 0.032 | mg/L | 05/29/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 132 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802636 **Client Sample ID:** B30-11

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 14:30

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 64 S | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 113 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 96 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 128 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 106 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 97 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 82 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802637 **Client Sample ID:** B30-14

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 14:35

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 50 | 0.25 | 0.0009 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Ethyl benzene | 12 | 100 | 0.5 | 0.0007 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Methyl t - butyl ether | ND | 50 | 1.75 | 0.0008 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Toluene | 2.6 | 50 | 0.25 | 0.0008 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Xylene (total) | 14 | 100 | 1.5 | 0.0019 | mg/Kg | 06/01/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 151 S | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 518 | 1 | 3 | 0.022 | mg/Kg | 05/26/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 160 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 100 | 500.0 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 100 | 500.0 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 100 | 1000.0 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 100 | 1000.0 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 100 | 1000.0 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 100 | 5000.0 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 105 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 114 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 103 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 106 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | 4.2 | 1 | 1.0 | 0.37 | mg/Kg | 05/29/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 74 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802638 **Client Sample ID:** B30-15

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 14:40

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 0.09 | 5 | 0.025 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | 0.09 | 5 | 0.025 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 5 | 0.175 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | 0.04 | 5 | 0.025 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | 0.33 | 5 | 0.075 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 171 S | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 21 | 5 | 15.0 | 0.022 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 171 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 5 | 25.0 | 0.12 | ug/Kg | 05/26/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 5 | 25.0 | 0.14 | ug/Kg | 05/26/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 5 | 50.0 | 0.17 | ug/Kg | 05/26/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 5 | 50.0 | 0.25 | ug/Kg | 05/26/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 5 | 50.0 | 0.13 | ug/Kg | 05/26/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 5 | 250.0 | 10 | ug/Kg | 05/26/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 97 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 97 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 109 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 109 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | 3.0 | 1 | 1.0 | 0.37 | mg/Kg | 05/29/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 63 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802639 **Client Sample ID:** B30-17

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 14:45

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 7.8 | 500 | 2.5 | 0.0009 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Ethyl benzene | 37 | 500 | 2.5 | 0.0007 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Methyl t - butyl ether | 24 | 500 | 17.5 | 0.0008 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Toluene | 36 | 500 | 2.5 | 0.0008 | mg/Kg | 06/01/07 YL |
| 8021B/AVO | Xylene (total) | 148 | 500 | 7.5 | 0.0019 | mg/Kg | 06/01/07 YL |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 139 S | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 3790 | 250 | 750.0 | 0.022 | mg/Kg | 05/29/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 169 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 500 | 2500.0 | 0.12 | ug/Kg | 05/29/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 500 | 2500.0 | 0.14 | ug/Kg | 05/29/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 500 | 5000.0 | 0.17 | ug/Kg | 05/29/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 500 | 5000.0 | 0.25 | ug/Kg | 05/29/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 500 | 5000.0 | 0.13 | ug/Kg | 05/29/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 500 | 25000.0 | 10 | ug/Kg | 05/29/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 91 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 83 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 102 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 132 S | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | 702 | 20 | 20.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 95 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802640 **Client Sample ID:** B30-19

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 14:50

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 1.3 | 100 | 0.5 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | 6.7 | 100 | 0.5 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | 4.2 | 100 | 3.5 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | 14 | 100 | 0.5 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | 31 | 100 | 1.5 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 159 S | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 1520 | 100 | 300.0 | 0.022 | mg/Kg | 05/29/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 210 S | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 200 | 1000.0 | 0.12 | ug/Kg | 05/26/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 200 | 1000.0 | 0.14 | ug/Kg | 05/26/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 200 | 2000.0 | 0.17 | ug/Kg | 05/26/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 200 | 2000.0 | 0.25 | ug/Kg | 05/26/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 200 | 2000.0 | 0.13 | ug/Kg | 05/26/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 200 | 10000.0 | 10 | ug/Kg | 05/26/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 96 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 114 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 98 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 106 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | 98 | 20 | 20.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 72 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802641 **Client Sample ID:** B30-25

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 15:20

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 98 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 142 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 95 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 126 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 109 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 93 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 67 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802642 **Client Sample ID:** B30-GW

**Matrix:** WATER

**Date Sampled:** 05/23/2007
**Time Sampled:** 15:30

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | 66 | 10 | 3.0 | 0.15 | ug/L | 05/30/07 LT |
| 8021B/AVO | Ethyl benzene | 63 | 10 | 3.0 | 0.09 | ug/L | 05/30/07 LT |
| 8021B/AVO | Methyl t - butyl ether | 260 | 10 | 50.0 | 0.75 | ug/L | 05/30/07 LT |
| 8021B/AVO | Toluene | 89 | 10 | 3.0 | 0.12 | ug/L | 05/30/07 LT |
| 8021B/AVO | Xylene (total) | 48 | 10 | 6.0 | 0.26 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 308* | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | 9460 | 10 | 500.0 | 5.6 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 308* | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/30/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/30/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | 4.8 | 1 | 1 | 0.20 | ug/L | 05/30/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/30/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/30/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 10 | 10 | ug/L | 05/30/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 98 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 111 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 109 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 106 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | 0.25 | 1 | 0.1 | 0.032 | mg/L | 05/29/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 107 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802643 **Client Sample ID:** B27-11

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 16:40

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 113 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/30/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 74 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 98 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 128 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 111 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 94 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 104 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802644 **Client Sample ID:** B27-13

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 16:45

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 108 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 132 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/26/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/26/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/26/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/26/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/26/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/26/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 93 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 123 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 104 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 94 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 81 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802645 **Client Sample ID:** B27-15

**Matrix:** SOLID

**Date Sampled:** 05/23/2007
**Time Sampled:** 16:50

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 113 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/30/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 45 S | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/26/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/26/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/26/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/26/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/26/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/26/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 94 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 124 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 105 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 92 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 99 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802646 **Client Sample ID:** B27-GW

**Matrix:** WATER

**Date Sampled:** 05/23/2007
**Time Sampled:** 17:20

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.3 | 0.15 | ug/L | 05/30/07 LT |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.3 | 0.09 | ug/L | 05/30/07 LT |
| 8021B/AVO | Methyl t - butyl ether | 191 | 1 | 5 | 0.75 | ug/L | 05/30/07 LT |
| 8021B/AVO | Toluene | ND | 1 | 0.3 | 0.12 | ug/L | 05/30/07 LT |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.6 | 0.26 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 91 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 50 | 5.6 | ug/L | 05/30/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 91 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 97 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 115 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 108 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 98 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 0.1 | 0.032 | mg/L | 05/29/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 129 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802647 **Client Sample ID:** Laboratory Method Blank (Solid)

**Matrix:** SOLID

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/30/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/30/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/30/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/30/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/30/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 102 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/25/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 125 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 90 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 114 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 114 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 100 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 120 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802648 **Client Sample ID:** Laboratory Method Blank (Water)

**Matrix:** WATER

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.3 | 0.15 | ug/L | 05/29/07 LT |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.3 | 0.09 | ug/L | 05/29/07 LT |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 5 | 0.75 | ug/L | 05/29/07 LT |
| 8021B/AVO | Toluene | ND | 1 | 0.3 | 0.12 | ug/L | 05/29/07 LT |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.6 | 0.26 | ug/L | 05/29/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 83 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 50 | 5.6 | ug/L | 05/29/07 LT |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 83 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.19 | ug/L | 05/25/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.20 | ug/L | 05/25/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 1 | 0.20 | ug/L | 05/25/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 1 | 0.23 | ug/L | 05/25/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 1 | 0.19 | ug/L | 05/25/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 10 | 10 | ug/L | 05/25/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 94 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 109 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 107 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 98 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 0.1 | 0.032 | mg/L | 05/29/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 112 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802664 **Client Sample ID:** B27-17

**Matrix:** SOLID

**Date Sampled:** 05/23/2007

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | ND | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 116 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/30/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 50 S | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/26/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/26/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/26/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/26/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/26/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/26/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 89 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 120 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 104 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 96 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 81 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

**Order #:** 802665 **Client Sample ID:** B27-19

**Matrix:** SOLID

**Date Sampled:** 05/23/2007

| Method | Analyte | Result | DF | EQL | MDL | Units | Date/Analyst |
|---|---|---|---|---|---|---|---|
| 8021B/AVO | Benzene | ND | 1 | 0.005 | 0.0009 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Ethyl benzene | ND | 1 | 0.005 | 0.0007 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Methyl t - butyl ether | 0.06 | 1 | 0.035 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Toluene | ND | 1 | 0.005 | 0.0008 | mg/Kg | 05/31/07 LD |
| 8021B/AVO | Xylene (total) | ND | 1 | 0.015 | 0.0019 | mg/Kg | 05/31/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8021B/AVO | a,a,a-Trifluorotoluene | 122 | | | | % | 70 - 130 |
| TPH-DHS | Gasoline | ND | 1 | 3 | 0.022 | mg/Kg | 05/26/07 LD |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| TPH-DHS | a,a,a-Trifluorotoluene | 84 | | | | % | 55 - 200 |
| 8260B | 1,2-Dibromoethane | ND | 1 | 5 | 0.12 | ug/Kg | 05/29/07 RP |
| 8260B | 1,2-Dichloroethane | ND | 1 | 5 | 0.14 | ug/Kg | 05/29/07 RP |
| 8260B | Di-isopropyl ether (DIPE) | ND | 1 | 10 | 0.17 | ug/Kg | 05/29/07 RP |
| 8260B | Ethyl-tertbutylether (ETBE) | ND | 1 | 10 | 0.25 | ug/Kg | 05/29/07 RP |
| 8260B | Tert-amylmethylether (TAME) | ND | 1 | 10 | 0.13 | ug/Kg | 05/29/07 RP |
| 8260B | Tertiary butyl alcohol (TBA) | ND | 1 | 50 | 10 | ug/Kg | 05/29/07 RP |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8260B | Surr1 - Dibromofluoromethane | 92 | | | | % | 70 - 130 |
| 8260B | Surr2 - 1,2-Dichloroethane-d4 | 130 | | | | % | 70 - 130 |
| 8260B | Surr3 - Toluene-d8 | 102 | | | | % | 70 - 130 |
| 8260B | Surr4 - p-Bromofluorobenzene | 96 | | | | % | 70 - 130 |
| 8015 | TEPH Diesel | ND | 1 | 1.0 | 0.37 | mg/Kg | 05/30/07 AF |
| **Surrogates** | | | | | | **Units** | **Control Limits** |
| 8015 | o-Terphenyl (sur) | 98 | | | | % | 55 - 200 |

EQL = Estimated Quantitation Limit, MDL = Method detection limit, DF = Dilution Factor
ND = Not detected below indicated MDL, J=Trace, S = Surrogate outside control limits

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: WATER

Extraction Method : 3510C

Prep. Date: May 29, 2007

Analysis Date May 29, 2007

Lab ID#'s in Batch: 190971, 190956, 191040

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = mg/L

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| DIESEL | 8015D | ND | 1.00 | 0.70 | 0.70 | 70 | 70 | 0 |

*ND = Not Detected*

*LCS Result = Lab Control Sample Result*

*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*

*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | O-Terphenyl |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 112 |
| LCS | 158 |
| LCSD | 160 |

# ASSOCIATED LABORATORIES

## QA / QC EPA Methods 8260 - GCMS # 3

Sample ID: *MS/MSD Water Sample* 190991-726-2
Date Prepared: May 29, 2007
Date Analyzed: May 29, 2007
Sample Matrix: Water
Units: µg/L

Lab ID#'s in Batch: 190954, 190919, 190917, 190991, 190485, 190956

| Compound | Sample Conc. | Spike Added | Spike Res | Dup Res | Spike % Rec | Dup % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.00 | 50.0 | 57.40 | 57.20 | 115 | 114 | 0 | 22 | 59 - 172 |
| MTBE | 6.40 | 50.0 | 51.50 | 50.10 | 90 | 87 | 3 | 24 | 62 - 137 |
| Benzene | 0.00 | 50.0 | 42.20 | 40.80 | 84 | 82 | 3 | 24 | 62 - 137 |
| Trichloroethene | 0.00 | 50.0 | 48.80 | 50.30 | 98 | 101 | 3 | 21 | 66 - 142 |
| Toluene | 0.00 | 50.0 | 46.10 | 46.40 | 92 | 93 | 1 | 21 | 59 - 139 |
| Chlorobenzene | 0.00 | 50.0 | 46.30 | 47.00 | 93 | 94 | 2 | 21 | 60 - 133 |

Sample ID: *LCS*

| Compound | Spike Added | Spike Res | Spike % Rec | Limits % Rec |
|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 62.80 | 126 | 59 - 172 |
| MTBE | 50.0 | 41.60 | 83 | 62 - 137 |
| Benzene | 50.0 | 41.90 | 84 | 62 - 137 |
| Trichloroethene | 50.0 | 47.30 | 95 | 66 - 142 |
| Toluene | 50.0 | 47.40 | 95 | 59 - 139 |
| Chlorobenzene | 50.0 | 45.20 | 90 | 60 - 133 |

*=Outside QC limits due to high concentration in sample

If Sample Result > 4 times Spike Added, then "NC"

## Surrogate Recovery

| Compound | MB 1 % Rec | MB 2 % Rec | | MS % Rec | MSD % Rec | | LCS % Rec | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 103 | 113 | | 117 | 122 | | 115 | 70 - 135 |
| 1,2-Dichloroethane-d4 | 117 | 123 | | 114 | 114 | | 123 | 70 - 135 |
| Toluene-d8 | 103 | 104 | | 109 | 111 | | 105 | 70 - 135 |
| p-Bromofluorobenzene | 103 | 94 | | 93 | 95 | | 98 | 70 - 135 |

# ASSOCIATED LABORATORIES

## QA / QC EPA Methods 8260, 624, & 524.2 GCMS # 7

Sample ID: *MS/MSD Water Sample* 190956-632
Date Prepared: May 25, 2007
Date Analyzed: May 26, 2007
Sample Matrix: Water
Units: µg/L

Lab ID#'s in Batch: 190924, 190781, 190956, 190960, 190944, 190927, 189325

| Compound | Sample Conc. | Spike Added | Spike Res | Dup Res | Spike % Rec | Dup % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.00 | 50.0 | 49.20 | 50.00 | 98 | 100 | 2 | 22 | 59 - 172 |
| MTBE | 8.90 | 50.0 | 55.00 | 56.60 | 92 | 95 | 3 | 24 | 62 - 137 |
| Benzene | 67.70 | 50.0 | 102.00 | 106.00 | 69 | 77 | 4 | 24 | 62 - 137 |
| Trichloroethene | 1.30 | 50.0 | 54.00 | 54.70 | 105 | 107 | 1 | 21 | 66 - 142 |
| Toluene | 17.30 | 50.0 | 63.60 | 62.70 | 93 | 91 | 1 | 21 | 59 - 139 |
| Chlorobenzene | 0.00 | 50.0 | 48.60 | 49.20 | 97 | 98 | 1 | 21 | 60 - 133 |

Sample ID: *LCS*

| Compound | Spike Added | Spike Res | Spike % Rec | Limits % Rec |
|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 49.00 | 98 | 59 - 172 |
| MTBE | 50.0 | 46.20 | 92 | 62 - 137 |
| Benzene | 50.0 | 46.40 | 93 | 62 - 137 |
| Trichloroethene | 50.0 | 55.00 | 110 | 66 - 142 |
| Toluene | 50.0 | 50.50 | 101 | 59 - 139 |
| Chlorobenzene | 50.0 | 51.10 | 102 | 60 - 133 |

*=Outside QC limits due to high concentration in sample
If Sample Result > 4 times Spike Added, then "NC"

## Surrogate Recovery

| Compound | MB 1 % Rec | MB 2 % Rec | | MS % Rec | MSD % Rec | | LCS % Rec | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 94 | 94 | | 93 | 94 | | 93 | 70 - 135 |
| 1,2-Dichloroethane-d4 | 109 | 115 | | 109 | 102 | | 112 | 70 - 135 |
| Toluene-d8 | 107 | 108 | | 103 | 104 | | 105 | 70 - 135 |
| p-Bromofluorobenzene | 98 | 94 | | 97 | 96 | | 98 | 70 - 135 |

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: SOLID

Prep. Date: May 31-07

Analysis Date: May 31-07

Lab ID#'s in Batch: 190956, 191129

REPORTING UNITS = mg/Kg

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

| Test | Method | Sample Result | Spike Added | Matrix LCS | Matrix LCSD | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8021 | ND | 0.02 | 0.0 | 0.0 | 104 | 101 | 3 |
| Toluene | 8021 | ND | 0.02 | 0.0 | 0.0 | 103 | 101 | 2 |
| Ethylbenzene | 8021 | ND | 0.02 | 0.0 | 0.0 | 102 | 100 | 2 |
| Xylenes | 8021 | ND | 0.06 | 0.1 | 0.1 | 104 | 102 | 2 |

*ND = Not Detected*
*RPD = Relative Percent Difference of Matrix LCS and Matrix LCSD*
*%REC-LCS & LCSD = Percent Recovery of LCS & LCSD*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 70 |
| LCS | 82 |
| LCSD | 87 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: SOLID

Prep. Date: Jun 01-07

Analysis Date: Jun 01-07

Lab ID#'s in Batch: 191130, 190956, 191099, 191307, 191126

REPORTING UNITS = mg/Kg

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

| Test | Method | Sample Result | Spike Added | Matrix LCS | Matrix LCSD | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8021 | ND | 0.02 | 0.0 | 0.0 | 88 | 105 | 18 |
| Toluene | 8021 | ND | 0.02 | 0.0 | 0.0 | 89 | 105 | 16 |
| Ethylbenzene | 8021 | ND | 0.02 | 0.0 | 0.0 | 86 | 102 | 17 |
| Xylenes | 8021 | ND | 0.06 | 0.1 | 0.1 | 91 | 108 | 17 |

*ND = Not Detected*

*RPD = Relative Percent Difference of Matrix LCS and Matrix LCSD*

*%REC-LCS & LCSD = Percent Recovery of LCS & LCSD*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 88 |
| LCS | 64 |
| LCSD | 80 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: G#14-LCS/LCSD

Matrix: SOLID

Prep. Date: May 25, 2007

Analysis Date May 25, 2007

Lab ID#'s in Batch: LR 190837, 190956, 190930

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = mg/Kg

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| TPH | 8015M-G | ND | 5.00 | 4.69 | 5.18 | 94 | 104 | 10 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| **QC Limit** | **55-200** |
| Method Blank | 126 |
| LCS | 136 |
| LCSD | 158 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: G#14-LCS/LCSD

Matrix: SOLID

Prep. Date: May 25, 2007

Analysis Date May 26, 2007

Lab ID#'s in Batch: LR 190956, 190930

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = mg/Kg

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| TPH | 8015M-G | ND | 5.00 | 5.55 | 5.55 | 111 | 111 | 0 |

*ND = Not Detected*

*LCS Result = Lab Control Sample Result*

*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*

*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 136 |
| LCS | 167 |
| LCSD | 155 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: G#14-LCS/LCSD

Matrix: SOLID

Prep. Date: May 29, 2007

Analysis Date May 29, 2007

Lab ID#'s in Batch: LR 190956, 191037, 191044

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = mg/Kg

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| TPH | 8015M-G | ND | 5.00 | 4.47 | 4.96 | 89 | 99 | 10 |

*ND = Not Detected*

*LCS Result = Lab Control Sample Result*

*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*

*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 108 |
| LCS | 139 |
| LCSD | 143 |

*AAA-TFT = a,a,a-Trifluorotoluene*

# ASSOCIATED LABORATORIES

## QA / QC EPA Methods 8260 - GCMS # 5

Sample ID: *MS/MSD Solid Sample* 190956-630
Date Prepared: May 25, 2007
Date Analyzed: May 25, 2007 7:47pm
Sample Matrix: Solid
Units: µg/Kg

Lab ID#'s in Batch:

| Compound | Sample Conc. | Spike Added | Spike Res | Dup Res | Spike % Rec | Dup % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.00 | 50.0 | 48.40 | 44.70 | 97 | 89 | 8 | 22 | 59 - 172 |
| MTBE | 0.00 | 50.0 | 47.60 | 44.70 | 95 | 89 | 6 | 24 | 62 - 137 |
| Benzene | 0.00 | 50.0 | 44.60 | 42.50 | 89 | 85 | 5 | 24 | 62 - 137 |
| Trichloroethene | 0.00 | 50.0 | 48.30 | 46.50 | 97 | 93 | 4 | 21 | 66 - 142 |
| Toluene | 0.00 | 50.0 | 50.00 | 47.50 | 100 | 95 | 5 | 21 | 59 - 139 |
| Chlorobenzene | 0.00 | 50.0 | 46.40 | 43.50 | 93 | 87 | 6 | 21 | 60 - 133 |

Sample ID: LCS/LCSD

| Compound | True Value | LCS Res | LCSD Res | LCS % Rec | LCSD % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 50.90 | 53.30 | 102 | 107 | 5 | 22 | 59 - 172 |
| MTBE | 50.0 | 51.40 | 54.70 | 103 | 109 | 6 | 24 | 62 - 137 |
| Benzene | 50.0 | 49.90 | 52.30 | 100 | 105 | 5 | 24 | 62 - 137 |
| Trichloroethene | 50.0 | 52.80 | 53.30 | 106 | 107 | 1 | 21 | 66 - 142 |
| Toluene | 50.0 | 53.10 | 51.40 | 106 | 103 | 3 | 21 | 59 - 139 |
| Chlorobenzene | 50.0 | 52.50 | 52.20 | 105 | 104 | 1 | 21 | 60 - 133 |

*=Outside QC limits due to high concentration in sample

If Sample Result > 4 times Spike Added, then "NC"

## Surrogate Recovery

| Compound | MB 1 % Rec | MB 2 % Rec | | MS % Rec | MSD % Rec | | LCS % Rec | LCSD % Rec | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 90 | 89 | | 93 | 92 | | 92 | 95 | 70 - 135 |
| 1,2-Dichloroethane-d4 | 114 | 120 | | 105 | 108 | | 101 | 103 | 70 - 135 |
| Toluene-d8 | 114 | 107 | | 106 | 104 | | 108 | 102 | 70 - 135 |
| p-Bromofluorobenzene | 100 | 96 | | 91 | 100 | | 106 | 97 | 70 - 135 |

# *ASSOCIATED LABORATORIES*

## *QA / QC EPA Methods 8260 - GCMS # 5*

Sample ID: *MS/MSD Solid Sample* 190956-664
Date Prepared: May 25, 2007
Date Analyzed: May 26, 2007 12:31pm
Sample Matrix: Solid
Units: µg/Kg

Lab ID#'s in Batch:

| Compound | Sample Conc. | Spike Added | Spike Res | Dup Res | Spike % Rec | Dup % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 0.00 | 50.0 | 50.20 | 51.30 | 100 | 103 | 2 | 22 | 59 - 172 |
| MTBE | 0.00 | 50.0 | 44.90 | 47.70 | 90 | 95 | 6 | 24 | 62 - 137 |
| Benzene | 0.00 | 50.0 | 46.80 | 47.50 | 94 | 95 | 1 | 24 | 62 - 137 |
| Trichloroethene | 0.00 | 50.0 | 47.00 | 52.10 | 94 | 104 | 10 | 21 | 66 - 142 |
| Toluene | 0.00 | 50.0 | 44.80 | 48.10 | 90 | 96 | 7 | 21 | 59 - 139 |
| Chlorobenzene | 0.00 | 50.0 | 42.50 | 45.00 | 85 | 90 | 6 | 21 | 60 - 133 |

Sample ID: LCS/LCSD

| Compound | True Value | LCS Res | LCSD Res | LCS % Rec | LCSD % Rec | RPD | QC RPD | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50.0 | 51.90 | 51.50 | 104 | 103 | 1 | 22 | 59 - 172 |
| MTBE | 50.0 | 54.30 | 53.50 | 109 | 107 | 1 | 24 | 62 - 137 |
| Benzene | 50.0 | 51.10 | 50.30 | 102 | 101 | 2 | 24 | 62 - 137 |
| Trichloroethene | 50.0 | 51.50 | 50.70 | 103 | 101 | 2 | 21 | 66 - 142 |
| Toluene | 50.0 | 51.70 | 52.70 | 103 | 105 | 2 | 21 | 59 - 139 |
| Chlorobenzene | 50.0 | 52.20 | 49.80 | 104 | 100 | 5 | 21 | 60 - 133 |

*=Outside QC limits due to high concentration in sample

If Sample Result > 4 times Spike Added, then "NC"

## *Surrogate Recovery*

| Compound | MB 1 % Rec | | MS % Rec | MSD % Rec | | LCS % Rec | LCSD % Rec | Limits % Rec |
|---|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 93 | | 92 | 94 | | 91 | 96 | 70 - 135 |
| 1,2-Dichloroethane-d4 | 121 | | 113 | 110 | | 99 | 103 | 70 - 135 |
| Toluene-d8 | 108 | | 101 | 103 | | 103 | 106 | 70 - 135 |
| p-Bromofluorobenzene | 92 | | 96 | 95 | | 97 | 93 | 70 - 135 |

ASSOCIATED LABORATORIES

# LCS REPORT FORM

QC Sample: LCS/LCSD

Matrix: SOLID

Extraction Method : 3545

Prep. Date: May 29, 2007

Analysis Date May 30, 2007

Lab ID#'s in Batch: 190956

## LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT

Reporting Units = mg/Kg

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| DIESEL | 8015D | ND | 25 | 23 | 20 | 92 | 80 | 14 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | O-Terphenyl |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 120 |
| LCS | 163 |
| LCSD | 148 |

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: LCS/LCSD

Matrix: WATER

Prep. Date: May 29-07

Analysis Date: 5/29/07-5/30/07

Lab ID#'s in Batch: LR 191057 , 191062 , 190956

REPORTING UNITS = µg/L

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

| Test | Method | Sample Result | Spike Added | Matrix LCS | Matrix LCSD | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| Benzene | 8021 | ND | 20 | 18.0 | 17.8 | 90 | 89 | 1 |
| Toluene | 8021 | ND | 20 | 17.8 | 17.6 | 89 | 88 | 1 |
| Ethylbenzene | 8021 | ND | 20 | 17.8 | 17.5 | 89 | 88 | 2 |
| Xylenes | 8021 | ND | 60 | 52.2 | 51.6 | 87 | 86 | 1 |

*ND = Not Detected*
*RPD = Relative Percent Difference of Matrix LCS and Matrix LCSD*
*%REC-LCS & LCSD = Percent Recovery of LCS & LCSD*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 83 |
| LCS | 98 |
| LCSD | 96 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

# LCS REPORT FORM

QC Sample: G1-LCS&LCSD

Matrix: WATER

Prep. Date: May 25, 2007

Analysis Date 5/25/07-5/26/07

Lab ID#'s in Batch: LR 190845 , 190956 , 190861 .190917 , 190971 ,190927 .

## LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT

Reporting Units = µg/L

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| TPH | 8015M-G | ND | 500 | 481 | 487 | 96 | 97 | 1 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 87 |
| LCS | 176 |
| LCSD | 181 |

*AAA-TFT = a,a,a-Trifluorotoluene*

ASSOCIATED LABORATORIES

**LCS REPORT FORM**

QC Sample: G1-LCS&LCSD

Matrix: WATER

Prep. Date: May 29, 2007

Analysis Date 5/29/07-5/30/07

Lab ID#'s in Batch: LR 191057 , 190991 , 190956 , 191062 .

**LAB CONTROLLED SPIKE / LAB CONTROLLED DUPLICATE RESULT**

Reporting Units = µg/L

| Test | Method | Method Blank | Spike Added | LCS Spike | LCSD Spk. Dup | %Rec LCS | %Rec LCSD | RPD |
|---|---|---|---|---|---|---|---|---|
| TPH | 8015M-G | ND | 500 | 450 | 422 | 90 | 84 | 6 |

*ND = Not Detected*
*LCS Result = Lab Control Sample Result*
*%REC-LCS & LCSD = Percent Recovery of LCS Spike & LCS Spike Duplicate*
*RPD = Relative Percent Difference of LCS Spike and LCS Spike Duplicate*

| |
|---|
| *%REC LIMITS = 70 - 130* |
| *RPD LIMITS = 30* |

SURROGATE RECOVERY

| Sample No. | AAA-TFT |
|---|---|
| QC Limit | 55-200 |
| Method Blank | 83 |
| LCS | 171 |
| LCSD | 164 |

*AAA-TFT = a,a,a-Trifluorotoluene*

Stellar Environmental — original — 2-coolers

# Chain of Custody Record

Lab job no. 190956

Date

Page 1 of 21

Laboratory: Associated Laboratories
Address: 806 N. Batavia St., Orange, CA 92868
Tel. (714) 771-6900

Method of Shipment: ~~Hand Delivery~~ Golden State — 287854111792
Shipment No.
Airbill No.
Cooler No.
Project Manager: Richard Makdisi
Telephone No.: (510) 644-3123
Fax No.: (510) 644-3859
Samplers: (Signature)

Project Owner: Mr. Glen Poywing
Site Address: 240 W. MacArthur Blvd, Oakland, CA 94612

Project Name: Oakland Autoworks
Project Number: 2003-43

| Field Sample Number | Location/ Depth | Date | Time | Sample Type | Type/Size of Container | Preservation: Cooler | Preservation: Chemical | Filtered | No. of Containers | TVH 8015 | BTEX, MTBE 8015/8021 | TEH-diesel (8015) | Gas Oxy (EDB, EDC) 8260 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B32-27 | 27-27.5 | 5/23/07 | 0945 | Soil | acetate sleeve | yes | no | No | 1 | X | X | X | X | |
| B32-32 | 32-33' | | 1000 | " | " " | " | " | | 1 | | | | | |
| B32-GW | — | | 1045 | H2O | 1L / 6 VOAs | | no / HCL | | 3 | | | | | |
| B31-27 | 27-27.5' | | 1115 | Soil | brass sleeve | | no | | 1 | | | | | |
| B31-32 | 32-33 | | 1135 | " | " " | | " | | 2 | | | | | |
| B31-GW | — | | 1220 | H2O | 1L / 6 VOAs | | no / HCL | | 7 | | | | | |
| B30-11 | 11-12 | | 1430 | Soil | acetate sleeve | | no | | 1 | | | | | |
| B30-14 | 13-14 | | 1435 | | " " | | | | 1 | | | | | |
| B30-15 | 15-16 | | 1440 | | " | | | | 1 | | | | | |
| B30-17 | 17-18 | | 1445 | | " | | | | 1 | | | | | |
| B30-19 | 19-20 | | 1450 | | " | | | | 1 | | | | | |
| B30-25 | 24.5-25 | | 1520 | | " | | | | 1 | | | | | |

| Relinquished by: | Date | Received by: | Date | Relinquished by: | Date | Received by: | Date |
|---|---|---|---|---|---|---|---|
| Signature: H. Pietropaoli | 5/24/07 | Signature: Ivan Montoya | 5/25/07 | Signature: | | Signature: | |
| Printed: H. Pietropaoli | Time: 0800 | Printed: Ivan Montoya | Time: 9:25 | Printed: | Time: | Printed: | Time: |
| Company: Stellar Environmental | | Company: Associated Lab. | | Company: | | Company: | |

Turnaround Time: 5 Day TAT — 5TAT

Comments: Global ID: TO600102243

TPH diesel - silica gel cleanup

| Relinquished by: | Date | Received by: | Date |
|---|---|---|---|
| Signature: | | Signature: | |
| Printed: | Time: | Printed: | Time: |
| Company: | | Company: | |

2000-00-01

Original 2-copies

# Chain of Custody Record

Golden State # 287854111792

Lab job no. 190956

Date

Page 2 of 2

Laboratory: Associated Laboratories
Address: 806 N. Batavia St., Orange, CA 92868
Tel. (714) 771-6900

Method of Shipment: Hand Delivery
Shipment No.:
Airbill No.:
Cooler No.:

Project Owner: Mr. Glen Poywing
Site Address: 240 W. MacArthur Blvd, Oakland, CA 94612
Project Name: Oakland Autoworks
Project Number: 2003-43

Project Manager: Richard Makdisi
Telephone No.: (510) 644-3123
Fax No.: (510) 644-3859
Samplers: *(Signature)*

| Field Sample Number | Location/ Depth | Date | Time | Sample Type | Type/Size of Container | Preservation: Cooler | Preservation: Chemical | Filtered | No. of Containers | TVH-gas 8015/8021 | TEH-diesel 8015/8021 | BTEX/MTBE 8021/8260 | Gas oxygenate (EDC EDB) 8260 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B30-GW | — | 5/23/07 | 1530 | $H_2O$ | 1l / 6 VOAs | yes | NS/HCl | No | 7 | X | X | X | X | |
| B27-11 | 11-12 | | 1640 | Soil | acetate sleeve | | | | 1 | | | | | |
| B27-13 | 13-14 | | 1645 | " | " " | | | | 1 | | | | | |
| B27-15 | 15-16 | | 1650 | " | " " | | | | 1 | | | | | |
| B27-GW | — | | 1720 | $H_2O$ | 1l / 6 VOAs | | NS/HCl | | 7 | | | | | |

| Relinquished by: | Date | Received by: | Date | Relinquished by: | Date | Received by: | Date |
|---|---|---|---|---|---|---|---|
| Signature | 5/24/07 | Signature | 5/25/07 | Signature | | Signature | |
| Printed: H. Pietropaoli | Time: 0800 | Printed: Juan Montoya | Time: 935 | Printed | Time | Printed | Time |
| Company: Stellar Environmental | | Company: Associated Lab. | | Company | | Company | |

| Relinquished by: | Date | Received by: | Date |
|---|---|---|---|
| Signature | | Signature | |
| Printed | Time | Printed | Time |
| Company | | Company | |

Turnaround Time: 5 Day TAT — STD

Comments: Global ID: TO600102243

Silica Gel cleanup on Diesels

2000-00-01

# Soil-Gas
# Analytical Results

**McCampbell Analytical, Inc.**
"When Quality Counts"

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

| | | |
|---|---|---|
| Stellar Enviormental Solutions<br>2198 Sixth St. #201<br>Berkeley, CA 94710 | Client Project ID: #2003-43; Oakland Autoworks | Date Sampled: 05/23/07 |
| | | Date Received: 05/23/07 |
| | Client Contact: Richard Makdisi | Date Reported: 05/29/07 |
| | Client P.O.: | Date Completed: 05/29/07 |

**WorkOrder: 0705596**

May 29, 2007

Dear Richard:

Enclosed are:

1). the results of **8** analyzed samples from your **#2003-43; Oakland Autoworks project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

0705596

# Chain of Custody Record

Lab job no. _____
Date _____
Page 1 of 1

Laboratory McCampbell Analytical Inc
Address 1534 Willow Pass Road, Pittsburg, CA 94565-1701
877-252-9262

Project Owner Mr. Glen Poywing
Site Address 240 W. MacArthur Blvd, Oakland, CA 94612

Project Name Oakland Autoworks
Project Number 2003-43

Method of Shipment Hand Delivery
Shipment No. _____
Airbill No. _____
Cooler No. _____

Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) [signature]

Analysis Required: Filtered; No. of Containers; TVH 8015/8021; BTEX, MTBE 8021

| Field Sample Number | Location/ Depth | Date | Time | Sample Type | Type/Size of Container | Preservation: Cooler | Preservation: Chemical | Filtered | No. of Containers | TVH 8015/8021 | BTEX, MTBE 8021 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B32-SG-10 | 10' | 5/23/07 | 0815 | soil gas | Tedlar bag | yes | no | | 1 | X | X | SOIL GAS |
| B32-SG-14 | 14' | | 0850 | | | | | | 1 | ✓ | ✓ | |
| B32-SG-18 | 18' | | 0915 | | | | | | 1 | ✓ | ✓ | |
| B31-SG-10 | 10' | | 1025 | | | | | | 1 | ✓ | ✓ | |
| B31-SG-14 | 14' | | 1040 | | | | | | 1 | ✓ | ✓ | |
| B30-SG-10 | 10' | | 1240 | | | | | | 1 | ✓ | ✓ | |
| B30-SG-14 | 14' | | 1255 | | | | | | 1 | ✓ | ✓ | |
| B30-SG-18 | 18' | | 1320 | | | | | | 1 | ✓ | ✓ | |

| Relinquished by: | Date | Received by: | Date | Relinquished by: | Date | Received by: | Date |
|---|---|---|---|---|---|---|---|
| Signature [signature] | 5/23/07 | Signature | 5/23 | Signature | 5/23 | Signature [signature] | 5/23/07 |
| Printed Henry Pietropaoli | Time 1400 | Printed | Time 1580 | Printed | Time 325 | Printed Maria Vercgas | Time 1525 |
| Company Stellar Environmental | | Company | | Company | | Company MTL | |

Turnaround Time: ~~Standard~~
Comments: Samples ~~on ice~~ in cooler without ice
Global ID T0600102243

| Relinquished by: | Date | Received by: | Date |
|---|---|---|---|
| Signature | | Signature | |
| Printed | Time | Printed | Time |
| Company | | Company | |

2000-00-01

★ Stellar Environmental Solutions

ICE/t° NO
GOOD CONDITION ✓ APPROPRIATE CONTAINERS ✓
HEAD SPACE ABSENT ____ PRESERVED IN LAB ____
DECHLORINATED IN LAB ____
PRESERVATION VOAS | O&G | METALS | OTHER

2198 Sixth Street #201, Berkeley, CA 94710

**McCampbell Analytical, Inc.**
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD



**WorkOrder: 0705596** **ClientID: SESB**

☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

**Report to:**
Richard Makdisi
Stellar Enviormental Solutions
2198 Sixth St. #201
Berkeley, CA 94710
Email: rmakdisi@stellar-environmental.com
TEL: (510) 644-312 FAX: (510) 644-385
ProjectNo: #2003-43; Oakland Autoworks
PO:

**Bill t**
Accounts Payable
Stellar Enviormental Solutions
2198 Sixth St. #201
Berkeley, CA 94710

**Requested TAT: 5 days**

***Date Received*** **05/23/2007**
***Date Printed:*** **05/23/2007**

| Sample ID | ClientSampID | Matrix | Collection Date | Hold | Requested Tests (See legend below) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 0705596-001 | B32-SG-10 | Air | 05/23/07 8:15:00 | ☐ | A | A | | | | | | | | | | |
| 0705596-002 | B32-SG-14 | Air | 05/23/07 8:50:00 | ☐ | A | | | | | | | | | | | |
| 0705596-003 | B32-SG-18 | Air | 05/23/07 9:15:00 | ☐ | A | | | | | | | | | | | |
| 0705596-004 | B31-SG-10 | Air | 05/23/07 10:25:00 | ☐ | A | | | | | | | | | | | |
| 0705596-005 | B31-SG-14 | Air | 05/23/07 10:40:00 | ☐ | A | | | | | | | | | | | |
| 0705596-006 | B30-SG-10 | Air | 05/23/07 12:40:00 | ☐ | A | | | | | | | | | | | |
| 0705596-007 | B30-SG-14 | Air | 05/23/07 12:55:00 | ☐ | A | | | | | | | | | | | |
| 0705596-008 | B30-SG-18 | Air | 05/23/07 1:20:00 | ☐ | A | | | | | | | | | | | |

**Test Legend:**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | G-MBTEX_AIR | 2 | PRCONTAINERS | 3 | | 4 | | 5 | |
| 6 | | 7 | | 8 | | 9 | | 10 | |
| 11 | | 12 | | | | | | | |

**Prepared by: Maria Venegas**

**Comments:**

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

**McCampbell Analytical, Inc.**
"When Quality Counts"

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

# Sample Receipt Checklist

Client Name: **Stellar Enviormental Solutions**

Date and Time Received: **05/23/07 5:29:57 PM**

Project Name: **#2003-43; Oakland Autoworks**

Checklist completed and reviewed by: Maria Venegas

WorkOrder N°: **0705596** Matrix Air

Carrier: Rob Pringle (MAI Courier)

## Chain of Custody (COC) Information

| | | |
|---|---|---|
| Chain of custody present? | Yes ☑ | No ☐ |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ |
| Sample IDs noted by Client on COC? | Yes ☑ | No ☐ |
| Date and Time of collection noted by Client on COC? | Yes ☑ | No ☐ |
| Sampler's name noted on COC? | Yes ☑ | No ☐ |

## Sample Receipt Information

| | | | |
|---|---|---|---|
| Custody seals intact on shippping container/cooler? | Yes ☐ | No ☐ | NA ☑ |
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| Samples in proper containers/bottles? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |

## Sample Preservation and Hold Time (HT) Information

| | | | |
|---|---|---|---|
| All samples received within holding time? | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature | Cooler Temp: | | NA ☑ |
| Water - VOA vials have zero headspace / no bubbles? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Sample labels checked for correct preservation? | Yes ☑ | No ☐ | |
| TTLC Metal - pH acceptable upon receipt (pH<2)? | Yes ☐ | No ☐ | NA ☑ |

Client contacted: Date contacted: Contacted by:

Comments:

**McCampbell Analytical, Inc.**
"When Quality Counts"

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

| | | |
|---|---|---|
| Stellar Enviormental Solutions | Client Project ID: #2003-43; Oakland Autoworks | Date Sampled: 05/23/07 |
| 2198 Sixth St. #201 | | Date Received: 05/23/07 |
| Berkeley, CA 94710 | Client Contact: Richard Makdisi | Date Extracted: 05/24/07-05/25/07 |
| | Client P.O.: | Date Analyzed 05/24/07-05/25/07 |

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0705596

| Lab ID | Client ID | Matrix | TPH(g) | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes | DF | % SS |
|---|---|---|---|---|---|---|---|---|---|---|
| 001A | B32-SG-10 | A | ND | ND | ND | ND | ND | ND | 1 | 96 |
| 002A | B32-SG-14 | A | 33,m | ND | ND | ND | ND | ND | 1 | 93 |
| 003A | B32-SG-18 | A | 53,m | ND | ND | ND | ND | ND | 1 | 96 |
| 004A | B31-SG-10 | A | ND | ND | ND | ND | ND | ND | 1 | 87 |
| 005A | B31-SG-14 | A | ND | ND | ND | ND | ND | ND | 1 | 91 |
| 006A | B30-SG-10 | A | ND | ND | ND | ND | ND | ND | 1 | 96 |
| 007A | B30-SG-14 | A | ND | ND | ND | ND | ND | ND | 1 | 97 |
| 008A | B30-SG-18 | A | 130,000,a,c | ND<4000 | 1000 | 29 | 41 | 40 | 100 | 105 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Reporting Limit for DF =1; ND means not detected at or above the reporting limit | A | 25 | 2.5 | 0.25 | 0.25 | 0.25 | 0.25 | 1 | µg/L |
| | S | NA | NA | NA | NA | NA | NA | 1 | mg/Kg |

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

**McCampbell Analytical, Inc.**
"When Quality Counts"

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

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air QC Matrix: Water WorkOrder: 0705596

| EPA Method SW8021B/8015Cm | Extraction SW5030B | | | | BatchID: 28238 | | | | Spiked Sample ID: 0705545-003A | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Sample | Spiked | MS | MSD | MS-MSD | LCS | LCSD | LCS-LCSD | Acceptance Criteria (%) | | | |
| | µg/L | µg/L | % Rec. | % Rec. | % RPD | % Rec. | % Rec. | % RPD | MS / MSD | RPD | LCS/LCSD | RPD |
| TPH(btex)£ | ND | 60 | 97.3 | 96.9 | 0.352 | 101 | 102 | 0.985 | 70 - 130 | 30 | 70 - 130 | 30 |
| MTBE | ND | 10 | 107 | 108 | 0.549 | 104 | 109 | 4.64 | 70 - 130 | 30 | 70 - 130 | 30 |
| Benzene | ND | 10 | 95.7 | 96.9 | 1.32 | 95.9 | 99.8 | 3.99 | 70 - 130 | 30 | 70 - 130 | 30 |
| Toluene | ND | 10 | 86.9 | 87 | 0.127 | 93.8 | 101 | 7.47 | 70 - 130 | 30 | 70 - 130 | 30 |
| Ethylbenzene | ND | 10 | 95.9 | 87.4 | 9.27 | 97.7 | 96.9 | 0.844 | 70 - 130 | 30 | 70 - 130 | 30 |
| Xylenes | ND | 30 | 96.7 | 96.7 | 0 | 90.7 | 86.3 | 4.90 | 70 - 130 | 30 | 70 - 130 | 30 |
| %SS: | 91 | 10 | 94 | 92 | 2.54 | 111 | 109 | 1.81 | 70 - 130 | 30 | 70 - 130 | 30 |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 28238 SUMMARY

| Sample ID | Date Sampled | Date Extracted | Date Analyzed | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 0705596-003A | 05/23/07 9:15 AM | 05/24/07 | 05/24/07 10:28 AM | 0705596-004A | 05/23/07 10:25 AM | 05/24/07 | 05/24/07 11:02 AM |
| 0705596-005A | 05/23/07 10:40 AM | 05/24/07 | 05/24/07 11:36 AM | 0705596-006A | 05/23/07 12:40 PM | 05/24/07 | 05/24/07 3:10 AM |
| 0705596-007A | 05/23/07 12:55 PM | 05/24/07 | 05/24/07 3:40 AM | 0705596-008A | 05/23/07 1:20 PM | 05/25/07 | 05/25/07 7:27 PM |

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

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

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

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

DHS ELAP Certification N° 1644

QA/QC Officer

**McCampbell Analytical, Inc.**
"When Quality Counts"

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

# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air QC Matrix: Water WorkOrder: 0705596

| EPA Method SW8021B/8015Cm | Extraction SW5030B | | | | BatchID: 28261 | | | | Spiked Sample ID: 0705560-010A | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Sample | Spiked | MS | MSD | MS-MSD | LCS | LCSD | LCS-LCSD | Acceptance Criteria (%) | | | |
| | µg/L | µg/L | % Rec. | % Rec. | % RPD | % Rec. | % Rec. | % RPD | MS / MSD | RPD | LCS/LCSD | RPD |
| TPH(btex)£ | ND | 60 | 95.9 | 90.9 | 5.35 | 95.8 | 103 | 6.98 | 70 - 130 | 30 | 70 - 130 | 30 |
| MTBE | ND | 10 | 108 | 101 | 6.21 | 100 | 94.9 | 5.39 | 70 - 130 | 30 | 70 - 130 | 30 |
| Benzene | ND | 10 | 98.3 | 93.6 | 4.93 | 95.1 | 94.4 | 0.718 | 70 - 130 | 30 | 70 - 130 | 30 |
| Toluene | ND | 10 | 93.3 | 90.1 | 3.42 | 95.2 | 96.9 | 1.81 | 70 - 130 | 30 | 70 - 130 | 30 |
| Ethylbenzene | ND | 10 | 93.4 | 89.3 | 4.56 | 94.6 | 94.3 | 0.370 | 70 - 130 | 30 | 70 - 130 | 30 |
| Xylenes | ND | 30 | 85.7 | 81 | 5.60 | 86 | 91.7 | 6.38 | 70 - 130 | 30 | 70 - 130 | 30 |
| %SS: | 94 | 10 | 113 | 110 | 2.64 | 106 | 101 | 5.15 | 70 - 130 | 30 | 70 - 130 | 30 |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 28261 SUMMARY

| Sample ID | Date Sampled | Date Extracted | Date Analyzed | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 0705596-001A | 05/23/07 8:15 AM | 05/24/07 | 05/24/07 9:21 AM | 0705596-002A | 05/23/07 8:50 AM | 05/24/07 | 05/24/07 5:06 PM |

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

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

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

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

# APPENDIX G

# Soil Vapor Extraction
# Pilot Test Report

CALCLEAN INC.

"A Partner in Protecting California's Waters"

June 15, 2007

Stellar Environmental Solutions
2198 Sixth Street, Suite 201
Berkeley, CA 94710

ATTN: MR. HENRY PIETROPAOLI

SITE: DODSON LTD
240 W. MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

RE: HIGH VACUUM SOIL VAPOR EXTRACTION REPORT

Dear Mr. Pietropaoli:

CalClean Inc. is submitting this High Vacuum Soil Vapor Extraction Report for the above referenced site. This report includes all activities performed on May 31, 2007.

On May 31, 2007, CalClean performed a 6-hour high vacuum soil vapor extraction (HVSVE) event on one onsite well (B-32) using a low-noise, truck-mounted 450-CFM high-vacuum liquid ring blower along with a Bay Area Air Quality Management District (BAAQMD) various locations permitted propane-fired thermal oxidizer (Plant #12568). This technology allows hydrocarbons to be simultaneously removed from the vadose zone and capillary fringe. A high vacuum was applied for vapor extraction around the extraction well, while vacuum and vapor flow rates were modified to optimize recovery of hydrocarbon vapor. Induced vacuum readings were also obtained from several onsite observation wells.

Individual well influent vapor samples were collected in Tedlar bags during the event. The laboratory results, listed in Table 1 and laboratory reports included in Attachment 1, indicate the following:

- The starting and ending Total Petroleum Hydrocarbons as Gasoline (TPH-G) vapor concentrations for well B-32 were 423 ppmv and 402 ppmv, respectively.

- The starting and ending Benzene vapor concentrations for well B-32 were 1.1 ppmv and 1.1 ppmv, respectively.

The total equivalent amount of hydrocarbons recovered through vapor extraction during the 6-hour event was 1.30 pounds (based on laboratory data) and 0.24 pound (based on the Horiba field organic vapor analyzer data) with an average of 0.77 pound. The cumulative tabulation of recovered hydrocarbons (based on laboratory data) is provided in Table 2. The cumulative tabulation of recovered hydrocarbons (based on the field organic vapor analyzer data) is provided in Table 3. These results indicate that high vacuum soil vapor extraction using a mobile high vacuum system is acting as an effective remedial technology at this site in reducing Total Petroleum Hydrocarbons as Gasoline and BTEX constituent concentrations in the vadose zone.

The following attachments are included to document the HVSVE event at the site:

| | |
|---|---|
| Table 1 | Results of Laboratory Analysis of Influent Vapor Samples |
| Table 2 | High Vacuum Soil Vapor Extraction Spreadsheet (using Lab Data) |
| Figure 1 | Total Inlet HC Concentrations versus Time (6 Hours. Using Lab Data) |
| Figure 2 | Cumulative HC Recovered over 6 Hours (using Lab Data) |
| Table 3 | High Vacuum Soil Vapor Extraction Data Spreadsheet (using Horiba Data) |
| Figure 3 | Total Inlet HC Concentrations versus Time (6 Hours, Using Horiba and Lab Data) |
| Figure 4 | Cumulative HC Recovered over 6 Hours (using Horiba and Lab Data) |
| Attachment 1 | Laboratory Reports |
| Attachment 2 | High Vacuum Soil Vapor Extraction Field Data Sheets |

If you have any questions regarding this report, please contact us at (714) 734-9137 or via cell phone at (714) 936-2706.

Sincerely,

CALCLEAN INC.

Noel Shenoi
Principal Engineer

Attachments

CalClean Inc.

Table 1

RESULTS OF LABORATORY ANALYSIS OF VAPOR SAMPLES

Dodson LTD

Oakland, California

| Sample ID/ Date | Date/Time Sampled | TPH-g (ppmv) | Benzene (ppmv) | Toluene (ppmv) | Ethylbenzene (ppmv) | Total Xylenes (ppmv) | MtBE (ppmv) |
|---|---|---|---|---|---|---|---|
| B-32 | 5/31/2007 1130 | 423 | 1.1 | 3.8 | 2.2 | 6 | 10 |
| B-32 | 5/31/2007 1430 | 422 | 1.1 | 4 | 2.1 | 5.8 | 10 |
| B-32 | 5/31/2007 1730 | 402 | 1.1 | 3.7 | 1.9 | 5.3 | 12 |

Notes:

ppmv = parts per million by volume

TPH - g = total petroleum hydrocarbons - gasoline

Samples analyzed by EPA 8015/8021

MTBE = methyl tertiary butyl ether

CalClean Inc.

Table 2

# HIGH VACUUM SOIL VAPOR EXTRACTION SPREADSHEET (Using Lab Data)

**Dodson LTD, Oakland, CA**

| TIME | SYSTEM PARAMETERS | | | Hydrocarbon Recovery | | |
|---|---|---|---|---|---|---|
| | Average System Vacuum (in of Hg) | Average Total System Inlet Flow (scfm) | Influent Concentrations Post-dilution* (ppmv) | (lbs) | (gal) | (Cumul. lbs) |
| 5/31/2007 11:30 | 21 | 36 | 423 | 0.00 | 0.00 | 0 |
| 5/31/2007 15:30 | 21 | 40 | 422 | 0.87 | 0.14 | 0.87 |
| 5/31/2007 17:30 | 21 | 35 | 402 | 0.42 | 0.07 | 1.30 |
| | | | | | | |
| | **TOTAL HC RECOVERED* - LAB DATA** | | | **1.30** | **0.21** | |
| | **TOTAL HC RECOVERED** - FIELD ANALYZER DATA** | | | **0.24** | **0.04** | |
| | **Average HC Recovered*** (Field Analyzer/Lab Data)** | | | **0.77** | **0.12** | |

| | |
|---|---|
| **TOTAL GROUNDWATER RECOVERED** | **0** |

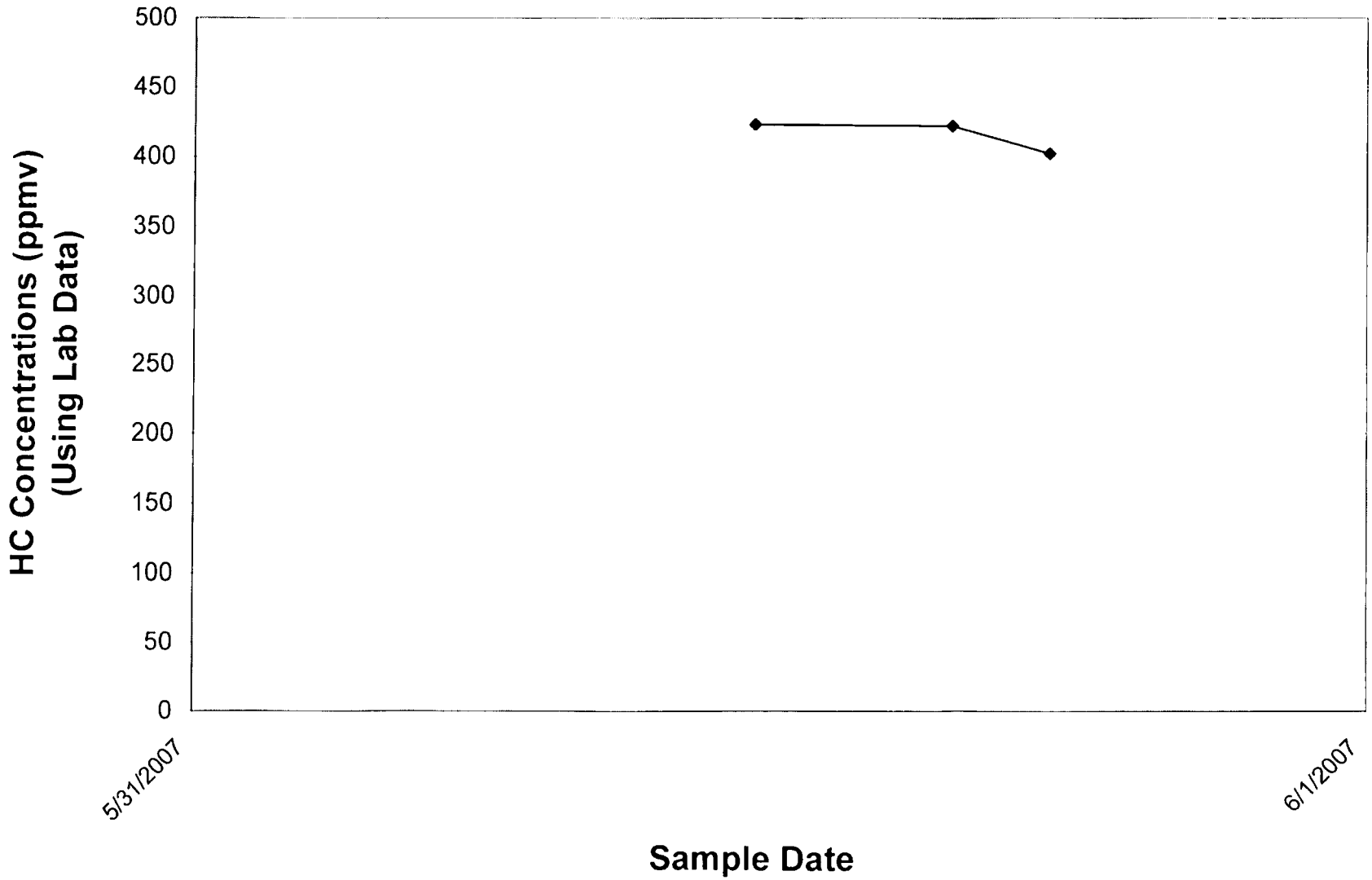
in of Hg = inches of mercury ppmv = parts per million by volume gal = gallons

scfm = standard cubic feet per minute lbs = pounds

* Concentration data based on laboratory data. ** Based on Horiba field analyzer data.

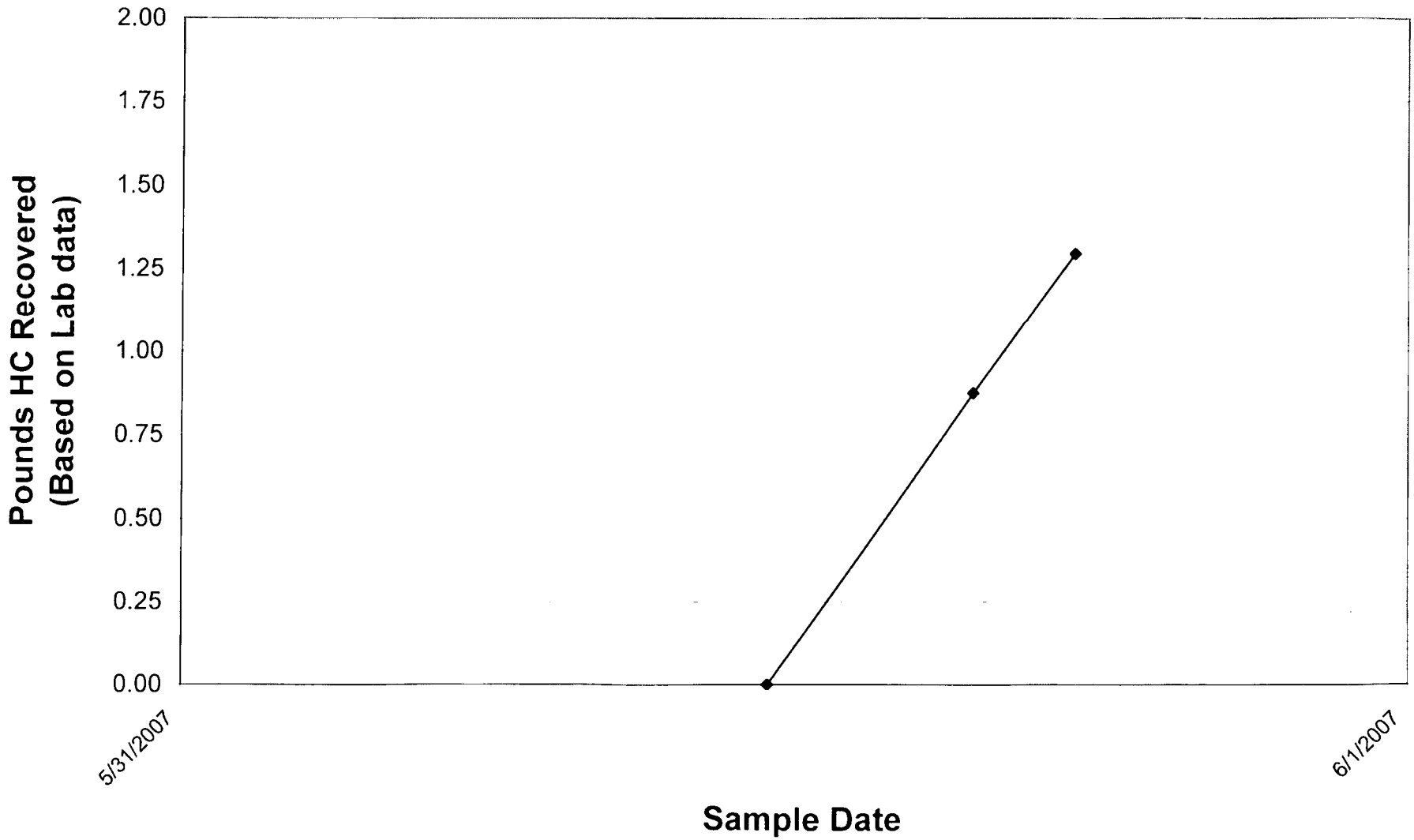
*** Average HC Recovered using Laboratory and Horiba data

## Figure 1
# Total Inlet HC Concentrations vs Time (6 Hours)
## Dodson LTD, Oakland, CA - 5/31/07



CalClean Inc.

# Figure 2
## Cumulative HC Recovered Over 6 Hours
### Dodson LTD, Oakland, CA - 5/31/07



**CalClean Inc.**

Table 3

## HIGH VACUUM SOIL VAPOR EXTRACTION DATA SPREADSHEET (Using Field Data)
## Dodson LTD, Oakland, CA

| TIME | Extraction Well # B-32 (Stinger Depth) | Extraction Well # (Stinger Depth) | Extraction Well # (Stinger Depth) | Extraction Well # (Stinger Depth) | Extraction Well # (Stinger Depth) | SYSTEM PARAMETERS: System Vacuum (in of Hg) | Total System Inlet Flow (scfm) ** | Influent Concentrations Post-dilution * (ppmv) | Effluent Concentrations (ppmv) * | Hydrocarbon Recovery (using Horiba Data): (lbs) | (gal) | (Cumul. lbs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/31/2007 11:30 | 1' | | | | | 21 | 26 | 22 | 1 | 0.00 | 0.00 | 0 |
| 5/31/2007 12:00 | 1' | | | | | 21 | 37 | 10 | | 0.00 | 0.00 | 0.00 |
| 5/31/2007 12:30 | 1' | | | | | 21 | 40 | 45 | | 0.01 | 0.00 | 0.01 |
| 5/31/2007 13:00 | 1' | | | | | 21 | 35 | 60 | | 0.01 | 0.00 | 0.02 |
| 5/31/2007 13:30 | 1' | | | | | 21 | 36 | 95 | | 0.02 | 0.00 | 0.04 |
| 5/31/2007 14:00 | 1' | | | | | 21 | 38 | 60 | | 0.02 | 0.00 | 0.06 |
| 5/31/2007 14:30 | 1' | | | | | 21 | 35 | 75 | | 0.02 | 0.00 | 0.08 |
| 5/31/2007 15:00 | 1' | | | | | 21 | 37 | 79 | | 0.02 | 0.00 | 0.10 |
| 5/31/2007 15:30 | 1' | | | | | 21 | 40 | 73 | | 0.02 | 0.00 | 0.12 |
| 5/31/2007 16:00 | 1' | | | | | 21 | 45 | 66 | | 0.02 | 0.00 | 0.14 |
| 5/31/2007 16:30 | 1' | | | | | 21 | 41 | 69 | | 0.02 | 0.00 | 0.16 |
| 5/31/2007 17:00 | 1' | | | | | 21 | 39 | 185 | | 0.03 | 0.01 | 0.19 |
| 5/31/2007 17:30 | 1' | | | | | 21 | 35 | 189 | | 0.05 | 0.01 | 0.24 |
| | | | | | | | | | | | | |
| | | | | | | | | **Total Hydrocarbons Recovered** | | **0.24** | **0.04** | |
| | | | | | | | | **Total Groundwater Extracted** | | | **-** | |

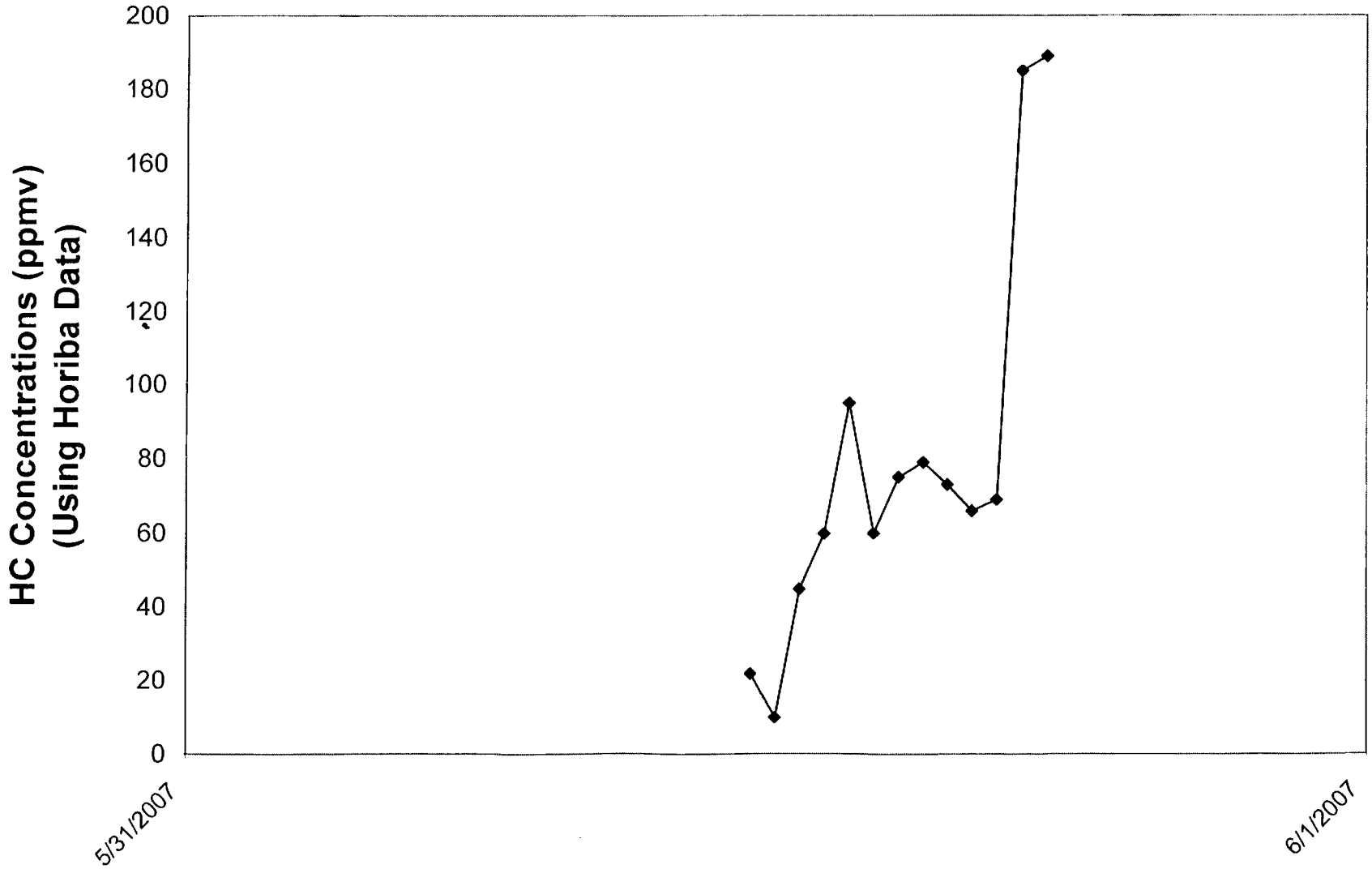
Comments: Manual dilution was not opened during the event.

in of Hg = inches of mercury  scfm = standard cubic feet per minute  gal = gallons  lbs = pounds

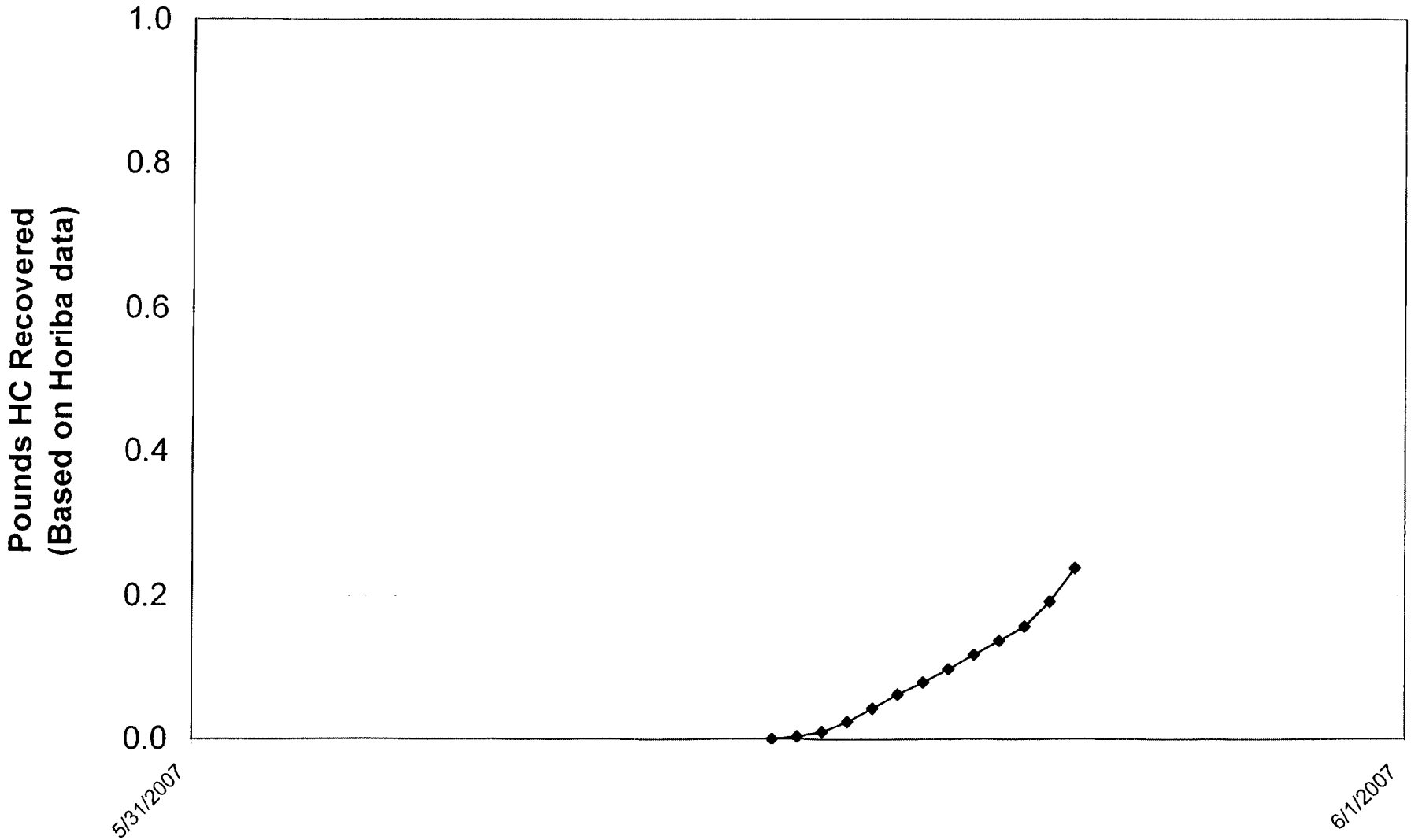
* Concentrations based on Horiba MEXA 324-JU field organic vapor analyzer, calibrated as hexane

** Inlet flow measured through orifice tube and converted from acfm to reported scfm

# Figure 3
## Total Inlet HC Concentrations vs Time (6 Hours)
### Dodson LTD, Oakland, CA - 5/31/07



## Figure 4
## Cumulative HC Recovered Over 6 Hours
### Dodson LTD, Oakland, CA - 5/31/07



# ATTACHMENT 1

# LABORATORY REPORTS

*ASSOCIATED LABORATORIES*
*806 North Batavia - Orange, California 92868 - 714/771-6900* *FAX 714/538-1209*

CLIENT Calclean (9977)
ATTN: Noel Shenoi
3002 Dow Ave.
#142
Tustin, CA 92780

LAB REQUEST 191366
REPORTED 06/11/2007
RECEIVED 06/02/2007

PROJECT Oakland Auto Works

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

| Order No. | Client Sample Identification |
|---|---|
| 804297 | B-32 (11:30) |
| 804298 | B-32 (15:30) |
| 804299 | B-32 (14:30) |

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by.

Edward S. Behare, Ph.D.
Vice President

*NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.*



*TESTING & CONSULTING*
*Chemical*
*Microbiological*
*Environmental*

**Order #:** 804297
**Matrix:** AIR
**Date Sampled:** 05/31/1907
**Time Sampled:** 11:30
**Sampled By:**

**Client:** Calclean
**Client Sample ID:** B-32 (11:30)

| Analyte | Result | DF | DLR | Units | Date/Analyst | |
|---|---|---|---|---|---|---|
| **8021B BTEX/MTBE in Air - (Vppm & ug/L)** | | | | | | |
| Benzene | 1.1 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Ethyl benzene | 2.2 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Methyl t - butyl ether | 10 | 3 | 0.25 | Vppm | 06/08/07 | LD |
| Toluene | 3.8 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Xylene (total) | 6.0 | 3 | 0.075 | Vppm | 06/08/07 | LD |
| **8015B - Gasoline in Air - (Vppm & ug/L)** | | | | | | |
| Gasoline | 423 | 3 | 12.5 | Vppm | 06/08/07 | LD |

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**Order #:** 804298
**Matrix:** AIR
**Date Sampled:** 05/31/1900
**Time Sampled:** 15:30
**Sampled By:**

**Client:** Calclean
**Client Sample ID:** B-32 (15:30)

| Analyte | Result | DF | DLR | Units | Date/Analyst | |
|---|---|---|---|---|---|---|
| **8021B BTEX/MTBE in Air - (Vppm & ug/L)** | | | | | | |
| Benzene | 1.1 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Ethyl benzene | 1.9 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Methyl t - butyl ether | 12 | 3 | 0.25 | Vppm | 06/08/07 | LD |
| Toluene | 3.7 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Xylene (total) | 5.3 | 3 | 0.075 | Vppm | 06/08/07 | LD |
| **8015B - Gasoline in Air - (Vppm & ug/L)** | | | | | | |
| Gasoline | 402 | 3 | 12.5 | Vppm | 06/08/07 | LD |

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**Order #:** 804299
**Matrix:** AIR
**Date Sampled:** 05/31/1907
**Time Sampled:** 14:30
**Sampled By:**

**Client:** Calclean
**Client Sample ID:** B-32 (14:30)

| Analyte | Result | DF | DLR | Units | Date/Analyst | |
|---|---|---|---|---|---|---|
| **8021B BTEX/MTBE in Air - (Vppm & ug/L)** | | | | | | |
| Benzene | 1.1 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Ethyl benzene | 2.1 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Methyl t - butyl ether | 10 | 3 | 0.25 | Vppm | 06/08/07 | LD |
| Toluene | 4.0 | 3 | 0.025 | Vppm | 06/08/07 | LD |
| Xylene (total) | 5.8 | 3 | 0.075 | Vppm | 06/08/07 | LD |
| **8015B - Gasoline in Air - (Vppm & ug/L)** | | | | | | |
| Gasoline | 422 | 3 | 12.5 | Vppm | 06/08/07 | LD |

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

# Chain of Custody Record

**ASSOCIATED LABORATORIES**
806 North Batavia ▪ Orange, CA 92868
Phone: (714) 771-6900 ▪ Fax: (714) 538-1209

| | | | |
|---|---|---|---|
| Company | CalClean Inc. 3002 Dow, #142 Tustin, CA 92780 | Phone | (714) 734-9137 |
| Project Manager | NOEL SHENOI | Fax | (714) 734-9138 |
| Project Name | OAKLAND AUTO WORKS | Project # | |
| Site Name and Address | | A.L. Job No. | 141366 |

Page 1 of 1

| | Sample ID | Lab ID | Date | Time | Matrix | Container Number/Size | Pres. | TPH-G (8015) | BTEX/MTBE (8021) | BTEX/OXYS (8260) | Test Instructions & Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | B-32 | | 5/31/07 | 1130 | AIR | TEDLAR | NONE | X | X | | |
| 2 | B-32 | | ↓ | 1530 | ↓ | ↓ | ↓ | X | X | | |
| 3 | B-32 | | ↓ | 1430 | ↓ | ↓ | ↓ | X | X | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | | | | | | | AIR=PPMV |
| 15 | | | | | | | | | | | |

Analysis Requested

**Sample Receipt - To Be Filled By Laboratory**

| | | | |
|---|---|---|---|
| Total Number of Containers | 3 | Properly Cooled Y / N / NA | |
| Custody Seals Y / N / NA | | Samples Intact Y / N / NA | |
| Received in Good Condition Y / N | | Samples Accepted Y / N | |

**Turn Around Time**

☒ Normal ☐ Rush ☐ Same Day ☐ 24 hrs. ☐ 48 hrs. ☐ 72 hrs.

| | Relinquished by Sampler: 1. | Relinquished by 2. | Relinquished by 3. |
|---|---|---|---|
| Signature: | Noel Shenoi | | |
| Printed Name: | | | |
| Date: | 6/2/07 Time: 9:55 | Date: Time: | Date: Time: |
| | **Received By: 1.** | **Received By: 2.** | **Received By: 3.** |
| Signature: | | | |
| Printed Name: | Kristen Endler | | |
| Date: | 6/2/07 Time: 9:55 | Date: Time: | Date: Time: |

Distribution: White - Laboratory Canary - Laboratory Pink - Project/Account Manager Goldenrod - Sampler/Originator

# ATTACHMENT 2

## HIGH VACUUM VAPOR EXTRACTION SYSTEM
## FIELD DATA SHEETS

# HIGH VACUUM DUAL PHASE EXTRACTION SYSTEM FIELD DATA SHEET

CALCLEAN INC.
(714) 734-9137

Project Location: ~~[illegible]~~ 240 W. McArthur Blvd. City: OAKLAND Site #: ~~CALIFORNIA LINEN~~ OAKLAND A.W. Date: 5/31/2007 Page 1 of 1

Client: ~~CALIFORNIA LINEN~~ Oakland A.W. Operator (s): BERNARDO, JASON

| | Well#1: B32 | | Well#2: | | Well #3: MW-1 | | Well #4: MW-2 | | Well #5: MW-3 | | Well #6: MW-6 | | Well #7: MW-5 | | Well #8: | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Initial Depth to Groundwater/FP | | | | | 20.83 | | 20.87 | | 19.75 | | 19.34 | | 19.28 | | | |
| Screen Interval | | | | | | | | | | | | | | | | |

| Time | Unit Vacuum ("Hg.) | Total Flowrate (scfm) | TOX Temp. (degF) | TOX Inlet Conc. (ppmv) | | Stinger Depth (feet) | | Stinger Depth (feet) | | | | | | Vacuum "$H_2O$ | DTW (ft) | Vacuum "$H_2O$ | DTW (ft) | Vacuum "$H_2O$ | DTW (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | OPEN | 1'. | | | | | | | | | | | | | |
| 1130 | 21 | 36 | 1407 | 22 | | | | | | | | | | | | | | | |
| 1200 | 21 | 37 | 1403 | 10 | | | | | 4.36 | 20.50 | 0.03 | 20.87 | 0.15 | 19.74 | 0.19 | 19.35 | | | |
| 1230 | 21 | 40 | 1411 | 45 | | | | | 5.20 | 20.50 | 0.05 | 20.86 | 0.05 | 19.73 | 0.21 | 19.36 | | | |
| 1300 | 21 | 35 | 1403 | 60 | | | | | 2.74 | 20.47 | 0.04 | 20.87 | 0.03 | 19.75 | 0.98 | 19.37 | 0.78 | 19.28 | |
| 1330 | 21 | 36 | 1405 | 95 | | | | | 2.98 | 20.51 | 0.05 | 20.87 | 0.05 | 19.74 | 1.39 | 19.38 | 0.94 | 19.27 | |
| 1400 | 21 | 38 | 1412 | 60 | | | | | 3.11 | 20.37 | 0.02 | 20.87 | 0.03 | 19.73 | 1.25 | 19.38 | 0.84 | 19.30 | |
| 1430 | 21 | 35 | 1410 | 75 | | | | | 3.86 | 20.44 | 0.01 | 20.86 | 0.07 | 19.74 | 1.85 | 19.38 | 0.79 | 19.29 | |
| 1500 | 21 | 37 | 1408 | 79 | | | | | 3.91 | 20.49 | 0.02 | 20.87 | 0.05 | 19.74 | 1.77 | 19.37 | 0.83 | 19.30 | |
| 1530 | 21 | 40 | 1403 | 73 | | | | | 4.13 | 20.35 | 0.04 | 20.87 | 0.06 | 19.73 | 1.63 | 19.38 | 0.85 | 19.28 | |
| 1600 | 21 | 45 | 1400 | 66 | | | | | 4.46 | 20.39 | 0.06 | 20.86 | 0.06 | 19.74 | 1.54 | 19.37 | 0.80 | 19.29 | |
| 1630 | 21 | 41 | 1405 | 69 | | | | | 4.53 | 20.38 | 0.07 | 20.87 | 0.07 | 19.75 | 1.53 | 19.38 | 0.83 | 19.30 | |
| 1700 | 21 | 39 | 1403 | 185 | | | | | 4.17 | 20.40 | 0.05 | 20.88 | 0.05 | 19.73 | 2.30 | 19.40 | 0.79 | 19.30 | |
| 1730 | 21 | 35 | 1407 | 189 | | | | | | | | | | | | | | | |

Comments: 5-31-07 TOOK B32 VAPOR SAMPLE @ 1130. TOOK STACK @ 1200.
TOOK B32 @ 1430. TOOK B32 @ 1730. DEMOBED @ 1800.