

**STELLAR ENVIRONMENTAL SOLUTIONS, INC.**  
 2198 SIXTH STREET, SUITE 201, BERKELEY, CA 94710  
 TEL: 510.644.3123 ★ FAX: 510.644.3859

Alameda County  
 JUN 14 2004  
 Environmental Health Services

TRANSMITTAL MEMORANDUM	
<b>TO:</b> LOCAL OVERSIGHT PROGRAM ENVIRONMENTAL HEALTH SERVICES ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY 1131 HARBOR BAY PARKWAY ALAMEDA, CALIFORNIA 94502-6577	<b>DATE:</b> JUNE 9, 2004
<b>ATTENTION:</b> MR. DON HWANG	<b>FILE:</b> SES 2003-43
<b>SUBJECT:</b> OAKLAND AUTO WORKS 240 W. MACARTHUR BLVD OAKLAND, CALIFORNIA  ACEH FUEL LEAK CASE No. R00000142	
<b>WE ARE SENDING:</b> <input checked="" type="checkbox"/> HEREWITH	<input type="checkbox"/> UNDER SEPARATE COVER
<input checked="" type="checkbox"/> VIA MAIL	<input type="checkbox"/> VIA
<b>THE FOLLOWING:</b> SOIL AND GROUNDWATER INVESTIGATION REPORT (DATED JUNE 8, 2004)	
<input type="checkbox"/> AS REQUESTED	<input type="checkbox"/> FOR YOUR APPROVAL
<input type="checkbox"/> FOR REVIEW	<input checked="" type="checkbox"/> FOR YOUR USE
<input type="checkbox"/> FOR SIGNATURE	<input type="checkbox"/> FOR YOUR FILES
<b>COPY TO:</b> MR. GLEN POY-WING OAKLAND AUTO WORKS 240 WEST MCARTHUR BLVD. OAKLAND, CA 94711	<b>BY:</b> BRUCE RUCKER  (BMR)

**SOIL AND GROUNDWATER  
INVESTIGATION REPORT**

**240 W. McARTHUR BOULEVARD  
OAKLAND, CALIFORNIA**

*Prepared for:*

**MR. GLEN ROYALING  
OAKLAND, CALIFORNIA**

**June 2004**

June 8, 2004

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

Alameda County  
JUN 14 2004  
Environmental Health

Subject: Soil and Groundwater Investigation Report  
Oakland Auto Works Facility – 240 W. MacArthur Boulevard, Oakland, California  
Alameda County Health Department Fuel Leak Case No. RO0000142

Dear Mr. Hwang:

Enclosed is the Stellar Environmental Solutions, Inc. report that documents the April 2004 Soil and Water Investigation at the site, and discusses the findings. The report fulfills the scope of work presented in our December 2003 technical workplan, as well as subsequent addendum letters and our meeting with Alameda County Health on April 29, 2004.

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

Sincerely,

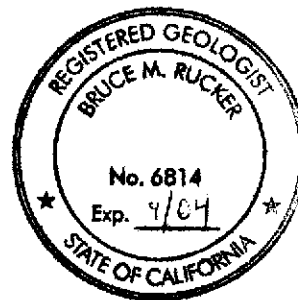
*Bruce M. Rucker*

Bruce M. Rucker, R.G., R.E.A.  
Project Manager

*Richard S. Makdisi*

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

cc: Mr. Glen Poy-Wing, property owner



**SOIL AND GROUNDWATER  
INVESTIGATION 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**

**June 8, 2004**

Project No. 2003-43



# TABLE OF CONTENTS

---

	Page
1.0 INTRODUCTION .....	1
Project Background.....	1
Regulatory Status .....	1
Scope of Report.....	2
Site Description.....	2
Historical Environmental Activities.....	5
2.0 PHYSICAL SETTING .....	7
Topography and Surface Water Drainage.....	7
Shallow Site Lithology.....	7
Groundwater Hydrology and Monitoring Well Design .....	11
3.0 PREFERENTIAL PATHWAY AND OFFSITE WELL SURVEYS.....	16
Preferential Pathway Survey .....	16
Offsite Well Survey.....	20
4.0 EXPLORATORY BOREHOLE PROGRAM .....	21
Borehole Location and Sampling Rationale .....	21
Sampling Depths .....	22
Permitting and Notifications .....	23
Drilling Methods and Protocols .....	23
Waste Management and Disposal .....	24
5.0 REGULATORY CONSIDERATIONS.....	25
6.0 ANALYTICAL RESULTS AND FINDINGS .....	27
Analytical Methods .....	27
Soil Sample Analytical Results.....	27
Groundwater Sample Results.....	39
7.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.....	50
Summary and Conclusions.....	50
Recommendations .....	52

## TABLE OF CONTENTS (continued)

---

Section	Page
8.0 REFERENCES AND BIBLIOGRAPHY .....	53
9.0 LIMITATIONS .....	56

### Appendices

Appendix A	Historical Soil and Groundwater Analytical Results
Appendix B	Borehole Geologic Logs and Historical Groundwater Well Hydrological Data
Appendix C	Preferential Pathway and Water Well Survey Documentation
Appendix D	Current Investigation Photodocumentation
Appendix E	Drilling-Related Permits
Appendix F	Waste Soil Disposal Documentation
Appendix G	Analytical Laboratory Report and Chain-of-Custody Records

## TABLES AND FIGURES

---

Tables	Page
Table 1 Groundwater Monitoring Well Construction Data 240 W. MacArthur Boulevard, Oakland, California.....	12
Table 2 Preferential Pathway Survey Findings 240 W. MacArthur Boulevard, Oakland, California.....	19
Table 3 April 2004 Borehole Soil Sample Analytical Results— Fuels, Aromatic Hydrocarbons, and MTBE 240 W. MacArthur Boulevard, Oakland, California.....	28
Table 4 April 2004 Borehole Soil Sample Analytical Results Lead Scavengers and Fuel Oxygenates 240 W. MacArthur Boulevard, Oakland, California.....	31
Table 5 April 2004 Borehole “Grab” groundwater Sample Analytical Results Fuels, Aromatic Hydrocarbons and MTBE 240 W. MacArthur Boulevard, Oakland, California.....	40
Table 6 April 2004 Borehole “Grab” groundwater Sample Analytical Results Lead Scavengers and Fuel Oxygenates 240 W. MacArthur Boulevard, Oakland, California.....	41

## TABLES AND FIGURES (continued)

---

Figures	Page
Figure 1 Site Location Map.....	3
Figure 2 Site Plan .....	4
Figure 3 Geologic Cross Section Line Locations.....	8
Figure 4 Geologic Cross Sections A-A' and B-B' .....	9
Figure 5 Geologic Cross Sections C-C' and D-D' .....	10
Figure 6 April 2004 Groundwater Elevation Map .....	14
Figure 7 Potential Preferential Pathway/Utility Location Map.....	18
Figure 8 April 2004 Borehole Soil Analytical Results.....	32
Figure 9 Geologic Cross Sections A-A' and B-B' With Borehole Soil Analytical Results.....	34
Figure 10 Geologic Cross Sections C-C' and D-D' With Borehole Soil Analytical Results.....	35
Figure 11 April 2004 Borehole Groundwater Analytical Results.....	42
Figure 12 Geologic Cross Sections A-A' and B-B' With Borehole Groundwater Analytical Results .....	43
Figure 13 Geologic Cross Sections C-C' and D-D' With Borehole Groundwater Analytical Results .....	44

## 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 Environmental Health Department, Local Oversight Program (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 (RWQCB). There are no Alameda County Health or RWQCB 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 in 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 requested additional site characterization prior to considering case closure (Alameda County Health, 2003a). 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). On behalf of the property owner, SES submitted to Alameda County Health a technical workplan for the requested work (SES, 2003a). Alameda County Health subsequently requested technical revisions (Alameda County Health, 2003b), all of which were addressed in the SES December 4, 2003 workplan amendments letter (SES,

2003c). All proposed activities were subsequently approved by Alameda County Health (Alameda County Health, 2004).

The site is in compliance with State of California "GeoTracker" requirements. Tasks conducted 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 report discusses the following activities:

- Conducting a preferential pathway survey (identifying underground utilities and other potential contaminant migrational pathways), and evaluating the potential for site-sourced contamination to encounter these pathways;
- Identifying water supply wells within a ¼-mile radius of the site, and evaluating their potential to be impacted by site-sourced contamination;
- Conducting 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;
- Evaluating the data in the context of contaminant distribution and potential migrational pathways, and the need for corrective action; and
- Addressing specific Alameda County Health requests delineated in various letters regarding this phase of work.

## **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 is a site plan showing adjacent land uses.





3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096

1500 ft Scale: 1 : 50,000 Detail: 12:0 Datum: WGS84



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

240 W. MacArthur Blvd.  
Oakland, CA

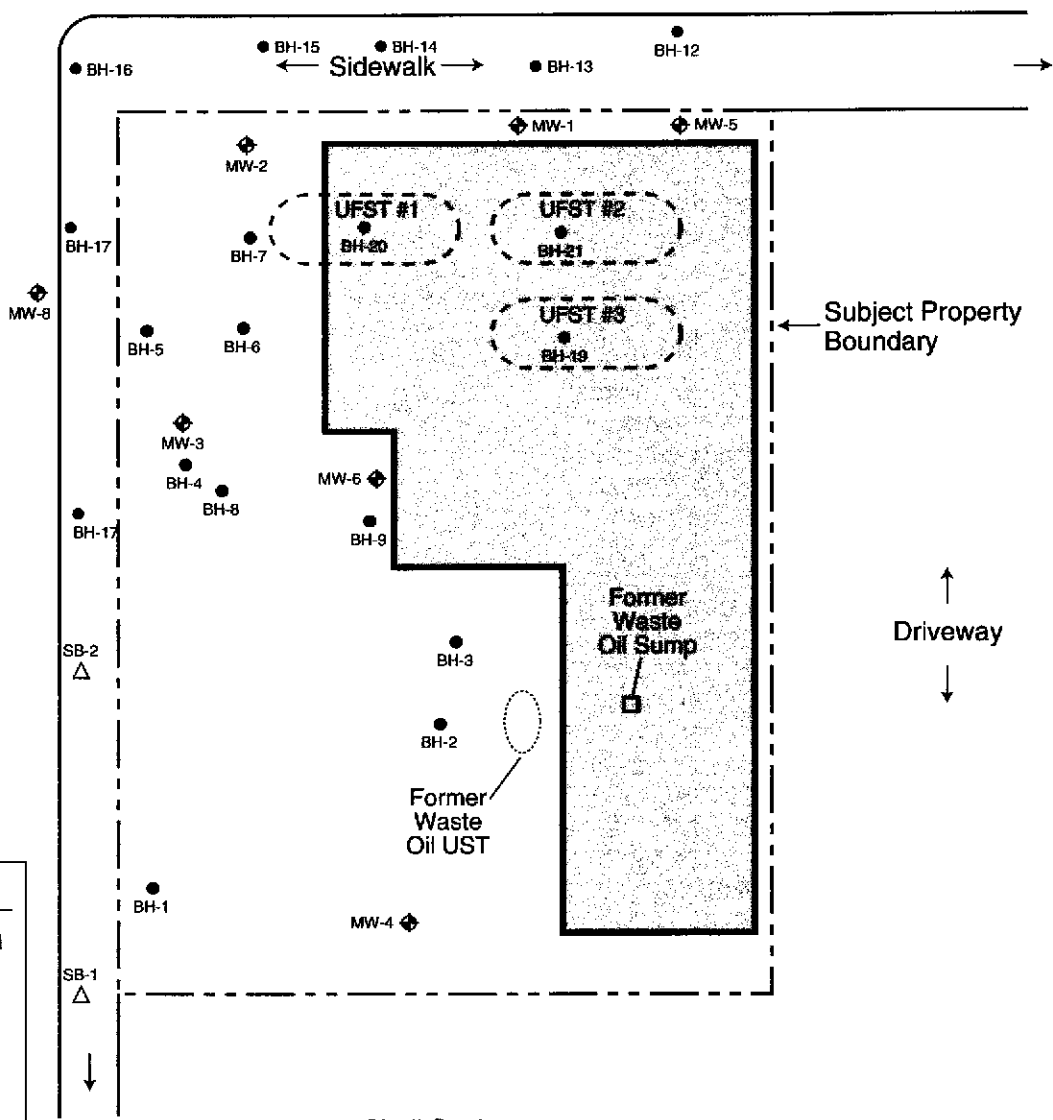
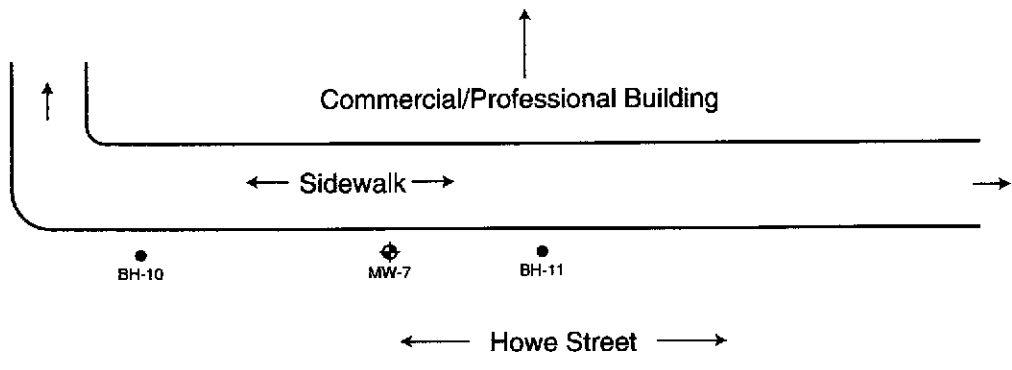
By: MJC

APRIL 2004

Figure 1

★ Stellar Environmental Solutions, Inc.  
Geoscience & Engineering Consulting

2003-43-01



**LEGEND**

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

0 20  
SCALE IN FEET (approx.)

**SITE PLAN WITH BOREHOLE AND GROUNDWATER WELL LOCATIONS**

240 W. MacArthur Blvd.  
Oakland, CA

By: MJC

MAY 2004

**Figure 2**

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

2003-49-88



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 samples is included as Appendix A. Figure 2 shows the site plan with borehole and groundwater well locations. The former UFST have been labeled UFSTs #1, #2, and #3 for purposes of reference.

The following are historical remediation and site characterization activities:

- Three 10,000-gallon gasoline UFSTs from a former Gulf service station occupancy were removed prior to 1991 (there is no available documentation regarding these removals, nor any related analytical results).
- A waste oil sump was removed in 1991. Limited overexcavation was conducted, and there was no evidence of residual soil contamination, with the exception of 360 mg/kg of petroleum oil & grease (Mittelhauser Corporation, 1991b). We consider that this has been eliminated as a site contaminant source area, and is no longer actively investigated other than in ongoing sitewide groundwater monitoring.
- A 350-gallon waste oil UFST was removed in 1996. 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). We also consider this area eliminated as a potential source area; it is no longer actively investigated other than in ongoing sitewide groundwater monitoring.
- In accordance with a request by Alameda County Health, a subsurface investigation was conducted in January 1997 (All Environmental, Inc., 1997b). Six exploratory boreholes were advanced to a maximum depth of 20 feet, and soil samples were collected. None of these boreholes were within the former UFST source area (i.e., inside the current building).
- Additional site characterization (three boreholes sampled and four monitoring wells installed) was performed in August 1997, and well locations were selected. Two of the wells were within 10 feet of one of the former UFSTs, and were more than 25 feet from the other two former UFSTs.
- Groundwater sampling of four onsite wells was conducted in March 1998, July 1998, October 1998, and January 1999.

- Four additional groundwater monitoring wells were installed in February 2001. Maximum historical soil concentrations detected in well MW-5 in the northeastern corner of the subject property consisted of 11,700 mg/kg gasoline and 25.6 mg/kg benzene (AEC, 2001b).
- Short-term (less than 1-day duration) groundwater and vapor extraction from five wells was conducted over 4 days in October 2001 (AEC, 2001e). Initial reductions in groundwater contamination concentrations were followed by a general rebound to pre-pumping conditions.

A total of 19 groundwater monitoring/sampling events were conducted by previous consultants in available site wells between August 1997 (initial event) and March 2003. A previous consultant had twice requested case closure from Alameda County Health; however, the data did not support, nor did Alameda County Health grant, case closure.

SES was retained by the current property owner in August 2003. Quarterly groundwater monitoring was resumed at that time.

## **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 April 2003) site investigations conducted by others, and site inspections and groundwater monitoring data collected by SES since August 2003.

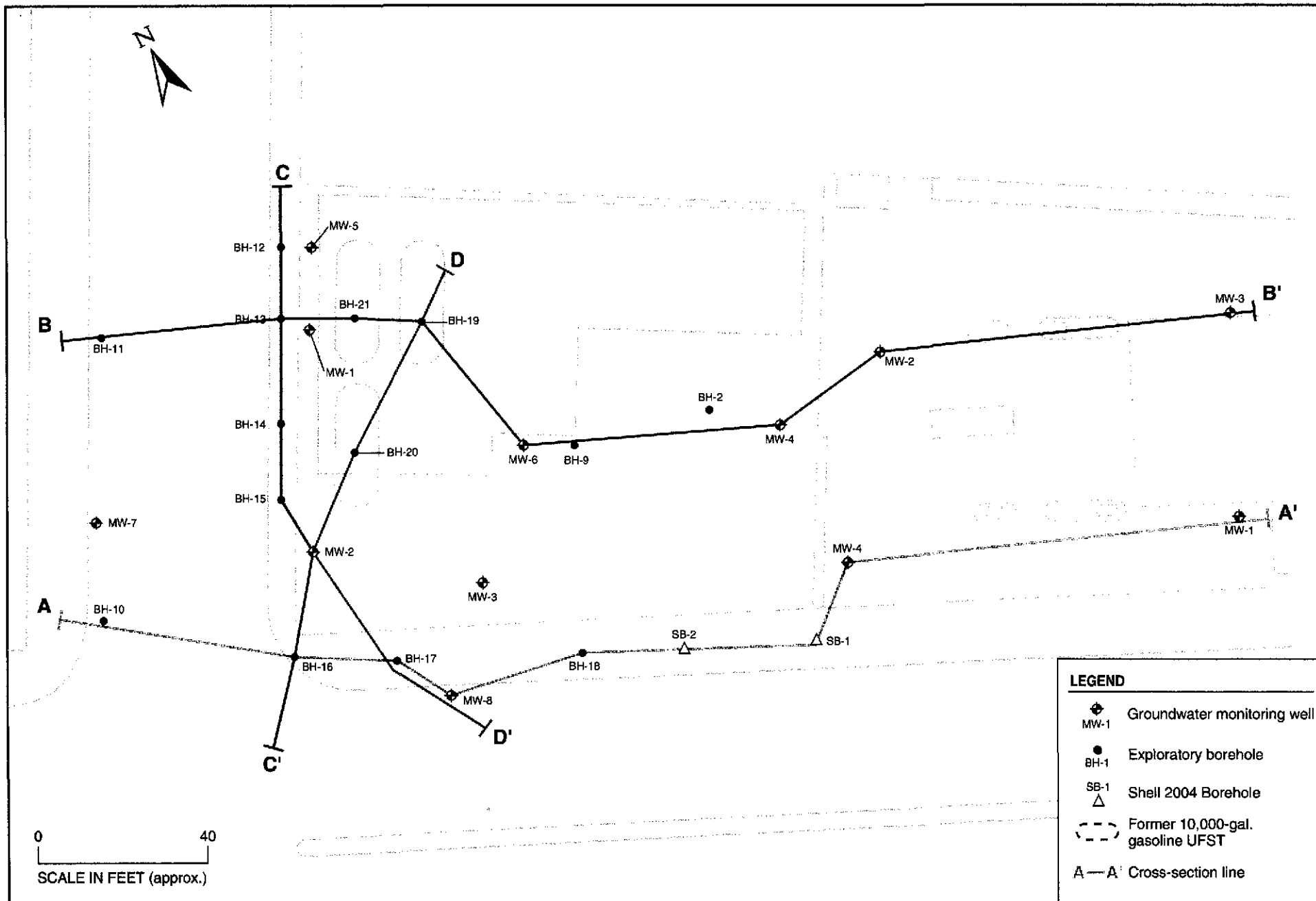
### **TOPOGRAPHY AND SURFACE WATER DRAINAGE**

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**

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, including available data from the adjacent Shell service station. Borehole geologic logs from the current investigation are included in Appendix B. We incorporated into our sections the data reported on site geologic logs from previous consultants (two different consultants, prior to our involvement), and cannot attest to their validity. In general, those boreholes were not logged at more than 5-foot intervals, lithologic descriptions are sparse, and some of the data appear contradictory. As discussed below, however, in our professional opinion, the key elements/geographical areas of site lithology have been adequately defined to allow for appropriate data evaluation and decision-making at this stage of the Site Conceptual Model.

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. In the sand zones, clay and/or silt content is high, and the sand is generally very fine- to fine-grained—such that the unit is, in essence, gradational between a clayey sand and a sandy clay.



**LEGEND**

- ◆ MW-1 Groundwater monitoring well
- BH-1 Exploratory borehole
- △ SB-1 Shell 2004 Borehole
- - - Former 10,000-gal. gasoline UFST
- A—A' Cross-section line

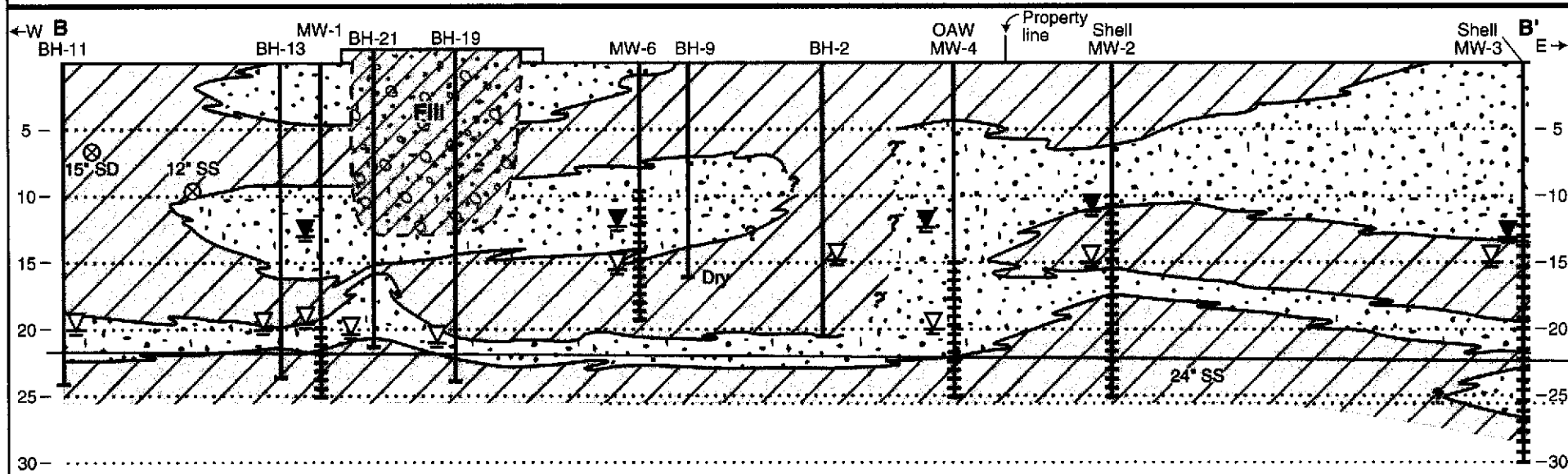
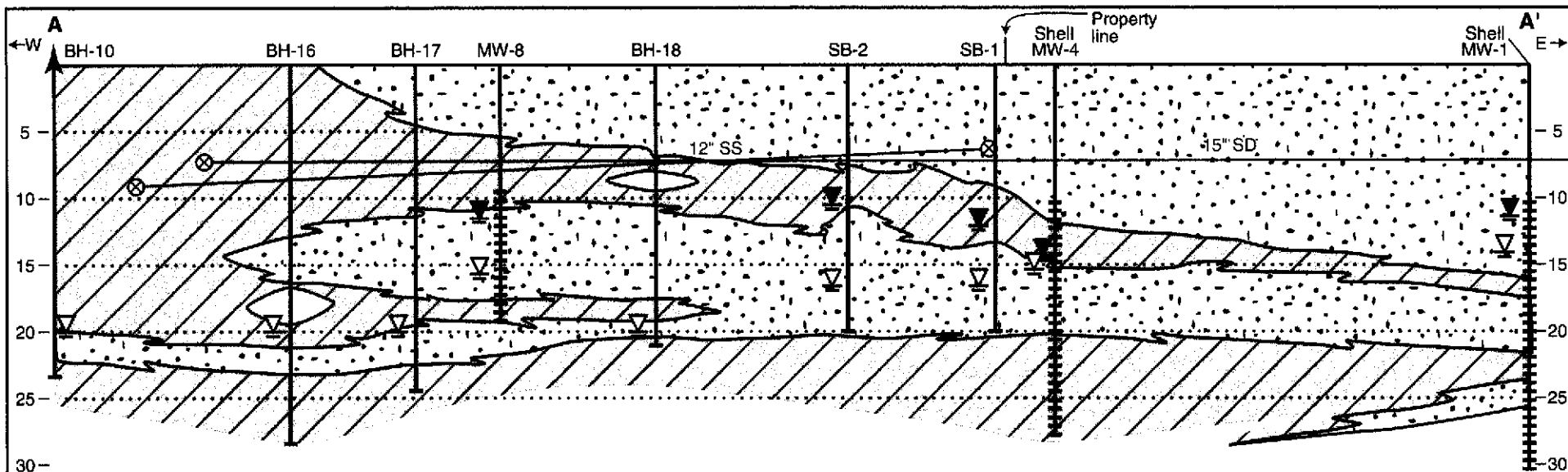
★ **Stellar Environmental Solutions, Inc.**  
 Geoscience & Engineering Consulting

**GEOLOGIC CROSS-SECTION LINE LOCATIONS**  
 240 W. MacArthur Blvd., Oakland, CA

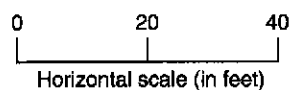
**Figure 3**  
 by: MJC      MAY 2004

2003-43-72





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



- Sand; Gravel
- Clay, Silt

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

- Monitoring well showing screened interval

- Highest water level in well
- Water level during drilling

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

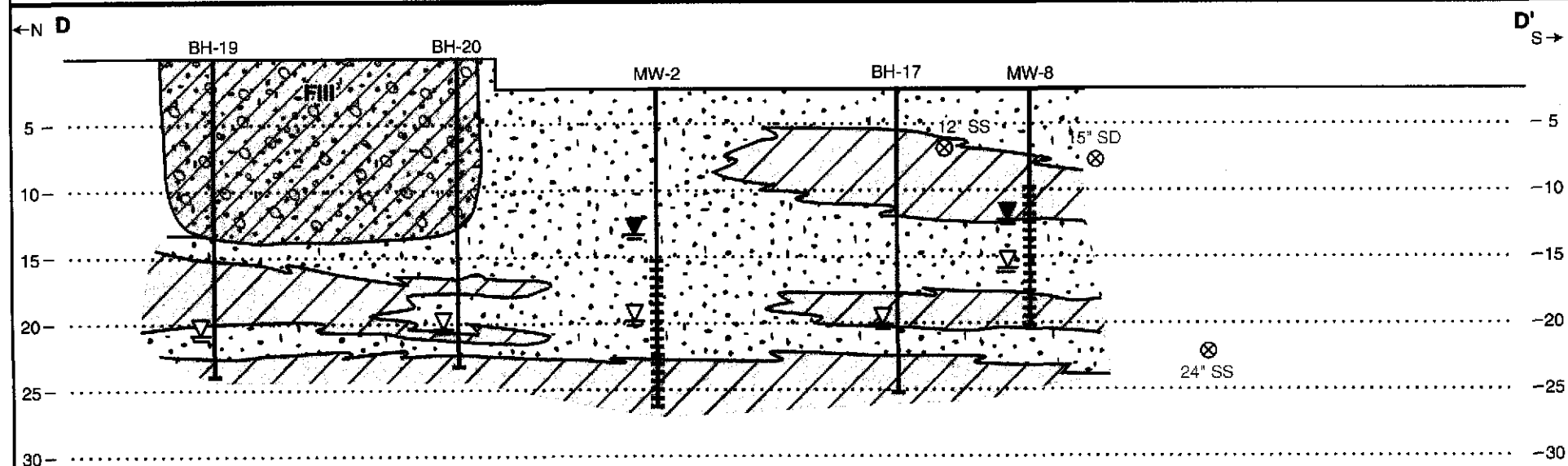
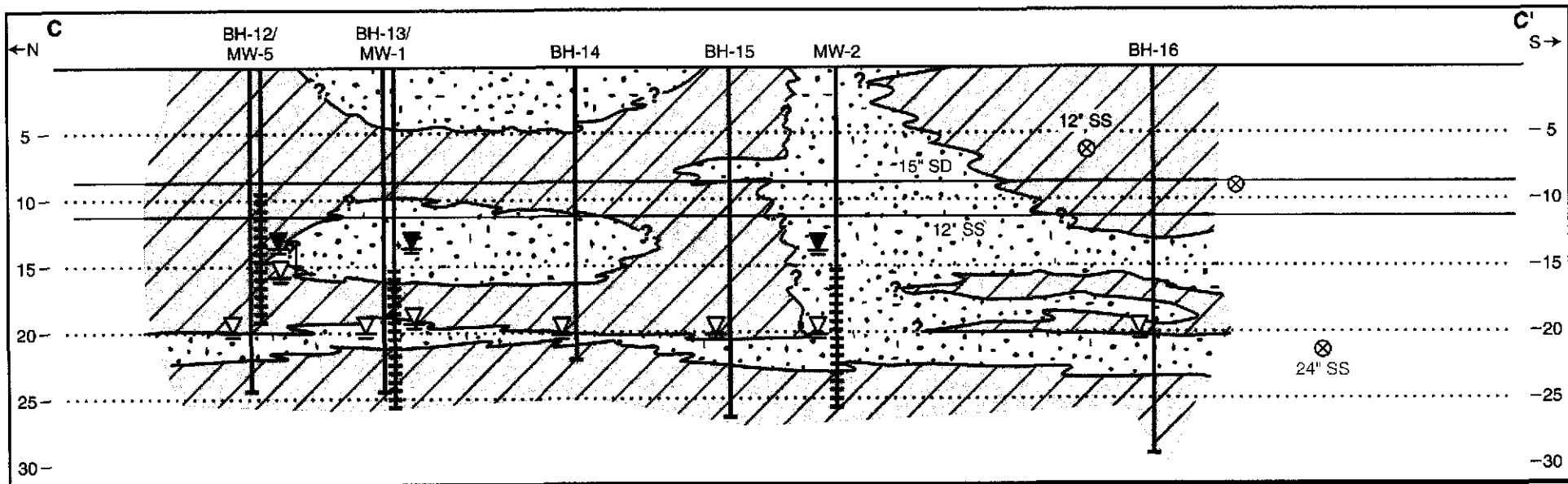
**GEOLOGIC CROSS SECTIONS A-A' AND B-B'**  
240 W. MacArthur Blvd., Oakland, CA

**Figure 4**

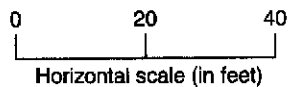
by: MJC



MAY 2004


2003-03-73






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



-  Sand; Gravel
-  Clay, Silt

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

-  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'**  
 240 W. MacArthur Blvd., Oakland, CA

**Figure 5**

by: MJC

MAY 2004

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. Locally, this unit is interbedded with a sandy clay. The sediment types and geometry are suggestive of channel deposits, which is a common depositional facies in this area.

As discussed in more detail below, depth to groundwater in all April 2004 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; the saturated zone is approximately 0.5 to 2.5 feet thick, underlain in all boreholes by a cohesive, non-water-bearing clay. The top of this clay was consistently at a depth between approximately 21 and 23 feet. Of the 12 boreholes, 9 were advanced at least 1.5 feet into this clay before terminating (and not encountering visible moisture or sand). One of the boreholes was advanced deeper, documenting a thickness of at least 4.5 feet. The lithologic data (supported by soil sample analytical data discussed later) strongly suggest that this clay unit inhibits downward migration of groundwater 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. There is insufficient data to conclude whether the second deepest saturated clayey sand is connected to the more shallow sitewide saturated zone). The subsequent (March 2004) Shell boreholes SB-1 and SB-2 (between the Shell wells and the subject property) all terminated at 20 feet bgs, which was too shallow to encounter the underlying clay unit.

None of the subject property borehole geologic logs (prepared by the previous consultant, and data incorporated into our previous cross-sections) noted the presence of the underlying clay unit. This is likely because of the following two reasons:

1. The majority of those boreholes were terminated at or before 20 feet bgs (1 to 2 feet above where we encountered the clay unit); and
2. For the several boreholes that were advanced to 25 feet bgs, the borehole geologic logs do not reflect any soil sampling (for geologic logging) below 20 feet bgs (i.e., samples were collected at 5-foot intervals, and the deepest sample noted was 20 feet bgs).

## **GROUNDWATER HYDROLOGY AND MONITORING WELL DESIGN**

The number and positioning of the existing eight site monitoring wells is adequate to evaluate the general groundwater flow direction and gradient. Table 1 summarizes site groundwater monitoring well construction details.

**Table 1**  
**Groundwater Monitoring Well Construction Data**  
**240 W. MacArthur Boulevard, Oakland, California**

Well	Well Depth (feet bgs)	Screened Interval		Highest Groundwater Level Depth – Previous 1 year	Highest Ever Groundwater Level Depth
		Depth (feet)	Elevation (feet)		
MW-1	25	19.5 to 24.5	54.5 to 49.5	14.33	13.58 <sup>(a)</sup>
MW-2	25	14.5 to 24.5	64.2 to 54.2	13.83	13.05 <sup>(a)</sup>
MW-3	25	14.5 to 24.5	63.4 to 53.4	12.93	12.18 <sup>(a)</sup>
MW-4	25	14.5 to 24.5	63.6 to 53.6	12.78	11.87 <sup>(a)</sup>
MW-5	20	9 to 19	70.6 to 60.6	14.44	14.44 <sup>(b)</sup>
MW-6	20	9 to 19	69.7 to 59.7	13.51	13.51 <sup>(b)</sup>
MW-7	20	9 to 19	69.6 to 59.6	13.57	13.57 <sup>(b)</sup>
MW-8	20	9 to 19	67.7 to 57.7	11.78	11.78 <sup>(b)</sup>

**Notes:**

<sup>(a)</sup> Since 1st monitoring event in August 1997.

<sup>(b)</sup> Since 1st monitoring event in February 2001.

Four of the wells (MW-1, -2, -3, and -4) are screened between 15 and 25 feet bgs, and the other four (MW-5, -6, -7, and -8) are screened between 10 to 20 feet bgs. All of the wells are screened within the uppermost water-bearing unit, and do not extend into any lower water-bearing units. Both Alameda County Health and SES recognize that extended screen lengths (i.e., greater than 2 to 3 feet long) can, under certain conditions, result in groundwater monitoring sample concentrations that are not fully representative of the potential vertical contamination gradient. This would include wells that are screened across a thick saturated interval with vertical variations in concentration, and could also include wells that are screened across a seasonally-unsaturated zone of residual soil contamination (such as a former UFST source) such that seasonally-rising water in monitoring wells contacts and desorbs residual soil contamination.

As discussed below, we have determined that the maximum thickness of the upper water-bearing zone at this site is between 0.5 and 2.5 feet, and that the well screens penetrate the upper aquifer and only that aquifer. This suggests a low potential for pronounced vertical variations in concentration based on saturated thickness alone. With regard to dissolved contamination input through desorption of residual contaminated soil, two wells (MW-1 and MW-5) are located near the former UFST source area, which has a relatively thick layer of unsaturated zone soil contamination (discussed in detail in Section 6.0).

Well installation data from MW-1 indicated minor soil petroleum hydrocarbons; it therefore appears that this well is not contributing to the groundwater contamination via desorption (however, this may also be an artifact of the screening schedule). For the other well near the source area—MW-5—gasoline was reported at 11,700 mg/kg in soil at a depth of 15 feet during the 1997 installation. MW-1 is screened from 19.5 to 24.5 feet bgs, while well MW-5 is screened at a higher and longer interval, from 9 to 19 feet bgs. Equilibrated groundwater levels in MW-5 are in the 14- to 16-foot range. It is therefore likely that this extended well screen in MW-5 is allowing contact between groundwater and residual contaminated soils, which would likely result in higher contaminant concentrations in groundwater than if a depth-restricted sample were collected within the lower saturated zone. This might also occur in MW-1 if it were screened similarly to MW-5.

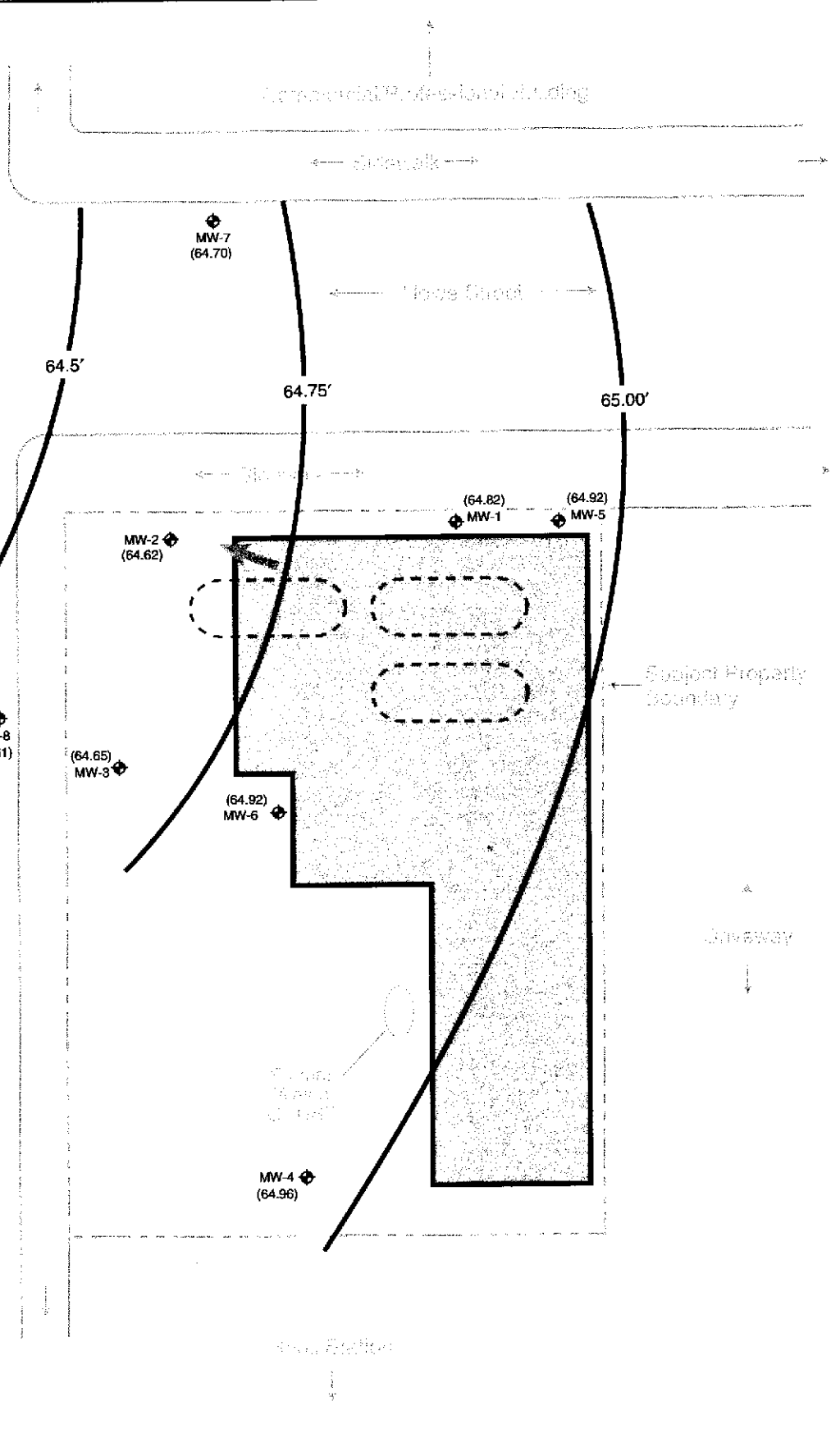
Vertical elevations of wells were first surveyed by a licensed land surveyor on September 26, 2003. All historical (before August 2003) groundwater elevations were reported by the previous consultant relative to an arbitrary site datum (one of the site well's casing top), and well elevations had not been surveyed by a land surveyor. Following well surveying, SES evaluated groundwater flow direction of historical events conducted by other consultants (October 2001 to March 2003), and found groundwater flow to be generally to the west, with slight northern and southern components. Groundwater flow direction in subsequent events has shown a similar flow direction. A generally westward (with a slight southern component) groundwater flow direction has also been measured at the adjacent Shell-branded service station (Cambria Environmental Technology, Inc. [Cambria], 2004). 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 for the most recent groundwater site groundwater monitoring event (April 2004).

Depth to shallowest groundwater encountered in all of the April 2004 subject property boreholes was consistently encountered at 20 to 21 feet bgs, generally in a saturated clayey sand. In previous (1997 to 2001) boreholes, groundwater was encountered at a depth of 15 to 20 feet. None of the April 2004 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. In all boreholes, the saturated interval was no more than 2.5 feet thick, and was underlain by a non-water-bearing clay unit. In all boreholes, groundwater rose at least several feet to as much as 14 feet within several minutes after the boreholes were advanced into the saturated zone.

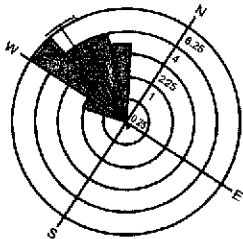
Historical equilibrated water levels (in wells) have been measured at depths of approximately 13 to 16 feet, well above the depth encountered during drilling. These data indicate that groundwater occurs under confining conditions. The range of water level elevations in wells has varied by approximately 3 feet, and shows a strong seasonal variation, with highest elevations

**LEGEND**

- ◆ Groundwater monitoring well
  - Former 10,000-gal. gasoline UFST
  - (64.42) Groundwater elevation in feet (AMSL)
  - 64.5' Groundwater elevation contour
  - ↙ Current event groundwater flow direction
- 0 20  
SCALE IN FEET (approx.)



Historical Groundwater Flow Direction  
(Aug 1997–Mar 2004)



**GROUNDWATER ELEVATION MAP—MARCH 11, 2004**

240 W. MacArthur Blvd.  
Oakland, CA

By: MJC

JUNE 2004

**Figure 6**

★ Stellar Environmental Solutions, Inc.  
Geoscience & Engineering Consulting

2003-48-79





during the rainy winter-spring seasons and lowest elevations during the dry summer-fall seasons. Appendix B contains a tabular summary of historical groundwater depths, elevations, flow direction, and gradient.

March 2004 boreholes adjacent to the southern side of the subject property, drilled by Cambria on behalf of Shell, encountered groundwater at approximately 17 feet higher (consistent with being hydraulically upgradient), and semi-confining conditions were encountered in those boreholes as well.

Alameda County Health indicated that the previous consultant made reference to a “confining clay layer” in one of its reports; it is not clear whether that consultant was referring to an overlying or underlying layer. In its workplan request letter, Alameda County Health requested that this lithologic issue be specifically evaluated (Alameda County Health, 2003a). As discussed above, our evaluation of site lithology indicates that low-permeability soils are indeed present above the upper water-bearing zone, and that equilibrated groundwater levels in wells and boreholes is shallower than the depth at which first occurrence of groundwater is indicated in boreholes during drilling. While vertical hydraulic head has not been measured, the observed condition of groundwater immediately rising in boreholes suggests at least semi-confining conditions, which is 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). As discussed above, April 2004 subject property (and adjacent Shell site) boreholes encountered clay unit beneath the saturated zone; that clay is laterally-extensive, several feet thick, low-permeability, and low-moisture, which suggests a basal aquitard inhibiting downward groundwater flow and vertical contamination.

### **3.0 PREFERENTIAL PATHWAY AND OFFSITE WELL SURVEYS**

---

This section presents the methods and findings of the preferential pathway and offsite well surveys requested by Alameda County Health (Alameda County Health, 2003a and 2003b).

#### **PREFERENTIAL PATHWAY SURVEY**

Alameda County Health requested that a survey be conducted to identify potential preferential horizontal/vertical contaminant migration pathways that might be influencing site-sourced contaminant transport. This task focused on identifying both the location and the depth of potential underground utilities that typically have highly permeable backfill acting as a preferential pathway. The shallowest known site groundwater depth (based on equilibrated water levels in wells) is approximately 12 feet. Therefore, it is highly unlikely that any utility-related preferential pathways above this depth would intercept groundwater.

The preferential pathway survey task included three components:

1. Contacting applicable municipal agencies, utility providers, and Kaiser (adjacent land owner) to obtain underground construction data, and reviewing the findings of a recent similar utility conducted for the adjacent Shell-branded service station (Cambria, 2004);
2. Retaining a private utility locating firm to locate onsite utilities; and
3. Contacting Underground Service Alert (USA), which notified all known utility providers in the area; the utility providers are then be responsible for marking the locations of underground utilities servicing the property.

#### **Underground Utilities**

As summarized in Section 2.0, groundwater was first encountered in subject property boreholes (April 2004) at a depth of 20 feet, corresponding to an elevation of approximately 58 feet amsl. The highest measured historical groundwater elevation in site wells is approximately 65.5 feet amsl (approximately 12 feet below grade). Therefore, only utilities deeper than this level would have a reasonable potential to act as preferential pathways for site-sourced groundwater contamination. We identified the following underground utilities, located beneath Howe Street, W. MacArthur Boulevard, and adjoining sidewalks: sanitary sewer, storm sewer, potable water, electric, natural gas, and traffic lights. Figure 7 shows those utilities identified with documented

or potential depths greater than approximately 8 feet bgs, above which there is no reasonable potential for groundwater to intersect the utilities. Figures 4 and 5 (Section 2.0) show utilities in various cross-sectional views. Table 2 summarizes the locations, depths, and type of all identified utilities.

The only utilities identified at, or deeper than, 10 feet were the sanitary sewer lines located beneath Howe Street and W. MacArthur Boulevard; these are within approximately 30 feet of the subject property. City of Oakland engineering drawings indicate that these lines are approximately 21 feet below grade. According to City of Oakland Public Works – Sewer Maintenance (Guidici, 2003), these lines could be installed within trenches backfilled with more permeable sand. The depth interval of the trench(es) is not known. The information we obtained in our survey was consistent with that determined in the survey for the adjacent Shell station property (Cambria, 2004) (see Cambria utility map in Appendix C).

### **Kaiser Pedestrian Tunnel**

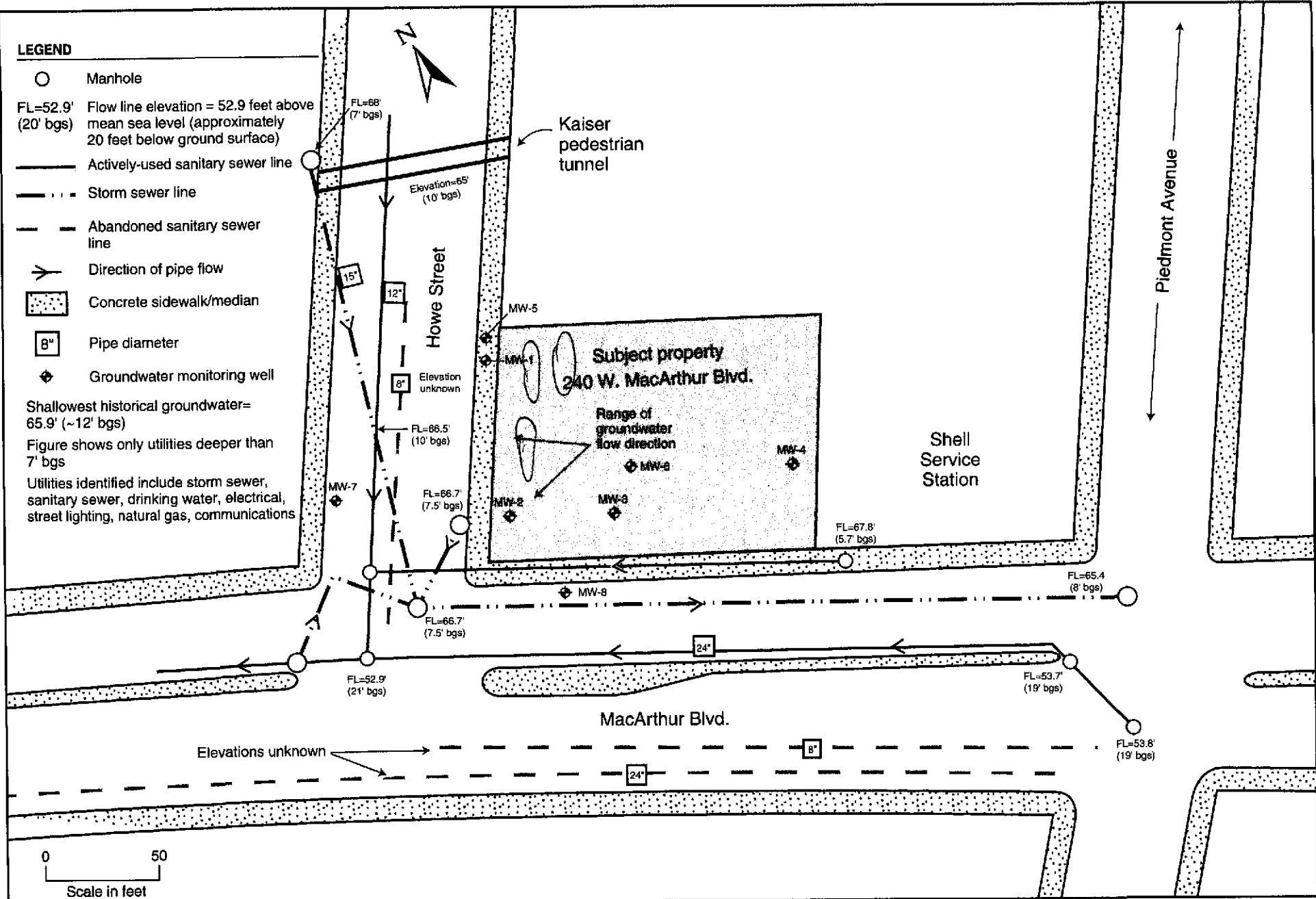
We determined that Kaiser owns and maintains an underground pedestrian tunnel that runs east-west under Howe Street (between two Kaiser buildings), approximately 100 feet north of (cross-gradient to) the subject property. The Kaiser Facilities Engineering Department provided SES with detailed construction drawings of the tunnel. The data indicate that the tunnel is a wholly-enclosed concrete structure abutting native soils (i.e., there is no backfill material along the exterior). The base of the tunnel is at an elevation of approximately 67 feet (approximately 11 feet below grade on Howe Street). There is no dewatering system (i.e., sump pump) associated with the tunnel. Based on the absence of any higher-permeability backfill material around the tunnel, and the fact that the tunnel is a closed system, it is unlikely that any site-sourced contamination migrating to the tunnel would be preferentially carried to any sensitive receptors.

### **Kaiser 3772 Howe Street Building Basement**

We determined that the adjacent (to the east) Kaiser building has a basement level that extends to within approximately 3 feet of the subject property line, beneath the paved driveway between the two buildings. According to Kaiser construction drawings and our inspection of the facility, the depth of the concrete foundation and slab is approximately 11 feet (approximately 2 feet higher than highest recorded groundwater). While not specified on the construction drawings, it is common construction practice to pour concrete floor slabs directly against the excavated soil. We identified a below-floor sump and pump in the extreme western corner of the basement level. Based on our visual inspection, it appears that this sump is not open to groundwater; rather, it collects stormwater from adjacent areas for subsequent discharge to the storm sewer system.

**LEGEND**

- Manhole
  - FL=52.9' Flow line elevation = 52.9 feet above mean sea level (approximately 20 feet below ground surface)
  - Actively-used sanitary sewer line
  - - - Storm sewer line
  - - - Abandoned sanitary sewer line
  - Direction of pipe flow
  - ▨ Concrete sidewalk/median
  - 8" Pipe diameter
  - ◆ Groundwater monitoring well
- Shallowest historical groundwater = 65.9' (~12' bgs)  
 Figure shows only utilities deeper than 7' bgs  
 Utilities identified include storm sewer, sanitary sewer, drinking water, electrical, street lighting, natural gas, communications



**POTENTIAL PREFERENTIAL PATHWAY/UTILITY LOCATION MAP**  
**240 W. MacArthur Blvd., Oakland**

**Figure 7**

by: MJC      JUNE 2004

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

2003-43-80

**Table 2**  
**Preferential Pathway Survey Findings**  
**240 W. MacArthur Boulevard, Oakland, California**

<b>Underground Utility / Facility</b>	<b>Agency / Firm Contacted</b>	<b>Utility / Facility Description and Location</b>	<b>Estimated Maximum Depth (feet below grade)</b>	<b>Potential Preferential Pathway for Groundwater?</b>
Sanitary Sewer	City of Oakland— Records and Maps	Offsite: Main line beneath Howe St. & W. MacArthur Blvd, within approximately 30 feet of site.	10' (under Howe Street)	No
			21' (under MacArthur Blvd.)	Yes
	City of Oakland Public Works— Sewer Maintenance	Offsite: Sidewalk adjacent to south side of site.	5'	No
		Onsite: Service from bathrooms/sinks to W. MacArthur Blvd. Sidewalk.	4.5'	No
Stormwater Sewer	City of Oakland— Records and Maps	Offsite (only): Beneath Howe St. and W. MacArthur Blvd.	8'	No
Drinking Water	East Bay Municipal Utility District	Offsite: To sidewalks beneath streets.	3' to 4'	No
		Onsite: Service from Howe St. Sidewalk, then below site slab to bathrooms & sinks.	3' to 4'	No
Traffic Lights	City of Oakland— Department of Electrical Engineering	Offsite (only): Beneath Howe St., W. MacArthur Blvd., and sidewalks.	1.5' to 3'	No
Electric	Pacific Gas & Electric— Service Planning Department	Offsite: Beneath Howe St., W. MacArthur Blvd., and sidewalks.	3' to 4'	No
		Onsite service from Howe St. sidewalk, then below north service bay slab.	3' to 4'	No
Natural Gas	Pacific Gas & Electric— Service Planning Department	Offsite: Beneath Howe St., W. MacArthur Blvd., and sidewalks.	3'	No
		Onsite: Service from sidewalk, then all onsite service is overhead.	3'	No
Kaiser— Pedestrian Tunnel	Kaiser Permanente— Assistant Director of Facilities	Offsite (only): Concrete tunnel installed in native soil, no surrounding backfill material – 100 feet from subject property.	11'	No
Kaiser— 3772 Howe St. Building	Kaiser Permanente— Assistant Director of Facilities	Offsite (only): Basement-level offices, adjacent to north side of subject property. Concrete walls and floor poured against native soil.	11'	No

Based on the likely absence of any higher-permeability backfill material around the foundation and slab, it is unlikely that any site-sourced contamination migrating to this basement level would be preferentially carried to any sensitive receptors.

### **OFFSITE WELL SURVEY**

Alameda County Health requested that a survey be conducted to identify all water wells within ¼ mile of the subject property. Water wells might include groundwater monitoring wells and water supply wells (irrigation, domestic, industrial, and municipal). We made a formal well survey request to the California Department of Water Resources (DWR), the agency ultimately responsible for permitting water wells and retaining Water Well Driller's Reports.

Appendix C contains a copy of the DWR documentation. The only well identified by DWR was located at 4082 Piedmont Avenue, approximately 1,500 feet northeast (crossgradient or upgradient) of the subject property. The 8-inch-diameter well was installed in 1979 to a depth of 184 feet. The well was perforated from 132 to 184 feet below grade, and a sanitary seal was emplaced from surface to 30 feet below grade. The current status of this well is not known. Based on the well construction and the relative hydraulic location, it is highly unlikely that site-sourced groundwater contamination could impact that well.



## **4.0 EXPLORATORY BOREHOLE PROGRAM**

---

This section discusses the exploratory borehole drilling and soil/groundwater sampling program conducted by SES at the subject property on April 28 and 29, 2004. The soil sampling and “grab” groundwater sampling schedule was submitted in a workplans (SES, 2003a, 2003c) and further refined in a meeting with Alameda County Health on April 27, 2004. Figure 2 (Section 1.0) shows exploratory borehole locations. Appendix D contains photodocumentation of our work activities.

The primary objectives of the exploratory borehole program included:

- Further defining the lateral and vertical limits of soil and groundwater contamination;
- Defining the magnitude of soil and groundwater contamination in the former source area (within the former UFST excavations);
- Evaluating the onsite migration of petroleum (especially MTBE) contamination from the adjacent Shell-branded service station;
- Identifying the plume migration pathways; and
- Further defining site lithology and hydrogeology to refine the site conceptual model.

### **BOREHOLE LOCATION AND SAMPLING RATIONALE**

The following discusses borehole locations and the technical rationale for their location and sampling depths.

The lateral limits of the groundwater contaminant plume above RWQCB “Environmental Screening Level” (ESL) criteria have not been fully defined to the west, north, and east of the former source area (for gasoline and benzene). While there are no borehole or well data to the east of the site, Alameda County Health requested that the borehole program focus on the crossgradient (north and south) and downgradient (west) areas. In addition, the vertical extent of contamination had not been well defined (i.e., the depth to the bottom of the upper water-bearing zone and the top of the inferred lower confining layer). The bore program was designed to define the unit underlying the water-bearing zone.

## Former Source Area

No analytical data are available regarding source area (former gasoline UFSTs) soil contamination, other than previous exploratory boreholes drilled on two sides of the former UFST area (to the north and west). Determining the magnitude and types of residual soil contamination at the source area is important for evaluating potential long-term contribution of contamination from soil to groundwater. As shown on Figure 2, one borehole was advanced through the approximate center of each of the three former UFSTs.

## Other Areas

The final borehole locations approved by Alameda County Health include nine boreholes to the north, west, and south of the former UFSTs. Six boreholes were located to the north and west of the former UFSTs, including two across Howe Street. The remaining three boreholes were located to the south and southwest of the former UFSTs. As approved verbally by Alameda County Health, proposed boreholes to the southwest of the former UFSTs could not be advanced within the time constraints of the borehole program. Alameda County Health requested that, if time did not permit all boreholes to be advanced, the boreholes along the east side of Howe Street were to take priority over those to the southwest of the source area.

## SAMPLING DEPTHS

### Soil Sampling

As discussed below, continuous core soil sampling was conducted in each borehole, for visual examination and field-screening for indicators of contamination. As requested by Alameda County Health, soil samples were collected at a frequency of at least every 5 feet (with some exceptions resulting from field conditions). Between four and six soil samples were collected from each borehole for laboratory analysis, resulting a total of 66 soil samples submitted for laboratory analysis. Soil sampling depths were selected based on the following criteria:

- **Unsaturated Zone.** At approximately 5-foot intervals, at the depth that displayed maximum contamination during field screening and/or at significant lithologic changes.
- **Capillary Fringe.** One sample collected in the unsaturated zone, just above first occurrence of groundwater.
- **Saturated Zone.** One sample at least every 5 feet within the saturated zone.
- **Beneath the Saturated Zone.** One sample collected from the low-permeability, non-water-bearing zone beneath the upper saturated zone. The objective of this sampling was to document if contamination extended to the inferred low-permeability clay unit underlying the saturated, contaminated, water-bearing, sand unit.

## **Groundwater Sampling**

One "grab" groundwater sample was collected (from within temporary PVC casing) immediately after groundwater entered the borehole. Alameda County Health had verbally requested (time and field conditions permitting) that additional, depth-specific (i.e., with a hydropunch-type tool) "grab" groundwater samples be collected from one source borehole at a depth frequency of no less than 3 feet. The objective of multiple "grab" sampling was to determine the existence of a vertical contaminant concentration gradient across the upper water-bearing zone. However, as discussed in Section 2.0, the maximum thickness of the upper water-bearing zone encountered in all boreholes was 2.5 feet. Therefore, depth-specific hydropunch sampling was not technically warranted, and only one "grab" groundwater sample was collected within this zone. SES potentially planned to complete hydropunch sampling within the underlying low-permeability clay unit (to further demonstrate that no measurable water was present in that zone); however, insufficient time remained in the drilling program to accomplish that task, given the primary objectives. Also, based on our field observations of soil samples collected from that clay unit, in our professional opinion, it is unlikely that groundwater would have entered the hydropunch tool when opened within the clay unit below the water-bearing sand.

## **PERMITTING AND NOTIFICATIONS**

Exploratory borehole drilling and sampling was conducted on April 28 and 29, 2004 by Vironex, Inc. (C-57 License No. 70592) under direct supervision of a SES California Registered Geologist. Prior to drilling, USA was contacted with regard to potential underground utilities, and a drilling permit was obtained from Alameda County Public Works Agency. We also obtained the required Excavation Permit from the City of Oakland Community and Economic Development Department, 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 E.

## **DRILLING METHODS AND PROTOCOLS**

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). To aid in evaluating the extent of soil contamination, soil samples were field-screened with a photoionization detector (PID). Soil was placed in glass jars with Teflon lids with Tygon tubing installed through a drilled, airtight hole. The soil was allowed to volatilize for approximately 30 seconds and a PID reading was collected. The PID measurements are shown on the borehole geologic logs (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.

Immediately after groundwater was encountered and entered the borehole (i.e., before advancing the borehole through the water-bearing zone into the lower non-water-bearing zone), temporary PVC casing was installed in the borehole. This method minimized the potential for cross-contamination within the borehole. 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.

#### **WASTE MANAGEMENT AND DISPOSAL**

Exploratory borehole soil cuttings were containerized in one labeled 55-gallon steel drum. One composite sample of this soil was collected and analyzed to support chemical profiling for offsite disposal. On May 20, 2004, the soil drum was transported offsite by North State Environmental to DK Environmental (Los Angeles, California). Documentation of profiling and waste transport is included in Appendix F.

Drilling equipment decontamination rinsate was containerized onsite in 55-gallon drums that are being used to store well purge water from ongoing groundwater monitoring. This waste will continue to be stored onsite until it is known that no further investigation-derived waste will be generated, at which time it will be disposed of at an appropriately permitted facility.

## 5.0 REGULATORY CONSIDERATIONS

---

This section discusses relevant regulatory considerations. There are no published cleanup goals for detected site contaminants in groundwater. The RWQCB has published ESLs, which are screening-level concentrations for soil and groundwater that incorporate both environmental and human health risk considerations, and are used as a preliminary 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, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

One of the ESL criteria sets is related to protection of indoor air quality. Exceedance of soil, groundwater, or soil vapor ESL concentrations suggests that an evaluation of indoor air impacts may be necessary. This is accomplished by directly sampling indoor air and/or collecting "pathway" soil vapor samples, such as beneath the building slab floor.

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. As discussed in Section 3.0, there are no identified water wells with a reasonable potential to intercept shallow groundwater emanating from the subject property.

As specified in the RWQCB's San Francisco Bay Region Water Quality Control Plan, all groundwaters are considered potential sources of drinking water unless otherwise approved by the RWQCB, 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 is a source of drinking water, and groundwater is not a source of drinking water. The RWQCB published the "East Bay Plain Groundwater Basin Beneficial Use Evaluation Report" (RWQCB, 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.

Qualifying for the higher ESLs (applicable to groundwater is not a source of drinking water) requires obtaining a site-specific exemption from the RWQCB. 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 RWQCB may consider allowing residual soil and/or groundwater contamination above ESL criteria, if other risk-based criteria are satisfied.

## 6.0 ANALYTICAL RESULTS AND FINDINGS

---

This section presents the soil and groundwater analytical results of the recent borehole investigation. Appendix G contains the certified analytical laboratory report and chain-of-custody record.

### ANALYTICAL METHODS

Soil and groundwater samples were analyzed in accordance with the methods proposed in the SES technical workplan, which included revisions requested by Alameda County Health. Analytical methods included (and are applicable to both soil and groundwater samples in all boreholes, unless specified otherwise):

- Total volatile hydrocarbons – gasoline range (TVHg) by EPA Method 8015B.
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl *tertiary*-butyl ether (MTBE) by EPA Method 8021B. For selected samples that were analyzed for lead scavengers and fuel oxygenates by EPA Method 8260B, BTEX and MTBE were also analyzed by EPA Method 8260b.
- 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 (only in source area boreholes BH-19, BH-20, and BH-21).
- Total extractable hydrocarbons – diesel range (TEHd) by EPA Method 8015M.

Sample dilutions were required on some soil and groundwater samples with elevated petroleum contamination, which resulted in a corresponding increase in method reporting limits (often above ESL criteria). In these cases, only one of several contaminants can be quantified above detection limits (generally gasoline or diesel), and other contaminants such as BTEX, MTBE, lead scavengers, and fuel oxygenates may not be quantified.

### SOIL SAMPLE ANALYTICAL RESULTS

Table 3 summarizes borehole soil analytical results for gasoline, diesel, BTEX, and MTBE. Table 4 summarizes results for lead scavengers and fuel oxygenates. Figure 8 is a plan view showing borehole soil analytical results from the April 2004 sampling event, as well as soil bore

**Table 3**  
**April 2004 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
BH-10-4.5'	< 3.0	1.5	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-10-9.5'	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-10-12'	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-10-17'	< 3.0	1.3	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-10-20.5' *	< 3.0	2.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-10-23.5' **	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-11-4.5'	< 3.0	1.6	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-11-9.5'	< 3.0	1.1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-11-15'	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-11-21.5' *	< 3.0	2.5	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-11-23.5' **	< 3.0	1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-12-4.5'	< 3.0	2.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-12-9.5'	< 3.0	1.1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-12-12'	< 3.0	1.5	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-12-16'-20' (a)	< 3.0	1.8	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-12-20.5' *	< 3.0	1.6	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-12-23.5' **	< 3.0	1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-13-4.5'	< 3.0	1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-13-9.5'	< 3.0	1.5	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-13-15.5'	3,240	215	3.3	6.5	14	142	< 3.5
BH-13-19.5'	< 3.0	3.0	0.21	< 0.005	< 0.005	< 0.015	< 0.035
BH-13-23.5' **	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-14-4.5'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
<b>RWQCB Environmental Screening Levels (b)</b>							
Drinking Water—Threatened (c)	100	100	0.044	2.9	3.3	1.5	0.023
Drinking Water—Not Threatened (d)	400	500	0.038	9.3	13	1.5	5.6
Indoor Air (e)	NLP	NLP	0.39	89	220	210	12

*continued on next page*



Table 3 continued

Sample I.D.	TVHg	TEHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
BH-14-9.5'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-14-16'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-14-20' *	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-14-21.5' **	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-15-4.5'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-15-9.5'	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-15-15'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-15-20' *	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-15-23.5' **	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-16-4.5'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-16-9.5'	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-16-15'	2,950	10	2.8	12	19	72	< 17.5
BH-16-20' *	352	10	< 0.25	1.2	< 0.25	6.9	< 1.75
BH-16-23.5' **	4.0	1.8	< 0.005	0.015	0.027	0.081	< 0.035
BH-16-27.5' **	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	0.043
BH-17-4.5'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-17-9.5'	< 3.0	1.4	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-17-15'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-17-20' *	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-17-23.5' **	< 3.0	1.1	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-18-4.5'	< 3.0	1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-18-9.5'	< 3.0	1.0	< 0.005	< 0.005	< 0.005	< 0.015	< 0.035
BH-18-17'	17	6.0	< 0.005	0.035	0.12	0.29	0.25
BH-18-20' *	45	3.8	0.049	0.15	0.24	0.56	0.84
BH-19-4.5'	< 3.0	1.7	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
<b>RWQCB Environmental Screening Levels <sup>(b)</sup></b>							
Drinking Water–Threatened <sup>(c)</sup>	100	100	0.044	2.9	3.3	1.5	0.023
Drinking Water–Not Threatened <sup>(d)</sup>	400	500	0.038	9.3	13	1.5	5.6
Indoor Air <sup>(e)</sup>	NLP	NLP	0.39	89	220	210	12

continued on next page

Table 3 continued

Sample I.D.	TVHg	TEHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
BH-19-9'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-19-13'	105	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-19-18'	859	66	< 0.500	< 0.500	0.616	0.714	< 0.500
BH-19-21' *	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-19-23.5' **	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-20-4.5'	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-20-9'	12	21	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
BH-20-13'	9.5	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-20-20'	353	20	< 0.050	< 0.050	0.0075	0.039	< 0.050
BH-20-21.5' *	1,060	50	< 0.500	< 0.500	< 0.500	5.34	< 0.500
BH-20-23.5' **	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-21-4.5'	< 3.0	1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-21-9.5'	< 3.0	1.2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
BH-21-15.5'	690	43	< 0.500	< 0.500	0.823	3.980	< 0.500
BH-21-20.5' *	84	< 1.0	.056	< 0.025	0.060	0.245	< 0.025
BH-21-21.5' **	< 3.0	< 1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
<b>RWQCB Environmental Screening Levels <sup>(b)</sup></b>							
Drinking Water–Threatened <sup>(c)</sup>	100	100	0.044	2.9	3.3	1.5	0.023
Drinking Water–Not Threatened <sup>(d)</sup>	400	500	0.038	9.3	13	1.5	5.6
Indoor Air <sup>(e)</sup>	NLP	NLP	0.39	89	220	210	12

Notes:

- <sup>(a)</sup> Depth of sample uncertain due to minimal recovery in sampling sleeve.
- <sup>(b)</sup> All for commercial/industrial sites.
- <sup>(c)</sup> For sites where known/potential drinking water resource is threatened.
- <sup>(d)</sup> For sites where known/potential drinking water resource is not threatened.
- <sup>(e)</sup> For protection of indoor air quality (assuming coarse soils).

- \* Sample collected within the saturated zone.
- \*\* Sample collected beneath 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.

All results reported in mg/kg.

**Table 4**  
**April 2004 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
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
<b>RWQCB Environmental Screening Levels (b)</b>						
Drinking Water–Threatened <sup>(c)</sup>	0.0045	0.00033	NLP	NLP	NLP	0.073
Drinking Water–Not Threatened <sup>(d)</sup>	0.069	0.021	NLP	NLP	NLP	0.073
Indoor Air <sup>(e)</sup>	0.14	0.052	NLP	NLP	NLP	NLP

**Notes:**

- <sup>(a)</sup> Depth of sample uncertain due to minimal recovery in sampling sleeve.
- <sup>(b)</sup> All for commercial/industrial sites.
- <sup>(c)</sup> For sites where known/potential drinking water resource is threatened.
- <sup>(d)</sup> For sites where known/potential drinking water resource is not threatened.
- <sup>(e)</sup> For protection of indoor air quality (assuming coarse soils).

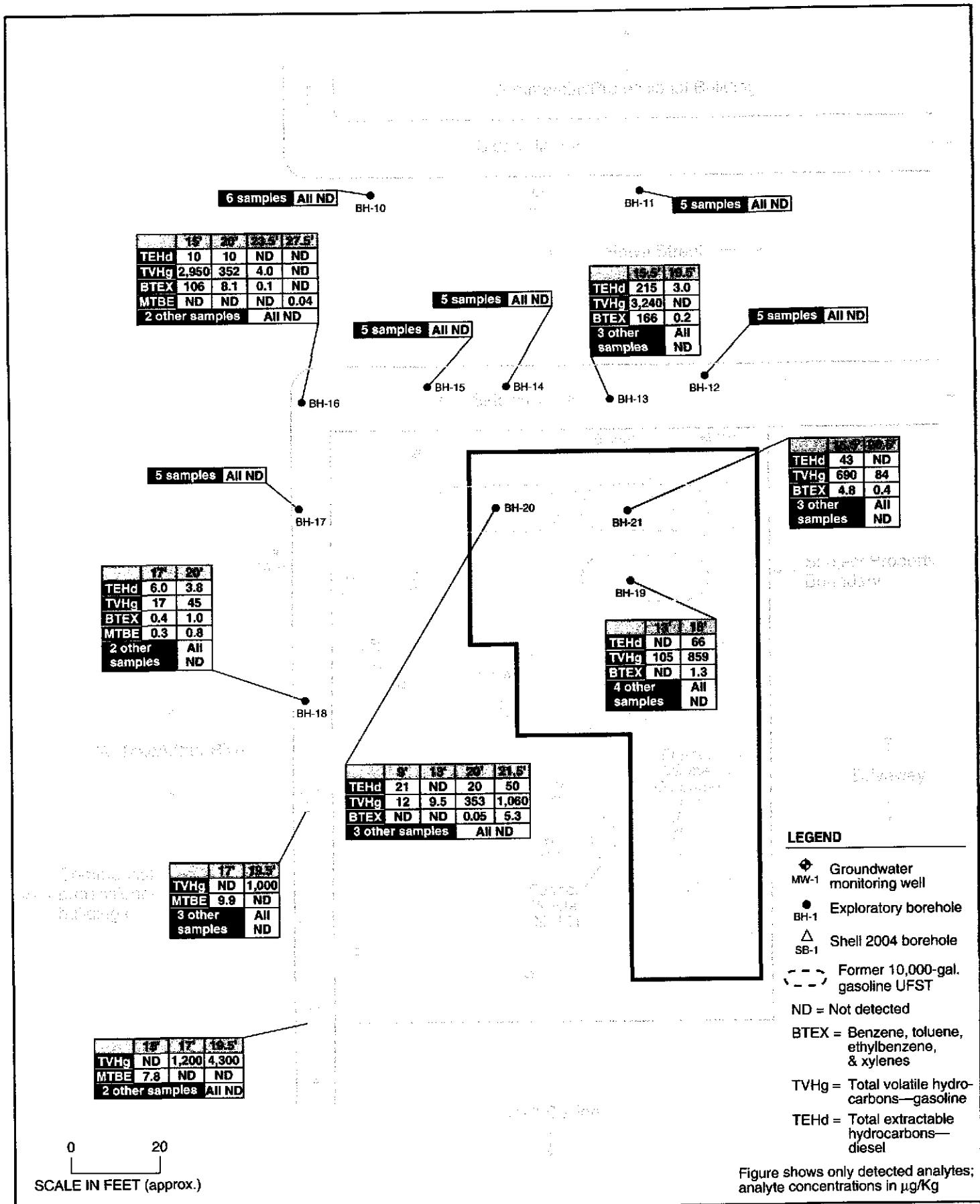
- \* Sample collected within the saturated zone.
- \*\* Sample collected beneath the saturated zone.

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.

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

All results reported in mg/kg.



	15'	20'	22.5'	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			

	19.5'	10.5'
TEHd	215	3.0
TVHg	3,240	ND
BTEX	166	0.2
3 other samples	All ND	

TEHd	43	ND
TVHg	690	84
BTEX	4.6	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	

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

	9'	15'	20'	31.5'
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'	10.5'
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
  - △ 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

0 20  
SCALE IN FEET (approx.)

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

	<b>SITE PLAN WITH APRIL 2004 BOREHOLE AND SOIL ANALYTICAL RESULTS</b>		<b>Stellar Environmental Solutions, Inc.</b> Geoscience & Engineering Consulting
	240 W. MacArthur Blvd. Oakland, CA	By: MJC	
<b>Figure 8</b>			

2003-43-70

data collected by Cambria in the sidewalk area adjacent to the subject property. Figures 9 and 10 are cross-sectional views with borehole soil analytical results. The following discusses soil contamination findings by contaminant for the SES collected data. A full discussion of contaminant distribution and migrational pathways follows the soil and groundwater analytical results.

### **Soil Contaminants Detected**

Contaminants detected in soil include gasoline, diesel, BTEX, and MTBE. Neither of the two lead scavengers (EDB or EDC) nor any fuel oxygenates were detected.

#### Gasoline

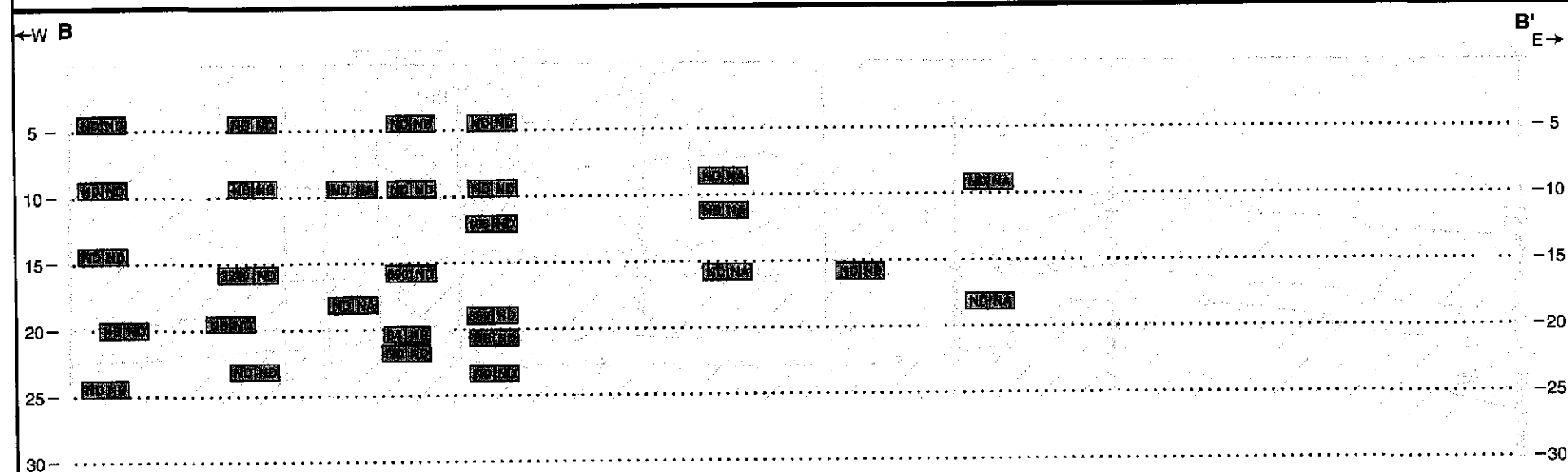
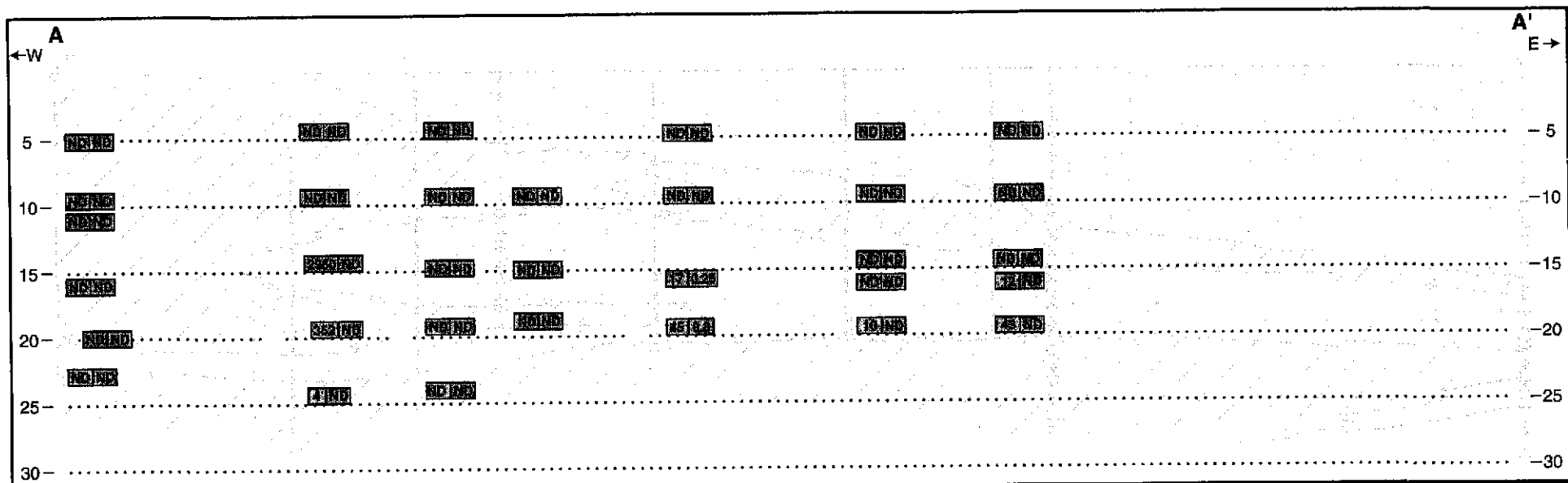
Boreholes with gasoline concentrations above 100 mg/kg included: BH-13 (3,240 mg/kg); BH-16 (2,950 mg/kg); BH-19 (859 mg/kg); and BH-20 (1,060 mg/kg). These relatively high concentrations of gasoline all occur between depths of 15 and 21.5 feet bgs in the area of the former USTs or north, northwest of them. The highest concentration of gasoline shown on Figure 8 is associated with the non-SES bore SB-1, located at the southern corner of the property, which had a reported 4,300 mg/kg gasoline at 19.5 feet bgs.

#### Diesel

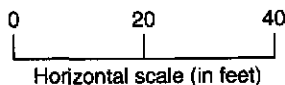
The maximum diesel concentration detected was 215 mg/kg (BH-13). Three samples had concentrations between 43 and 66 mg/kg, and the remaining 62 soil samples had diesel concentrations less than 20 mg/kg. Of the eight soil samples with gasoline concentrations above 100 mg/kg, diesel was present at a concentration at least 1 order of magnitude less than gasoline. These 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. Boreholes with benzene concentrations above ESL criteria include BH-13 and BH-16 (2 orders of magnitude above the ESLs) and BH-18 and BH-21 (only slightly above the ESLs). Boreholes with elevated benzene method reporting limit (0.5 mg/kg) above ESL criteria that are likely to have benzene above ESLs include BH-19 and BH-20.



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



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

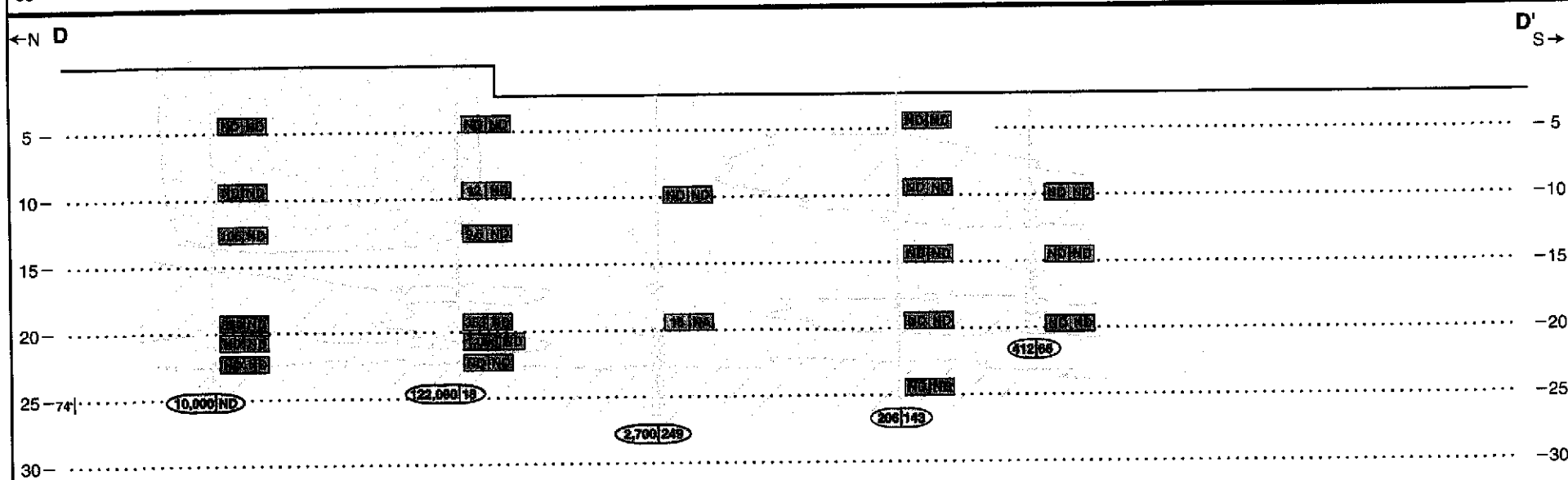
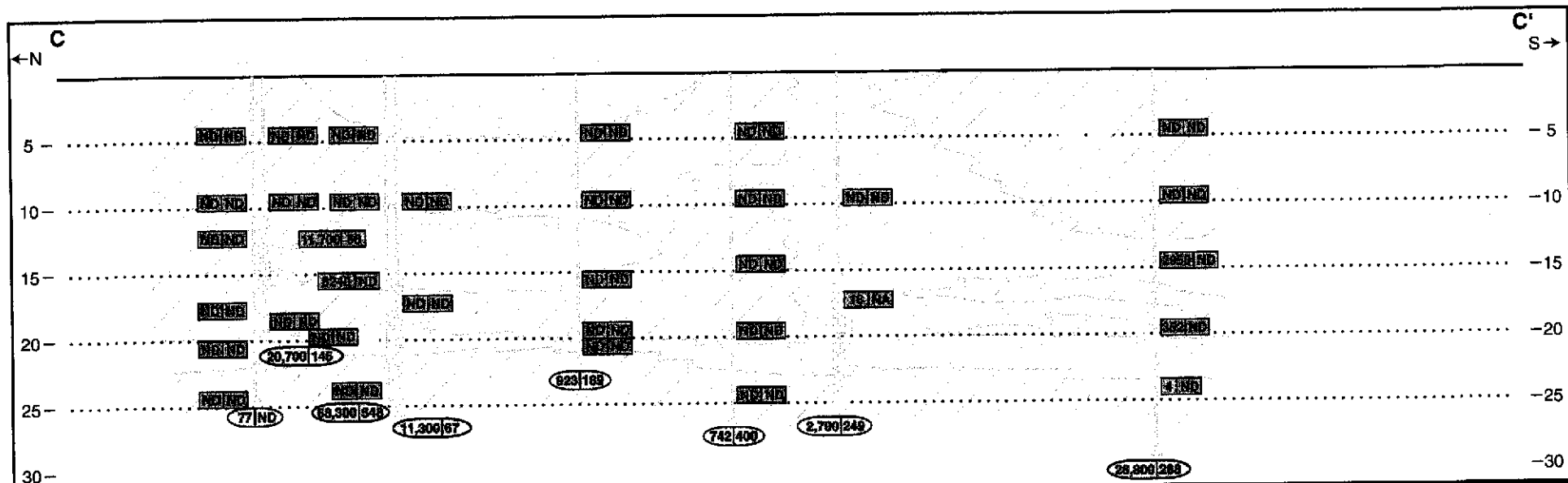
**GEOLOGIC CROSS SECTIONS A-A' AND B-B' WITH BOREHOLE SOIL ANALYTICAL RESULTS**  
 240 W. MacArthur Blvd, Oakland, CA

**Figure 9**

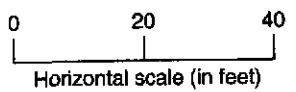
by: MJC

MAY 2004

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



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



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.

**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

## MTBE

MTBE concentrations also showed a strong correlation with gasoline. The only SES bores with MTBE concentrations above ESL criteria was BH-18 (maximum of 0.84 mg/kg MTBE). However, multiple boreholes had elevated MTBE method reporting limits (0.5 mg/kg to 17.5 mg/kg), and are likely to contain MTBE in excess of ESL criteria; these include BH-13, BH-16, BH-19, BH-20, and BH-21. The highest MTBE concentration in soil are associated with the Cambria collected samples (SB-1 and SB-2) at 15 and 17 feet bgs, which showed 7.8 mg/kg and 9.9 mg/kg, respectively. These bore are located to the south of the property, away from the Oakland Autoworks former USTs.

## Other Soil Contaminants

Other soil contaminants detected in excess of ESL criteria include toluene (maximum of 12 mg/kg), ethylbenzene (maximum of 19 mg/kg), and xylenes (maximum of 72 mg/kg)—all in BH-16, with near maximum concentrations detected in BH-13. Again, there was a strong correlation between elevated gasoline concentrations and elevated concentrations of toluene, ethylbenzene and xylenes (collectively referred to as “TEX”). Also, elevated method reporting limits precluded quantification of TEX constituents in several of the samples with elevated gasoline concentrations, where TEX constituents are likely present above ESL criteria.

Neither EDB, EDC, nor any fuel oxygenates were detected in any of the soil samples. Elevated method reporting limits have the potential to mask the presence of low concentrations of these constituents in samples with high gasoline concentration. However, none of these constituents were detected in samples with moderate gasoline concentrations (i.e., approximately 100 mg/kg) for which the lowest attainable method reporting limits were utilized. These data suggest that EDB, EDB, and fuel oxygenates are likely to be only secondary chemicals of concern, and are not considered to be primary risk drivers nor sources of residual soil contamination.

## Soil Contamination Distribution

Soil contamination at concentrations of concern was detected only in boreholes within the former UFST source area (BH-19, BH-20, BH-21), and in two non-adjacent boreholes either beside or downgradient of the former UFSTs (BH-13 and BH-16). Petroleum contamination above 105 mg/kg appears to be limited to depths between approximately 15 and 20 feet, and no contamination above ESLs was detected in the lower clay unit that underlies the upper saturated zone. Contamination detected in the saturated zone soil samples, at depths of 20 to 21.5 feet, may be a combination of both sorbed-phase and dissolved-phase contamination.



### *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. Maximum contaminant concentrations are within approximately 50 percent between boreholes. The contaminated (above ESL criteria) soil interval is approximately the same, approximately 13 to 21 feet bgs. Soil contamination was detected in two of the three saturated zone soil samples, and no contamination was detected in the underlying clay samples. It is not clear if all three UFSTs leaked, or if contamination detected in all of the source area boreholes are in part shared. The contamination at BH-20, placed in the area of the former UFST #1 area, shows the highest concentrations.

### *Outlying Area Soil Contamination*

As shown on Figure 8, the non-source area boreholes with elevated soil contamination are BH-13 and BH-16, both located in the sidewalk area along the northern property boundary. Interestingly, these boreholes, which are approximately 70 feet apart, have two bores (BH-14 and BH-15) between them with no detectable soil contamination. Consideration of potential sources (discrete former UFSTs), historical groundwater flow direction and water levels, and the distribution of the soil contamination suggests that the detected soil contamination is the result of at least two and possibly three former UFSTs, with unsaturated zone soil contaminant migration influenced by localized lithologic and groundwater hydrologic controls. 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.

A lithologic control is suggested in cross-section C-C' (Figure 5) where BH-12 and BH-14 soils were wholly sandy clay, and no clayey sand as encountered in BH-13, BH-16, and BH-18. The upper depth of soil contamination in all these boreholes was approximately 13 to 15 feet bgs, and ranged in thickness from approximately 3 feet (BH-13 and BH-18) to 8 feet (BH-16). These data suggest that a release occurred from both the northernmost UFST (at BH-20) and southernmost UFST (at BH-21). The contamination migrated downward and outward through the unsaturated zone (toward Howe Street) in separate thin plumes, likely thickening with distance away from the source, which is typical of UFST releases. At BH-13, the plume was thin enough to pass through the 15-foot zone, but did not impact the 9.5- and 19.5-foot depths. At BH-16, the thickness of contamination was greater, suggesting a greater distance from the source. Soil contaminant concentrations at BH-18 are much lower than at BH-13 and BH-16, suggesting that this contamination is on the fringe of the groundwater contaminant plume (see discussion

below). The eastern UFST (at BH-19) may be an additional source area, although its relative contribution cannot be resolved by the available data.

### *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. Any additional investigation or corrective action that focus 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). As summarized in Table 2, the only contaminant detected in excess of its indoor air quality ESL is benzene, which was detected in exterior borehole BH-13 (at 15.5 feet bgs) at 1 order of magnitude above the ESL. None of the source area (building interior) boreholes had any contaminant concentrations above the indoor air ESL. While some of the source area borehole samples have method reporting limits above the 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 is at least 3 feet thick when present.
- 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 5 summarizes borehole groundwater analytical results for fuels, aromatic hydrocarbons, and MTBE. Table 6 summarizes results for lead scavengers and fuel oxygenates. Figure 11 is a plan view showing borehole groundwater analytical results. Figures 12 and 13 are cross-sectional views with borehole and recent monitoring well groundwater analytical results.

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, and TBA. Neither of the two lead scavengers (EDB or EDC) nor other fuel oxygenates were detected.

#### Gasoline

Gasoline was detected at concentrations in excess of ESL criteria in all boreholes except those across Howe Street (BH-10 and BH-11) and in BH-12 borehole that is adjacent to site well MW-5. Those boreholes all had gasoline concentrations of approximately 75 to 80  $\mu\text{g/L}$ . Gasoline concentrations in source area boreholes ranged from approximately 10,000  $\mu\text{g/L}$  (BH-19 and BH-21) to 122,000  $\mu\text{g/L}$  (BH-20). There is a positive correlation between the bores that showed elevated soil and elevated groundwater contamination. The bores with the highest groundwater contamination outside the former UFST area are BH-16 with 26,800  $\mu\text{g/L}$  and BH-13 with 68,300  $\mu\text{g/L}$  gasoline. The only other bore showing a concentration of 10,000  $\mu\text{g/L}$  or greater is associated with the non-SES bore SB-1-W collected by Cambria at the southern corner of the subject property. This bore, with 10,000  $\mu\text{g/L}$  gasoline, tracks the adjacent Shell service station plume.

#### Diesel

Similar to the borehole soil samples, diesel concentrations in groundwater were approximately 1 order of magnitude below gasoline concentrations. Maximum diesel concentrations detected in

**Table 5**  
**April 2004 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
BH-10-GW	78	< 100	1.4	6.5	1.8	7.0	20
BH-11-GW	74	< 100	3.4	8.4	2.0	8.5	< 5.0
BH-12-GW	77	< 100	1.4	7.7	2.0	9.2	< 5.0
BH-13-GW	68,300	300	617	527	668	4,680	548
BH-14-GW	923	170	13	5.1	6.1	8.5	189
BH-15-GW	742	< 100	1.8	2.7	1.7	4.7	400
BH-16-GW	26,800	300	73	138	222	946	288
BH-17-GW	206	< 100	< 1.0	2.9	< 5	3.0	143
BH-18-GW	3,220	1,000	< 10	< 10	76	232	348
BH-19-GW	10,000	1,300	24	< 50	65	108	< 10
BH-20-GW	122,000	2,700	1,830	69	227	1,430	18
BH-21-GW	10,300	1,900	485	70	474	2,620	< 10
<b>RWQCB Environmental Screening Levels <sup>(a)</sup></b>							
Drinking Water-Threatened <sup>(b)</sup>	100	100	1.0	40	30	13	5.0
Drinking Water-Not Threatened <sup>(c)</sup>	500	640	46	130	290	13	1,800
Indoor Air <sup>(d)</sup>	NLP	NLP	350	270,000	170,000	160,000	210,000

**Notes:**

- <sup>(a)</sup> All for commercial/industrial sites.
- <sup>(b)</sup> For sites where known/potential drinking water resource is threatened.
- <sup>(c)</sup> For sites where known/potential drinking water resource is not threatened.
- <sup>(d)</sup> For protection of indoor air quality (assuming coarse soils).

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 µg/L.

↑  
 by EPA  
 Method 821  
 DWS  
 10/15/04

**Table 6**  
**April 2004 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
BH-17-GW	< 5	< 5	< 1	< 1	< 1	< 10
BH-18-GW	< 50	< 50	< 10	< 10	< 10	< 100
BH-19-GW	< 50	< 50	< 10	< 10	< 10	< 100
BH-20-GW	< 50	< 50	< 10	< 10	< 10	114
BH-21-GW	< 50	< 50	< 10	< 10	< 10	< 100
<b>RWQCB Environmental Screening Levels <sup>(a)</sup></b>						
Drinking Water– Threatened <sup>(b)</sup>	0.5	0.05	NLP	NLP	NLP	12
Drinking Water– Not Threatened <sup>(c)</sup>	200	160	NLP	NLP	NLP	12
Indoor Air <sup>(d)</sup>	2,100	350	NLP	NLP	NLP	NLP

**Notes:**

<sup>(a)</sup> All for commercial/industrial sites.

<sup>(b)</sup> For sites where known/potential drinking water resource is threatened.

<sup>(c)</sup> For sites where known/potential drinking water resource is not threatened.

<sup>(d)</sup> For protection of indoor air quality (assuming coarse soils).

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 G 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 µg/L.

TVHg	78
BTEX	16.7
MTBE	20

BH-10

TVHg	74
BTEX	22.3

BH-11

TEHd	300
TVHg	26,800
BTEX	1,379
MTBE	288

BH-16

TEHd	<100
TVHg	742
BTEX	10.9
MTBE	400

BH-15

TEHd	170
TVHg	923
BTEX	32.7
MTBE	189

BH-14

TEHd	300
TVHg	68,300
BTEX	6,492
MTBE	548

BH-13

TVHg	77
BTEX	20.3

BH-12

TEHd	206
BTEX	5.8
MTBE	143

BH-17

TEHd	1,000
TVHg	3,220
BTEX	308
MTBE	348

BH-18

TEHd	2,700
TVHg	122,000
BTEX	3,556
MTBE	18

BH-20

BH-21

TEHd	1,900
TVHg	10,300
BTEX	3,649

BH-19

TEHd	1,300
TVHg	10,000
BTEX	197

TVHg	520
BTEX	4.9
MTBE	320

TVHg	10,000
BTEX	647
MTBE	110

**LEGEND**

- ◆ MW-1 Groundwater monitoring well
- BH-1 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

0 20  
SCALE IN FEET (approx.)

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

**APRIL 2004 BOREHOLE GROUNDWATER ANALYTICAL RESULTS**

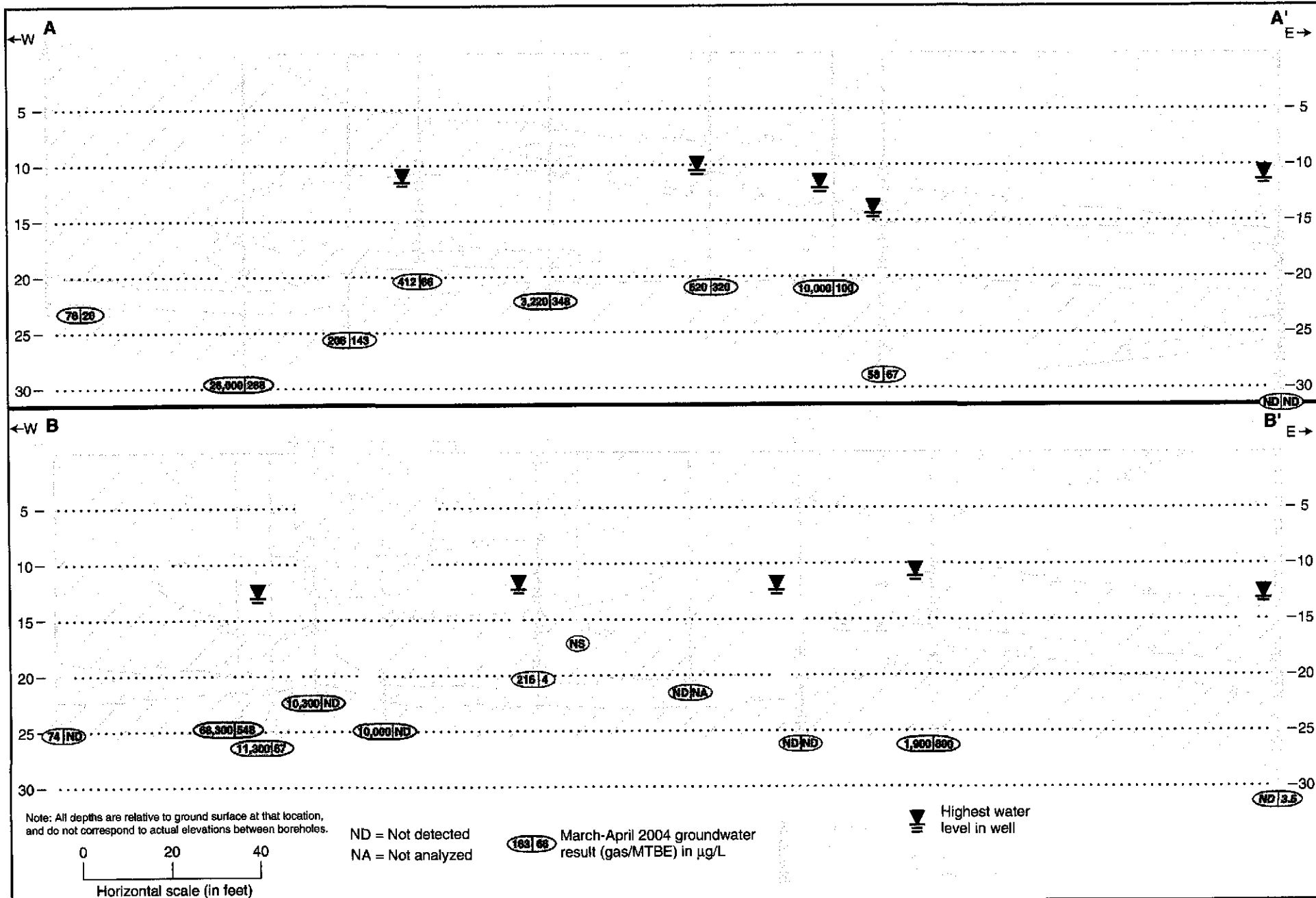
240 W. MacArthur Blvd.  
Oakland, CA

By: MJC

MAY 2004

Figure 11

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



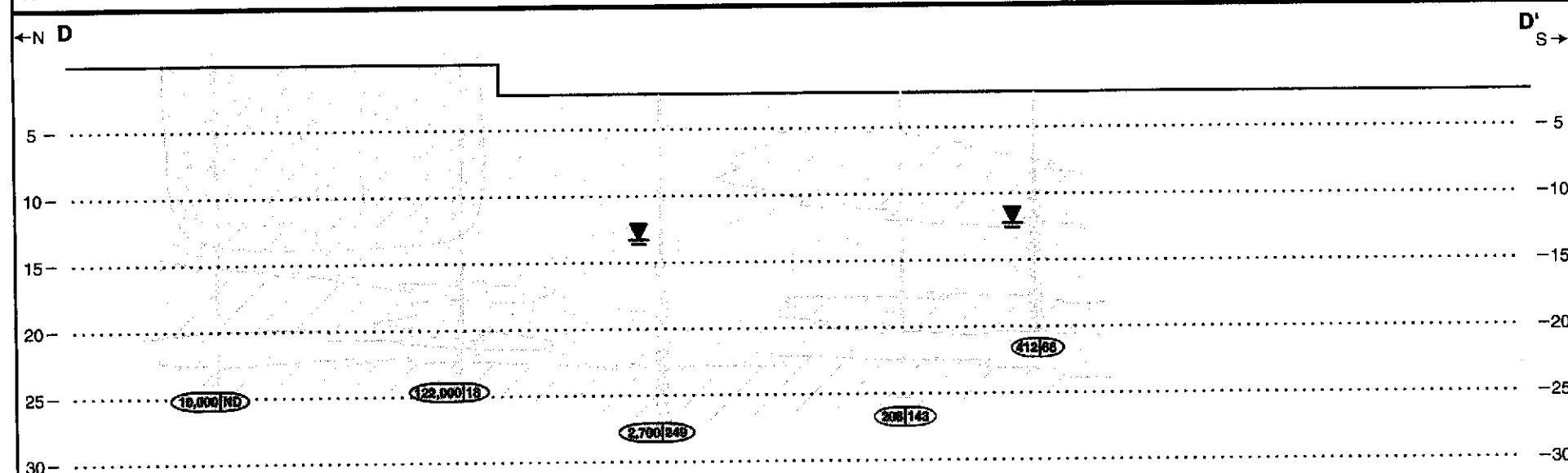
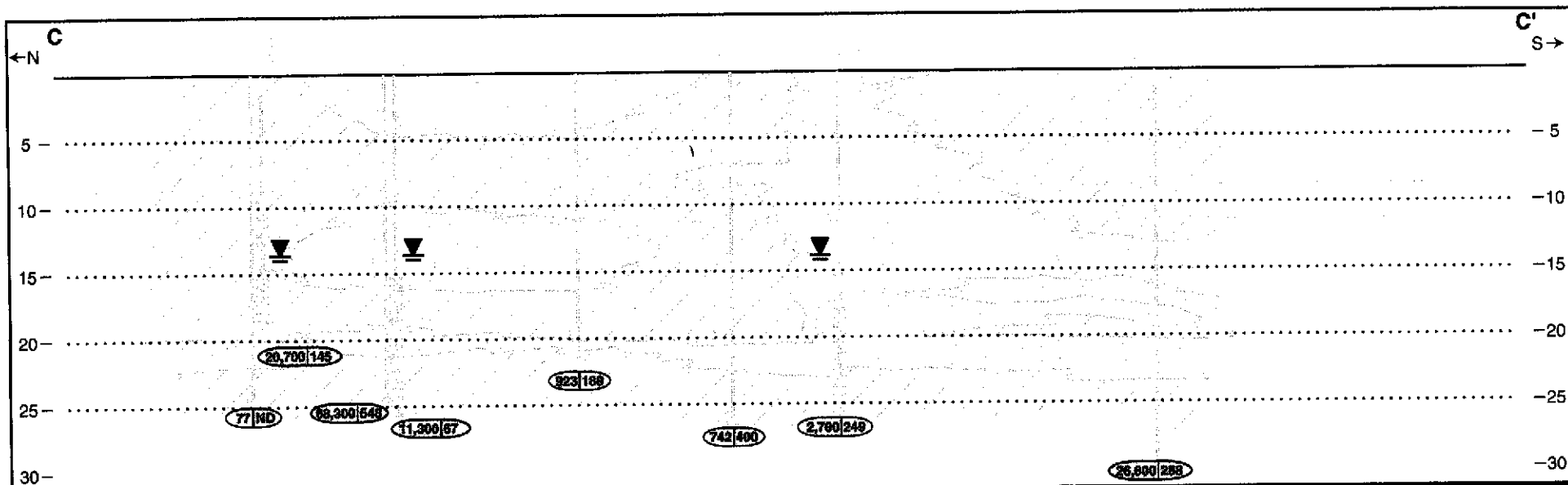
**Stellar Environmental Solutions, Inc.**  
 Geoscience & Engineering Consulting

**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

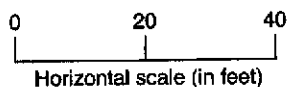


Note: All depths are relative to ground surface at that location, and do not correspond to actual elevations between boreholes.

ND = Not detected  
NA = Not analyzed

183/96 March-April 2004 groundwater result (gas/MTBE) in µg/L

▽ Highest water level in well



**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



groundwater were all in source area boreholes BH-19 through BH-21, ranging from 1,300 to 2,700  $\mu\text{g/L}$ . Only one other sample had a diesel concentration of at least 1,000  $\text{mg/L}$  (BH-18). BH-13, BH-14, and BH-16 had diesel concentrations of 300  $\mu\text{g/L}$  or less, and diesel was not detected in the remaining boreholes.

### Benzene

Similar to the borehole soil samples, benzene concentrations showed a strong correlation with gasoline; the highest benzene concentrations were detected in the same boreholes and at the same depths as maximum gasoline concentrations. Benzene was detected in groundwater in all but two boreholes (BH-17 and BH-18). Benzene may actually be present in BH-18 at a concentration below the elevated method reporting limit of 10  $\mu\text{g/L}$ .

### MTBE

MTBE concentrations in groundwater also showed a strong correlation with gasoline concentrations in groundwater. MTBE was detected in 8 of the 12 boreholes (all except BH-11 and BH-12); 6 of the boreholes had MTBE concentrations of 143 to 548  $\mu\text{g/L}$ . An evaluation of MTBE distribution and potential source(s) is provided in a subsequent subsection.

### Other Groundwater Contaminants

Other groundwater contaminants detected included aromatic hydrocarbons (toluene, ethylbenzene, and xylenes), and the fuel oxygenate TBA (detected only in source area borehole BH-20, at 114  $\mu\text{g/L}$ ). While EDB, EDC, and other fuel oxygenates were not detected in any of the soil samples, it is possible that the elevated method reporting limits are masking the presence of low concentrations of these constituents in samples with high gasoline concentration.

### *Source Area Groundwater Contamination*

The maximum concentration of groundwater contamination is found in the former UFST #1 bore BH-20, with 122,000  $\mu\text{g/L}$  gasoline. Diesel contamination is a relatively minor component in the source area, as in the outlying area. All three bores in the former UFST areas show significant gasoline contamination. The BTEX concentration is significant—3,556  $\mu\text{g/L}$  and 3,649  $\mu\text{g/L}$ , at BH-20 and BH-21, respectively (insignificant concentration at BH-19). The distribution of the groundwater contamination in the source area relates to the outlying plume in a manner suggesting some preferential flow, principally from USFT #1 and UFST #2. This pattern was also noted in the discussion of the soil contamination distribution.

### *Outlying Groundwater Plume Contamination*

The plume migration outbound from the source area UFSTs shows the highest concentration of the plume migrating to the west/northwest, with bores BH-13 and BH-16 showing the most significant concentrations. The bore along the northern side of Howe Street, along with MW-7 data, show what appears to be the distal edge of the plume in that direction. To a lesser extent, the plume also migrates to the south of the former UFST area, with the MTBE contention in that direction 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. The 21-foot-deep sanitary sewer line beneath W. MacArthur Boulevard has the potential, given its depth, to act as a conduit for contaminant migration; however, the subsurface utility lines beneath Howe Street are too shallow to be viable pathways for migration of the groundwater plume.

### **Groundwater Contamination Regulatory Considerations**

Contaminants detected in groundwater above ESL criteria include gasoline, diesel, BTEX, MTBE, and TBA. While neither of the two lead scavengers (EDB or EDC) nor other 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 groundwater (as in soil) to be gasoline, benzene, and MTBE. Any additional investigation or corrective action that focus on these primary chemicals of concern will (by default) also address additional site chemicals of concern.

As with soil contamination, exceedance of groundwater ESL criteria suggests that further investigation (and possibly corrective action) are warranted. As summarized in Tables 5 and 6, the only groundwater contaminant detected in excess of its indoor air quality ESL is benzene, detected in two source area boreholes at concentrations of 485 and 617  $\mu\text{g/L}$  (relative to the ESL of 350  $\mu\text{g/L}$ ). As discussed previously, the soil contamination data do not suggest a reasonable potential for indoor air quality impacts; it is therefore unlikely that underlying groundwater contamination would pose an impact.

### **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 boreholes is within this range, with a more southern component.

- The groundwater contaminant distribution correlates well with the previously discussed soil distribution: two (or possibly three) 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 extension.
- The overall site-sourced plume appears to show two primary components: 1) a source near BH-20 and its extension westward to BH-16; and 2) a source near BH-21 and its extension westward to BH-13. BH-13 and BH-16 represent 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 with much lower concentrations. The center of mass of groundwater contamination appears to be centered around BH-20, in the western corner of the subject property.
- 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 show 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 W. 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 Section 4.0, 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.
- The plume does not appear to extend offsite to the east, northeast, or north (upgradient directions).

#### MTBE Distribution

Alameda County Health requested that the adjacent Shell service station (see Figure 3) be evaluated as a potential source of MTBE contamination to the subject property. Appendix A contains Shell’s map showing recent well sample results for MTBE (and other petroleum constituents). Our evaluation includes the following:

- 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 cross-

gradient. The MTBE plume associated with the Shell site appears to migrate onto the Oakland Autoworks site and commingle with the plume associated with the MTBE from the former UFST on the subject property.

- 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 3 of the 21 events, at concentrations of 2.9 to 14  $\mu\text{g/L}$ . Gasoline was detected only once, in the December 2003 sampling event.
- Subject property MTBE concentrations are greatest in wells MW-1 and MW-5, and in the recent boreholes on the northwestern edge of the property, which are crossgradient relative to the Shell source area. The April 2004 boreholes showed that maximum MTBE concentrations are in outlying boreholes, indicating that the center of mass of the MTBE component of the plume has moved beyond the source area, as would be expected for a mobile groundwater contaminant such as MTBE. The footprint of the subject property MTBE groundwater contaminant plume is consistent with the location of the former subject property UFSTs as a source area and the local groundwater flow direction. The plume's long axis extends approximately due west, and the plume limits are constrained to the south and east, and do not extend onto the Shell property.
- The data suggest 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. Shell-commissioned boreholes in April 2004 (Figures 8 and 11) provide additional soil and groundwater contaminant distribution data from the downgradient portion of the Shell plume, including an area directly adjacent to the subject property. The data show the expected decrease in soil and groundwater contaminant concentrations with increasing distance from the Shell source, with the exception of MTBE in groundwater. MTBE in the more distal borehole was at approximately 3 times the concentration as the closer borehole, likely due to MTBE's role as a leading edge contaminant in plumes. The Shell contamination source is unrelated to the separate, subject-property source.

### **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, benzene, 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 south, 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; however, the subsurface utility lines beneath Howe Street are too shallow to be viable pathways for migration of the groundwater plume.
- The April 2004 boreholes indicate more spatially-variable contaminant distribution than represented by well data, which is likely a function of both the higher density of borehole (vs. well) sampling points, and actual variations in concentrations due to local lithologic controls. Overall, there is a strong 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 12 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.

## **7.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

### **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 22 groundwater monitoring/sampling events have been conducted in available site wells between August 1997 and August 2003 (the most recent event). Alameda County Health recently denied a request for case closure, and requested a technical workplan for a Soil and Water Investigation, the implementation of which is the subject of this report.
- Site lithology is typical of this area, including interbedded, often lenticular-shaped units of clays and clayey sands. The saturated interval (in April 2004) was consistently encountered at a depth of approximately 20 feet, ranged in thickness from approximately 1.5 to 5 feet, and was underlain by a laterally-extensive low permeability clay. Local variations in lithology may be an active control on contaminant transport and distribution. Groundwater occurs under semi-confining conditions, displaying a vertical head of at least several feet, and may result in seasonal fluctuations in groundwater level, which is likely also an additional control on contaminant migration.
- The available data suggest that residual soil and groundwater contamination are the result of leaks from two separate, closely-spaced onsite UFSTs. No contamination was detected in recent boreholes advanced through the UFST excavation fill.
- The primary site chemicals of concern, with regard to concentrations and risk issues, are gasoline, benzene, and MTBE. Other aromatic hydrocarbons, 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 with 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 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.
- 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 west-southwest axis, approximating the local groundwater flow direction. The west-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. We identified no vicinity water wells with the potential to intercept site-sourced groundwater contamination.
- The adjacent Shell service station is contributing minor MTBE groundwater contamination to the eastern corner of the subject property. This contamination is unrelated to the separate, site-sourced 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 will likely 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 consider addressing both residual soil and groundwater contamination, whose distribution and effective remediation may be controlled by different mechanisms.
- Electronic uploads have been made to the State of California's GeoTracker database for this investigation, including: site plan showing sampling locations, and electronic data format (EDF) lab reports.

## RECOMMENDATIONS

- Continue the program of quarterly groundwater sampling and reporting, with the objectives of obtaining site closure and supporting the owner's application for reimbursement under the State of California Petroleum UST Cleanup Fund.
- As requested by Alameda County Health, revise the current groundwater monitoring program to include analysis for fuel oxygenates in all site wells in the next (June 2004) groundwater monitoring event, and continue analysis for fuel oxygenates in subsequent events in those wells with detectable concentrations.
- As requested by Alameda County Health, continue to use the well purging method (vs. no-purge method) in future groundwater monitoring events.
- As required by the State of California, continue to upload EDF data to the California GeoTracker system.
- Based on the results of this investigation, we recommend that a Corrective Action evaluation be conducted to determine the most appropriate remedy to continue to move the site towards regulatory closure.



## 8.0 REFERENCES AND BIBLIOGRAPHY

---

- Advanced Environmental Concepts, Inc. (AEC), 2003a. 1st Quarter Groundwater Sampling Report (2003): Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. March 7.
- AEC, 2003b. 2nd Quarter Groundwater Sampling Report (2003): Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. April 30.
- AEC, 2002a. December 2001 Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January 30.
- AEC, 2002b. March 2002 Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. April 19.
- AEC, 2002c. 2nd Quarter Groundwater Sampling Report (2002) : Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. July 17.
- AEC, 2002d. 4th Quarter Groundwater Sampling Report (2002) : Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. November 11.
- AEC, 2001a. December 2000 Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January.
- AEC, 2001b. Additional Soil and Groundwater Assessment: 240 W. MacArthur Boulevard, Oakland, County of Alameda, California. March.
- AEC, 2001c. May 2001 Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. May 27.
- AEC, 2001d. July 2001 Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August 31.
- AEC, 2001e. Summary “Hi-Vac” Workplan: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. September 11.

- AEC, 2001f. October 2001 Quarterly Groundwater Sampling and Summary “Hi-Vac” Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. December 15.
- AEC, 2000a. Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August 11.
- AEC, 2000b. Additional Groundwater Assessment Workplan for Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, County of Alameda, California. October.
- AEC, 1999. Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. January 22.
- AEC, 1998a. Second Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. April 2.
- AEC, 1998b. Request for Site Closure: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. June 29.
- AEC, 1998c. Third Quarterly Groundwater Sampling Report – Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August 2.
- AEC, 1998d. Fourth Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. November 6.
- AEC, 1997a. Subsurface Soil and Groundwater Investigation Workplan for Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. June.
- AEC, 1997b. Continuing Soil and Groundwater Assessment for Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. August.
- AEC, 1997c. First Quarterly Groundwater Sampling Report: Former Vogue Tyres Facility – 240 W. MacArthur Boulevard, Oakland, California. December 21.
- Alameda County Environmental Health Department (Alameda County Health), 2004. Letter approving proposed workplan amendments by Stellar Environmental Solutions. May 3.
- Alameda County Health, 2003a. Letter requesting additional site characterization prior to considering case closure. April 16.
- Alameda County Health, 2003b. Letter requesting technical revisions to the workplan. December 3.

- 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. Fourth Quarter 2003 Monitoring Report, Shell-branded Service Station, 230 W. MacArthur Boulevard, Oakland, California. February 5.
- 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 (RWQCB), 2003. Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater. July.
- RWQCB, 1999. East Bay Plain Groundwater Basin Beneficial Use Evaluation Report.
- Stellar Environmental Solutions (SES), 2004a. Fourth Quarter 2003 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. January 12.
- SES, 2004b. First Quarter 2004 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. April 12.
- SES, 2003a. Workplan for Additional Site Characterization, 240 W. MacArthur Boulevard, Oakland, California. August 20.
- SES, 2003b. Third Quarter 2003 Groundwater Monitoring Report, 240 W. MacArthur Boulevard, Oakland, California. September 5.
- SES, 2003c. Amended Workplan for Additional Site Characterization, 240 W. MacArthur Boulevard, Oakland, California. December 10.

## 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.

**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)

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)

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

<sup>(a)</sup> Depth of sample uncertain due to minimal recovery in sampling sleeve.

**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
<b>1996 Waste Oil UST Removal</b>																	
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 <sup>(a)</sup>	NA	NA	NA	NA	NA	NA	NA	NA
EB (8.0')	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2 mg/L <sup>(c)</sup>	NA	NA	NA	NA	NA	NA	NA	NA
EB (9.0')	NA	NA	NA	NA	< 0.5	29	NA	NA	3.4 mg/L <sup>(c)</sup>	NA	NA	39	NA	NA	NA	NA	35
STKP-1	NA	NA	NA	NA	< 0.5	NA	NA	NA	2.8 mg/L <sup>(c)</sup>	NA	NA	NA	NA	NA	NA	NA	NA
STKP-2	NA	NA	NA	NA	NA	NA	NA	NA	1.3 mg/L <sup>(c)</sup>	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
<b>January 1997 Investigation</b>																	
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
<b>August 1997 Investigation</b>																	
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
<b>California Hazardous Waste Criteria (10 X Soluble Threshold Limit Concentrations) <sup>(a)</sup></b>																	
	150	50	1,000	7.5	10	50	800	250	50	2.0	3,500	200	10	50	70	240	2,500
<b>California Hazardous Waste Criteria (Total Threshold Limit Concentrations)</b>																	
	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
<b>California Regional Water Quality Control Board - San Francisco Bay Region Environmental Screening Levels for Commercial/Industrial Land Use <sup>(b)</sup></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.



**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 ID.	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

<sup>(a)</sup> 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

**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 <sup>(a)</sup>	Jan-97	330	490	2	0.72	< 0.5	1.3	220
BH2W <sup>(b)</sup>	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 <sup>(a)</sup>	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.

**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

**Historical Groundwater Monitoring Well Groundwater Analytical Results**  
**Petroleum and Aromatic Hydrocarbons**  
**240 W. MacArthur Boulevard, Oakland, Alameda, California**  
**(all concentrations in µg/L)**

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
<b>MW-1</b>									
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
<b>MW-2</b>									
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

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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
MW-3									
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
MW-4									
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

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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
<b>MW-5</b>									
(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
<b>MW-6</b>									
(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
<b>MW-7</b>									
(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	22	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

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

Well Purged?	Sampling Event No.	Date Sampled	TVH-g	TEH-d	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
<b>MW-8</b>									
(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
<b>ESLs</b>			<b>100</b>	<b>100</b>	<b>1.0</b>	<b>40</b>	<b>30</b>	<b>13</b>	<b>5.0</b>

**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.

ESLs = Regional Water Quality Control Board Risk-Based Environmental Levels (see "Regulatory Considerations" text for applicable criteria)

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).

BORING NUMBER BH-10 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing

LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43

TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch

SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet

DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)

DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Asphalt (roadbed)	<p>"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)</p> <p>Continuous core soil sampling. 100% sample recovery unless specified otherwise</p>
1				
2			2' Brown clay (CL), sl moist, sl cohesive, minor sand and small gravel, sl-mod stiff, dry	
3				
4			<1	
5				
6			<1	
7				
8			<1	
9				
10		no sample recovery		



BORING NUMBER BH-10 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
10			Asphalt (roadbed)	
11			11' Sand and gravel content decreases, minor organics	
12	BH-10-12'	<1	12' Becomes gravelly, gravel is small, ~30%, rnd-subrnd, moist	Borehole swells shut at approx 12.5' No evidence of free water
13				
14		<1		
15			15' Becomes tan-lt brown sandy clay, sand is med-coarse, ~40%, mod-very stiff, cohesive, sl moist, gravel absent	
16		<1		
17	BH-10-17'		16.5' - 17' Gravelly, same as at 12' 17' Gravel absent	
18		<1		
19			Tan-light brown clayey sand (SC), sand is very fine grained, mod stiff, sl moist	
20			20' Becomes saturated and loose	

BORING NUMBER BH-10 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
-20		<1		Very low penetration rate from 21' to 24'
-21				
-22		<1	Tan-light brown silty clay (CL), mod stiff, cohesive, sl moist	Water enters sampling rods after drilling to 24' No water in hole after drilling to 20' Water level rises to ~18' within 5 minutes. Grab-groundwater sample "BH-10-GW" collected at 845 a.m.
-23			23.5' Becomes very stiff and dry	
-24		<1		
-25			Bottom of borehole = 24 feet	
-26				
-27				
-28				
-29				
-30				

BORING NUMBER BH-11 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20.5 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Asphalt (roadbed)	<p>"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)</p> <p>Continuous core soil sampling. 100% sample recovery unless specified otherwise</p>
1				
2		<1	Brown clay (CL), sl moist, sl cohesive, minor sand and small gravel, sl-mod stiff, dry	
3				
4		<1		
5				
6		<1		
7				
8		<1		
9				
10	<1			

BORING NUMBER BH-11 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20.5 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	
-10			Asphalt (roadbed)		
-11			11' Becomes silty, sand and gravel content decreases, mod cohesive		
-12		<1	12' Becomes mod-very cohesive, sl moist, very minor sand (coarse) and gravel (small)		
-13					
-14		<1			
-15				15.5' Becomes red-brown, very stiff, mod cohesive, dry	
-16		<1	16' Tan-light brown, silt minor, sl-mod stiff, cohesive, mod plasticity, sl moist-dry		
-17					
-18		<1			
-19			Tan-light brown clayey sand (SC), sand is coarse-grained, minor small gravel, mod stiff, sl moist		
-20		<1	Tan-light brown clay (CL), silt minor, sl-mod stiff, cohesive, mod plasticity, sl moist-dry		

2003-43-37

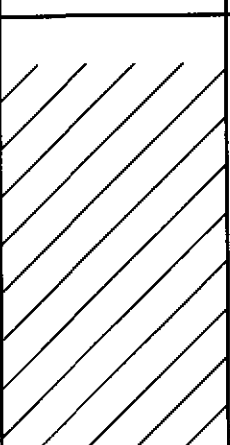
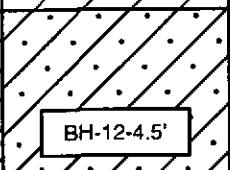
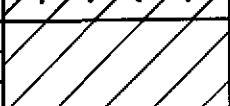
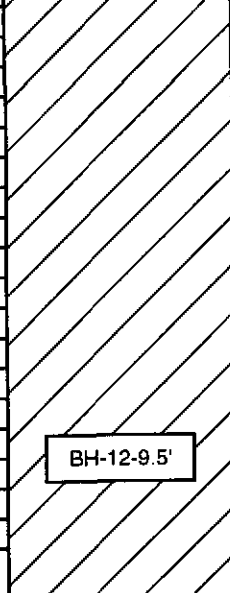
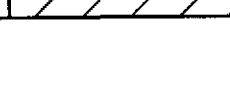
BORING NUMBER BH-11 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20.5 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20	[Hatched pattern]		20.5' Becomes saturated and loose, soft-sl stiff, cohesive	Water enters borehole after drilling to 24' No water in hole after drilling to 20' Water level rises to ~15' within 5 minutes. Grab-groundwater sample "BH-11-GW" collected at 1045 a.m.
21				
22	BH-10-21.5' (saturated soil sample)	<1	Clayey sand (SC), wet, fine-med grained, no cohesion	
23	[Hatched pattern]		Brown gravelly clay (CL), gravel is small-medium, rnd-subangular, moist, sl cohesive	
24		BH-10-23.5'	<1	
25			Bottom of borehole = 24 feet	
26				
27				
28				
29				
30				

BORING NUMBER BH-12 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20-24 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete sidewalk	"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)  Continuous core soil sampling. 100% sample recovery unless specified otherwise
1				
2			2' Black silty clay (CL), sl-med stiff, very cohesive, dry	
3				
4		<1	Light brown clayey sand (SC), sl-mod stiff, cohesive, moist	
5				
6		<1	Brown gravelly, sandy clay (CL), gravel is small, occasionally up to 1", gravel content ~20%, cohesive, mod-very stiff, sl moist	
7				
8		<1	8' Becomes silty clay, sl stiff, cohesive, moist	
9			8.5' Return to lithology as at 5'	
10		<1		

BORING NUMBER BH-12 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20-24 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	
10					
11		<1			
12		188	12' Blue-grey mottling, petroleum odor 12.5' Gravel absent, very stiff		
13		<1			
14		<1	13.5' Blue-grey mottling absent		
15		<1	14.5' Sandy, gravelly clay (CL), mod stiff, cohesive, sl moist, gravel is small, ~30%		
16			15.5' Occasional gravel up to 1" a		
17		BH-12-16'-20' depth uncertain	<1 (16'-20')		
18					
19					
20					

BORING NUMBER BH-12 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20-24 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20		40	Brown clayey, silty sand (SC), sand is coarse-grained, minor small gravel, sl-mod stiff, moist	Very low penetration rate from 20' to 22'  No water in hole after drilling to 20'. Water enters borehole after drilling to 24'. No evidence of free water in any of the soil cores. Water level rises to ~16' within 5 minutes. Grab-groundwater sample "BH-12-GW" collected at 1215 p.m.
21		3		
22		<1		
23		<1	22' Brown silty clay (CL), sl-mod stiff, cohesive, sl moist-dry	
24		<1		
25			Bottom of borehole = 24 feet	
26				
27				
28				
29				
30				



BORING NUMBER BH-13 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete sidewalk	<p>"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)</p> <p>Continuous core soil sampling. 100% sample recovery unless specified otherwise</p> <p>2.5' sample recovery from 0' to 4'</p>
1			Light brown clayey sand (SC), minor small gravel, sl-mod stiff, mod cohesive, dry	
2				
3				
4		<1		
5			Light brown gravelly, sandy clay (CL), gravel is small, occasionally up to 1", gravel content ~20%, cohesive, mod-very stiff, sl moist	
6		<1		
7				
8		<1	7.5' Blue-grey mottling, no petroleum odor	
9			Blue-grey clayey, gravelly, sand (SC), gravel mostly small, some up to 1", mod stiff, dry, cohesive	
10		<1		

BORING NUMBER BH-13 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing

LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43

TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch

SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet

DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)

DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
-10			Asphalt (roadbed)	
-11			11' gravel absent, very stiff, friable, sl cohesive	
-12		5		
-13		51		
-14		1,252		
-15		1,822		
-16	BH-13-15.5'	3,686		
-17		1,944	Light grey silty clay (CL), mod stiff, cohesive, sl moist, silt is minor	
-18		1,751		
-19	BH-13-19.5'	29	Light brown clayey sand (SC), sl-mod stiff, sl cohesive, friable, sl moist	
-20		9	20' Becomes saturated and loose	

BORING NUMBER BH-13 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20		20		No water in hole after drilling to 20'. Water enters borehole after drilling to 24'. Water level rises to ~15' within 5 minutes. Grab-groundwater sample "BH-13-GW" collected at 1345 p.m.
21		9		
22		<1	Brown silty clay (CL), mod stiff, cohesive, sl moist	
23		<1	Brown clayey sand (SC), sl cohesive, moist	
24		2	Dark brown clay (CL), very stiff, cohesive, dry	
24			Bottom of borehole = 24 feet	
25				
26				
27				
28				
29				
30				

BORING NUMBER BH-14 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing

LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43

TOTAL DEPTH 22 feet BOREHOLE DIA. 2-inch

SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet


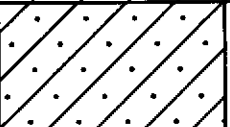
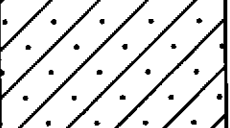
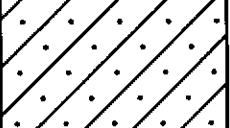
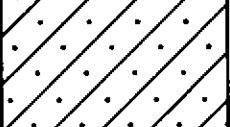
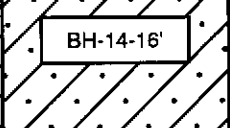
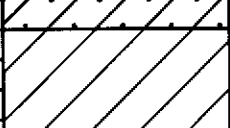

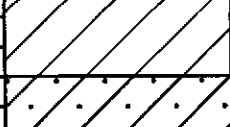
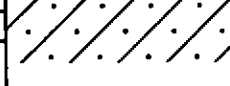
DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)

DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete sidewalk	"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)  Continuous core soil sampling. 100% sample recovery unless specified otherwise
1			Red-brown clayey sand (SC), minor small gravel, stiff, cohesive, sl moist	
2				
3				
4		<1		
5	BH-14-4.5'		Light brown gravelly, sandy clay (CL), gravel is small-med, gravel content ~30%, cohesive, very stiff, sl moist	
6		<1		
7				
8		<1		
9				
10		BH-14-9.5'	<1	

BORING NUMBER BH-14 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 22 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
-10-			Asphalt (roadbed)	
-11-		<1		
-12-		<1	Dark grey clayey sand (SC), very stiff, sl moist-dry, sl cohesive, sand is very fine grained	
-13-			12' Color change to red-brown 13' Color change to dark grey	
-14-		<1		
-15-				
-16-	 <span style="border: 1px solid black; padding: 2px;">BH-14-16'</span>	1.3		
-17-				
-18-		2	Light brown silty clay (CL), mod stiff, cohesive, sl moist  18.5' Becomes very stiff, thin lens of free moisture	
-19-				
-20-		<1	Light brown clayey sand (SC), sand is fine-grained, v. moist  20' Becomes saturated and loose	

BORING NUMBER BH-14 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 22 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20	BH-14-20'			Extremely low penetration rate at 21' and drilling refusal at 22'
21	BH-14-21.5'	<1	Brown gravelly clay (CL), very stiff, moist	
22			Bottom of borehole = 22 feet	
23				No water in hole after drilling to 20'. Water enters borehole after drilling to 22'. Water level rises to ~6' within 5 minutes. Grab-groundwater sample "BH-14-GW" collected at 1545 p.m.
24				
25				
26				
27				
28				
29				
30				

BORING NUMBER BH-15 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 26 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete sidewalk	"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)  Continuous core soil sampling. 100% sample recovery unless specified otherwise
1			Blue grey clay	
2			Red-brown clayey sand (SC), minor small gravel, dry, stiff	
3				
4		<1		
5	BH-15-4.5'		Red-brown silty clay (CL), sl moist-dry, very stiff, cohesive	
6		<1		
7				
8		<1	Brown clayey sand (SC), minor small gravel, very stiff, sl moist-dry	
9	BH-15-9.5'		Red-brown gravelly, sandy clay (CL), cohesive, sl moist, very stiff, gravel up to 1"	
10		<1		

BORING NUMBER BH-15 Page 2 of 3

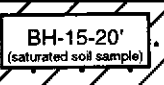
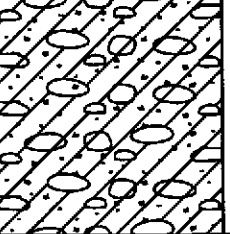
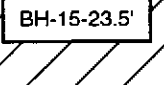
PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 26 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
10				
11			11' Gravel absent	
12		<1	12' Becomes silty clay (CL), stiff, dry-sil moist, cohesive, sil friable	
13				
14		<1		
15				
16		<1		
17				
18		<1		
19				
20		<1		



BORING NUMBER BH-15 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 26 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
-20			Light brown clayey sand (SC), saturated and loose, sand is fine-grained	No water in hole after drilling to 20'. Water enters borehole after drilling to 24'. Water level rises to ~12' within 5 minutes. Grab-groundwater sample "BH-15-GW" collected at 1715 p.m.
-21		<1	Brown clayey gravel (GC), very stiff, moist	
-22				
-23		<1	Light brown silty clay (CL), very stiff, cohesive, sl moist	
-24				
-25				
-26			Bottom of borehole = 26 feet	
-27				
-28				
-29				
-30				

BORING NUMBER BH-16 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing

LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43

TOTAL DEPTH 28 feet BOREHOLE DIA. 2-inch

SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet

DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)

DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete sidewalk	"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)
1			Blue grey clay	
2			Red-brown clayey sand (SC), minor small gravel, dry, stiff	Continuous core soil sampling. 100% sample recovery unless specified otherwise
3				
4		<1	Red-brown gravelly, sandy clay (CL), gravel is small, ~30%	4'-8' Interval: Driller neglects to put sleeve in sampler. Majority of sample recovered however depths are uncertain.
5	BH-16-4.5'			
6		<1		
7			7.5' Gravel absent, light grey mottling, mod cohesive, sl moist	
8		<1		
9			9' Becomes very cohesive, mod stiff	
10	BH-16-9.5'	<1		

BORING NUMBER BH-16 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing

LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43

TOTAL DEPTH 28 feet BOREHOLE DIA. 2-inch

SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet

DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)

DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
10	[Diagonal hatching pattern]			
11				
12		<1	11.5' Becomes sandy, silty clay (CL), sand is fine-grained 12' Becomes sl stiff 13' Becomes very stiff	
13		<1		
14	[Diagonal hatching pattern with dots]	<1	Blue-grey clayey sand (SC), sl stiff, cohesive, friable, sl moist, sand is fine grained	Slight petroleum odor
15		380	14.5' Becomes very stiff	
	[Box: BH-16-15']			
16	[Diagonal hatching pattern]	65	Tan-light brown silty clay (CL), mod stiff, cohesive, sl moist	Strong petroleum odor begins
17	[Diagonal hatching pattern with dots]	2,031	Blue-grey clayey sand (SC), sl stiff, cohesive, sl friable, sl moist, sand is very fine grained	Petroleum odor absent
18		1,689	17.5' Becomes very moist and soft	
19	[Diagonal hatching pattern]		Blue-grey gravelly clay (CL), v. stiff, dry	PID fails after 18' measurement
20				

BORING NUMBER BH-16 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 28 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/29/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20			Clayey sand (SC), saturated and loose	No water in hole after drilling to 20'. Water enters borehole after drilling to 24'. Grab-groundwater sample "BH-16-GW" collected at 1900 p.m.  Petroleum odor ends  Borehole deepened to 28' after collecting groundwater sample
21			21' Becomes gravelly (mostly small, ~30%), very moist	
21.5			21.5' Becomes sl moist	
24			Brown silty clay (CL), mod stiff, very cohesive, sl moist, petroleum odor absent	
25				
26				
27				
28			Bottom of borehole = 28 feet	
29				
30				

BORING NUMBER BH-17 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing

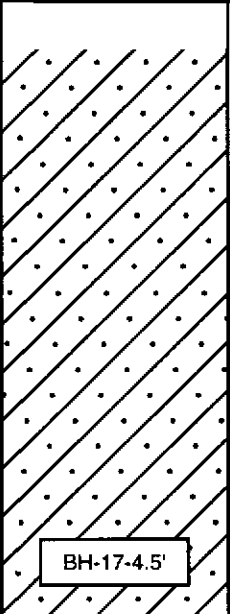
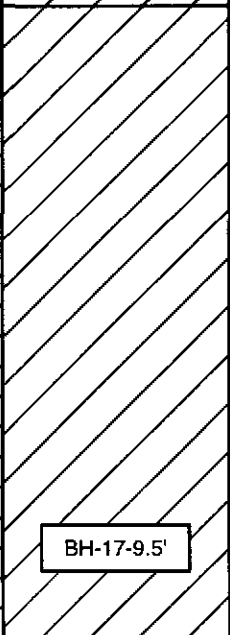
LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43

TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch

SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet

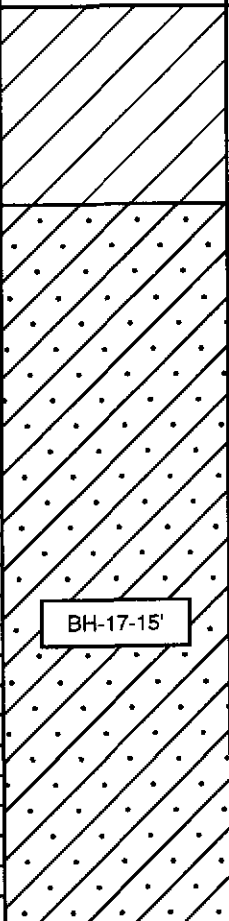
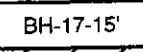
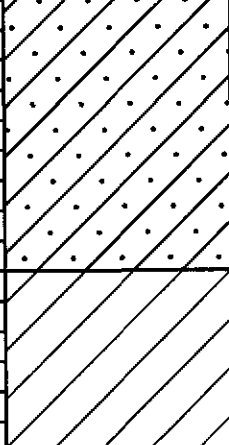
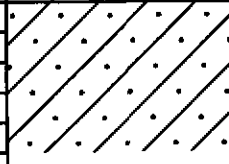
DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)

DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	
0			Concrete sidewalk	"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)  Continuous core soil sampling. 100% sample recovery unless specified otherwise	
1			Red-brown clayey sand (SC), sand is medium-coarse, minor small gravel, mod stiff, friable, sl cohesive, dry		
2					
3					
4					
4.5	BH-17-4.5'	<1			
5			Red-brown silty clay (CL), sl moist, mod stiff, cohesive		
6			<1		6.5' Gravel content increases to ~30%
7					
8			<1		
9					
9.5					
10	BH-17-9.5'	<1			

BORING NUMBER BH-17 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
-10				
-11				
-12		<1	Brown clayey sand (SC), sand is fine grained, sl moist, mod stiff, cohesive, sl friable, minor small gravel	
-13			12' Becomes sl-mod stiff	
-14		<1		
-15				
-16		<1	15.5' Color change to tan-light brown	
-17				
-18		<1	Tan-light brown silty clay (CL), silt is minor, sl stiff, very cohesive, sl moist	
-19				
-20		<1	19.5' Clayey sand (SC) (as at 15.5')	

BORING NUMBER BH-17 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20	<p>BH-17-20' (saturated soil sample)</p>	<1	20' Becomes saturated and loose	No water in hole after drilling to 20'. Water enters borehole after drilling to 24'. Water level rises to 14' after drilling. Grab-groundwater sample "BH-17-GW" collected at 915 a.m.
21			21' Becomes sl cohesive, soft	
21.5			21.5' Becomes sl-mod stiff	
22			22' Not cohesive	
23	<p>BH-17-23.5'</p>	<1	Brown silty clay (CL), mod stiff, very cohesive, sl moist	
24			Bottom of borehole = 24 feet	
25				
26				
27				
28				
29				
30				

BORING NUMBER BH-18 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 21 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete sidewalk	<p>"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)</p> <p>Continuous core soil sampling. 100% sample recovery unless specified otherwise</p>
1			Red-brown clayey sand (SC), sand is medium-coarse, minor small gravel, mod stiff, friable, sl cohesive, dry	
2				
3				
4		<1		
5		BH-18-4.5'		
6		<1		
7			Red-brown silty clay (CL), sl moist, mod stiff, cohesive	
8		<1	Red-brown clayey sand (SC), mod stiff, cohesive, sl moist	
9			8.5' Becomes gravelly, ~40%, mostly small, some up to 1"	
10		<1		



BORING NUMBER BH-18 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 21 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	
10			Light grey-brown silty clay (CL), mod stiff, sl moist, cohesive		
11			Brown clayey sand (SC), sand is very fine grained, sl-mod stiff, sl moist		
12		<1	11.5' Blue-grey mottling (but no petroleum odor), mod stiff, sand is fine grained		
13		<1	13' Minor small gravel		
14		<1		Slight petroleum odor	
15		<1		Strong petroleum odor begins	
16		128			
17		306			
18		<1		Tan-light brown silty clay (CL), soft, very cohesive, sl moist	Petroleum odor absent
19		<1		18.5' Becomes sl-mod stiff	
20	3.5		Tan-light brown clayey sand (SC), sand is very fine grained, very stiff, friable, sl cohesive, dry		

BORING NUMBER BH-18 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 21 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20			20' Becomes saturated and loose	No water in hole after drilling to 20'. Water enters borehole after drilling to 21'. Water level rises to 11' after drilling. Grab-groundwater sample "BH-18-GW" collected at 1230 p.m. Did not attempt to deepen borehole because water was being pushed out of borehole and rods during previous drilling.
21		1.5	Tan-light brown silty clay (CL), mod stiff, very cohesive, sl moist	
			Bottom of borehole = 21 feet	
22				
23				
24				
25				
26				
27				
28				
29				
30				

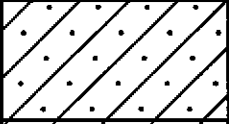
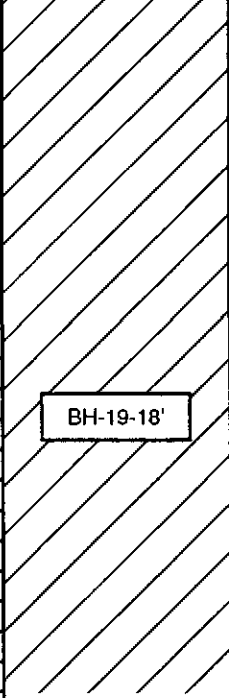
BORING NUMBER BH-19 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 21 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete floor. Ground surface is ~18" higher than outside bldg.	"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)
1				
2	(Fill)		Soils from surface to 13.5' are a mélange of soil types ranging from clayey sand to gravel. While similar to native soils logged outside the source area, the materials do not follow a similar depositional pattern. This suggests that the materials in this interval may be native material that was excavated during UFST removals, then re-emplaced in the excavation.	Continuous core soil sampling. 100% sample recovery unless specified otherwise
3		<1		
4		<1		
5	BH-19-4.5'	15	Soils are dry to slightly moist.	
6		24		
7		18		
8	(Fill)	65		
9		143		
10	BH-19-9.5'	<10		

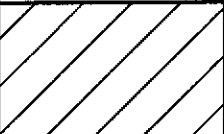
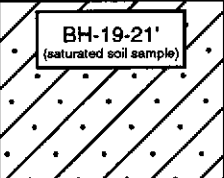
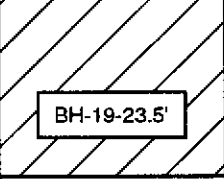
BORING NUMBER BH-19 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 21 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
10				
11		310	11' Extremely unusual colored (red, green, yellow) small grains in a black sandy matrix. Definitely not native material.	
12	(Fill?)	283		
13	BH-19-13'	663		
14		11	Blue-grey clayey sand (SC), sand is fine grained, cohesive, sl friable, mod stiff, sl moist	Becomes very moist and strong petroleum odor begins
15		3	Blue-grey silty clay (CL), v. stiff, cohesive, sl moist-dry	
16		263		No sample recovery between 15' and 16'
17		288		
18	BH-19-18'	1,250		
19		350	Becomes sl-mod stiff, color change to brown with some blue-grey mottling	
20		<10	Becomes light brown, soft-sl stiff, silt is minor, moist	
				Petroleum odor absent

BORING NUMBER BH-19 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 21 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20			20.5' Becomes mod stiff, sl moist	No water in hole after drilling to 21'. Water enters borehole after drilling to 24'. Grab-groundwater sample "BH-19-GW" collected at 1000 a.m.
21		34	Brown clayey sand (SC), saturated, sand is fine to med grained, no cohesion, minor small gravel (subrnd, up to 1")	
22		5	22' Becomes more clayey, cohesive, soft-sl stiff, still wet	
23		<1	Brown silty clay (CL), silt is minor, very stiff, cohesive, sl moist	
24		<1	Bottom of borehole = 24 feet	
25				
26				
27				
28				
29				
30				

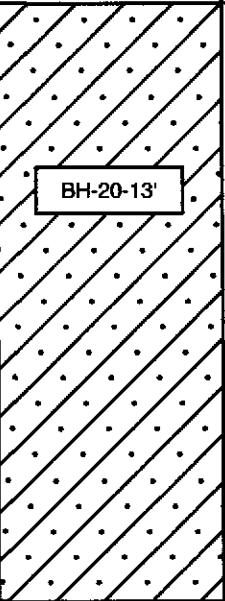

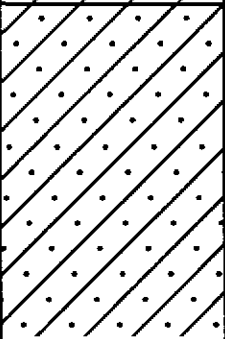
BORING NUMBER BH-20 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 21 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete floor. Ground surface is ~18" higher than outside bldg.	<p>"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)</p> <p>Continuous core soil sampling. 100% sample recovery unless specified otherwise</p>
1				
2	(Fill)		Soils from surface to 11.5' are a mélange of soil types ranging from clayey sand to gravel. While similar to native soils logged outside the source area, the materials do not follow a similar depositional pattern. This suggests that the materials in this interval may be native material that was excavated during UFST removals, then re-emplaced in the excavation.	
3				
4		<1		
5	BH-20-4.5'		Soils are dry to slightly moist.	
6		<1		
7	(Fill)			
8		13		
9	BH-20-9'	12		
10		6		

BORING NUMBER BH-20 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 21 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
-10	(Fill)			
-11		5		
-12		2	Black-dark grey clayey sand (SC), minor small gravel, very stiff, sl moist	
-13		3	12.5' Becomes wet, mod stiff, little cohesion	
-14		51	13' Becomes sl moist, blue-grey, stiff, cohesive, organic/marshy smell	
-15		72	15' Becomes gravelly, ~40%, small	
-16		33	16' Gravel absent	
-17		60	Brown silty clay (CL), very stiff, sl. moist	
-18		350	Brown clayey sand (SC), very fine grained, mod stiff, sl moist, cohesive	No sample recovery from 18' to 19.5'
-19		not recorded	19.5' Tan-light brown, sl stiff	
-20		1,137		

BORING NUMBER BH-20 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 24 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 21 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20	BH-20-20'		20' Soft-sl stiff	No water in hole after drilling to 20'. Water enters borehole after drilling to 24'. Grab-groundwater sample "BH-20-GW" collected at 1215 p.m.
21		23	Brown silty clay (CL), soft-sl stiff, sl. Moist	
21.5	BH-20-21.5' (saturated soil sample)		Light brown clayey sand (SC), saturated, sand is fine grained, soft	
22		40		
23		52	Tan-grey silty clay (CL), soft-sl stiff, cohesive, sl moist	
23.5	BH-20-23.5'			
24		<1	Bottom of borehole = 24 feet	
25				
26				
27				
28				
29				
30				



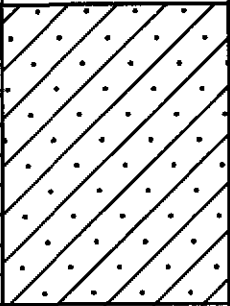
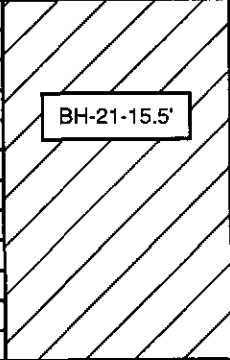
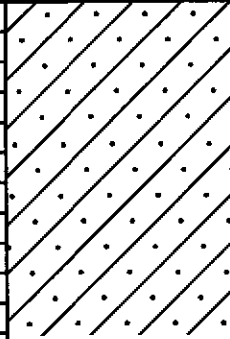
BORING NUMBER BH-21 Page 1 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 22 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20.5 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0			Concrete floor. Ground surface is ~18" higher than outside bldg.	<p>"Instrument" is a photoionization detector calibrated for gasoline. "Readings" are in parts per million per volume air (ppmv)</p> <p>Continuous core soil sampling. 100% sample recovery unless specified otherwise</p>
1				
2			Soils from surface to 12' are a mélange of soil types ranging from clayey sand to gravel. While similar to native soils logged outside the source area, the materials do not follow a similar depositional pattern. This suggests that the materials in this interval may be native material that was excavated during UFST removals, then re-	
3	(Fill)		placed in the excavation.	
4		<1	Soils are dry to slightly moist.	
5	BH-21-4.5'			
6		<1		
7		<1		
8	(Fill)	2		
9	BH-21-9.5'	<1		
10		<1		

BORING NUMBER BH-21 Page 2 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 22 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20.5 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	
10	(Fill)			Petroleum odor begins	
11		<1			
12			Dark brown clayey sand (SC), blue-grey mottling, sand is very fine grained, stiff, mod cohesive, sl moist		
13		34	12.5' Becomes fully blue-grey, v. moist		
14		40	13.5' Becomes soft - sl stiff		
15		1,890	Blue-grey sandy clay (CL), mod-very stiff, sl moist, very cohesive		
16		3,150	15.5' Becomes silty, sandy clay (CL)		
17		870			
18		270	Brown clayey sand (SC) (gradational from above sandy clay), very fine grained, soft-sl stiff		Petroleum odor ends
19		140	18' Becomes brown		
			19' Becomes very moist		
20		68	19.5' Becomes gravelly, ~20%, small, minor to 1"		

BORING NUMBER BH-21 Page 3 of 3

PROJECT Oakland Auto Works OWNER Glen Poy-Wing  
 LOCATION 240 W. MacArthur Blvd., Oakland PROJECT NUMBER 2003-43  
 TOTAL DEPTH 22 feet BOREHOLE DIA. 2-inch  
 SURFACE ELEV. approx. 78 feet amsl WATER FIRST ENCOUNTERED 20.5 feet  
 DRILLING COMPANY Vironex, Inc. DRILLING METHOD GeoProbe (direct push)  
 DRILLER Various GEOLOGIST B. Rucker DATE DRILLED 4/30/04

DEPTH (feet)	GRAPHIC LOG	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
20		24	20.5' Becomes saturated	No water in hole after drilling to 20'. Water enters borehole after drilling to 22'. Water level rises to ~15' after 5 minutes. Grab-groundwater sample "BH-21-GW" collected at 1730 p.m.
21			Brown sandy clay (CL), sl moist, cohesive, sl stiff	
22		16	Bottom of borehole = 24 feet	
23				
24				
25				
26				
27				
28				
29				
30				



ensco  
environmental  
services, inc.

PROJECT NAME: SHELL Service Station  
230 MacArthur Blvd.  
Oakland, California

BORING No.: Mvv-1  
DATE DRILLED: 7-11-88  
PROJECT No.: 1847 G  
LOGGED BY: SC

### EXPLORATORY BORING LOG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft./Tps.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
				8" concrete over 6" pea gravel		
1				CLAYEY SAND, greenish gray, predominantly fine sand 20% fine gravel, damp		
2			SP			
3						
4				SAND, greenish gray, predominantly fine to medium sand, 5-10% coarse sand, 10-15% fine gravel, <5% fines, very dense, damp		
5				SAND, olive brown, fine to medium grained trace silt, very dense, damp		
6	1-1	72	SP			
7				CLAYEY SAND, orangish brown, fine to medium grained organic staining, 4" lens of fine to medium sand (poorly sorted, greenish gray), dense, damp		
8			SP			
9						
10				CLAYEY SAND, orangish brown, fine to medium grained organic staining, 4" lens of fine to medium sand (poorly sorted, greenish gray), dense, damp		
11	1-2	30	SC			
12				SAND, bluish gray, fine to coarse grained <5% fines, color to brown at 15.5 feet, wet, dense		
13			SW			
14				SANDY CLAY, yellowish brown, 30% fine sand, very moist		
15			CL			
16	1-3	37		CLAYEY SAND, tannish brown, predominantly fine sand, trace medium sand, 15-20% fines, rare rootholes, moist, dense		
17			SC			
18				SAND, brown, predominantly fine sand, becomes silty at 20.5', dense, very moist to wet		
19			SP			
20						

REVIEWED BY R.G./C.E.G.



ensco  
environmental  
services, Inc.

PROJECT NAME: SHELL Service Station  
230 MacArthur Blvd.  
Oakland, California

BORING NO.: .....  
DATE DRILLED: 7-11-88  
PROJECT No.: 1847 G  
LOGGED BY: SC

### EXPLORATORY BORING LOG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
20	1-4	30	SP	SAND cont.		0
21			CL	SILTY CLAY, brown, 5-10% fine sand locally to 20% disseminated, hard, very moist		
22						
23						
24			SP-SC	SAND, light olive, fine to medium grained <10% clay fines, rare oxidation stains, dense, very moist to wet		
25						
26	1-5	48	SC	CLAYEY SAND, light olive, predominantly fine to medium sand, 40% clay, rare organics, dense, very moist to wet		1
27						
28						
29						
30						
31	1-6	36	SP-SC	SAND, light olive, predominantly fine to medium grained, 15% coarse sand, <10% clay fines, dense, saturated		
32						
33				BOTTOM OF BORING 31.5'		
34						
35						
36						
37						
38						
39						
40						

REVIEWED BY R.G./C.E.G.



ensco  
environmental  
services, Inc.

PROJECT NAME: SHELL Service Station  
230 MacArthur Blvd.  
Oakland, California

BORING No.: MW-2  
DATE DRILLED: 7-11-88  
PROJECT No.: 1847 G  
LOGGED BY: SC

**EXPLORATORY BORING LOG**

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1				4" Asphalt pavement over 9" baserock		
2			SC	CLAYEY SAND, orangish brown, fine to medium sand, 20% fines, damp		
3						
4				-as above; color to dark olive gray, locally 40% fine to coarse gravel composed of angular chert fragments, rare coarse sand, dense, damp		
5						
6	2-1	44	SC			2
7						
8						
9						
10			SC	-as above, color to yellowish brown with minor olive gray staining, ~40% fines, trace organic black staining, rare rootholes, dense, damp		
11	2-2	34				1
12			CL	SANDY TO SILTY CLAY, olive beige with slight orange staining, 10 to 20% fine sand, orange staining low plasticity, hard, damp		
13						
14						
15					▽	
16	2-3	34	SP-SM	SAND, brown, predominantly fine sand, 5 to 10% silt, trace organic staining, dense, wet, fine to medium sand		0.5
17						
18						
19						
20						

REVIEWED BY R.G./C.E.G.

Page 1 of 2



ensco  
environmental  
services, Inc.

PROJECT NAME: SHELL Service Station  
230 MacArthur Blvd.  
Oakland, California

BORING NO.: WVV-2  
DATE DRILLED: 7-11-88  
PROJECT No.: 1847 G  
LOGGED BY: SC

### EXPLORATORY BORING LOG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OYA READING ppm
20 21 22 23 24 25 26 27 28 29 30	2-4     2-5    2-6	28     64    26	CL	<p>SILTY CLAY, tannish brown, trace of organic staining, 10% very fine sand, low plasticity, very stiff, wet, color changes to tan in shoe</p> <p>SILTY CLAY, light olive gray and orangish brown, organic staining common, low to moderate plasticity, hard, moist, (4" lens of sandy silt with clay, damp to moist)</p> <p>- as above: becomes sandy and orangish brown, 30% fine sand, abundant silt, very stiff</p>	0     0    0	
31 32 33 34 35 36 37 38 39 40				BOTTOM OF BORING 30.0'		

REVIEWED BY R.G./C.E.G.

Page 2 of 2



ensco  
environmental  
services, Inc.

PROJECT NAME: SHELL Service Station  
230 MacArthur Blvd.  
Oakland, California

BORING NO.: 1847 G  
DATE DRILLED: 7-12-88  
PROJECT No.: 1847 G  
LOGGED BY: SC

### EXPLORATORY BORING LOG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft./lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1				8" concrete		
2				FILL, pea gravel		
3						
4						
5						
6					0	
7						
8						
9						
10						
11	3-1	12	SC	CLAYEY SAND, olive grey mottled with orangish brown, 50 to 60% fine sand, trace medium to coarse sand, slight petroleum odor, medium dense, damp		120
12						
13			SW	SAND, orangish brown, fine to coarse grained with fine angular chert gravels, medium dense, damp		
14						
15					▽	
16	3-2	13		SAND, greenish gray, well graded, fine to coarse grained 10 to 15% fine gravels (angular to subangular white, yellow, and red cherts, graywacke), very faint petroleum odor, medium dense, saturated		2
17						
18			CL	SILTY CLAY, tannish brown, trace organic staining, 10% fine sand, rare root holes, low plasticity, stiff, moist		
19						
20			SC			

REVIEWED BY R.G./C.E.G.

Page 1 of 2





ensco  
environmental  
services, Inc.

PROJECT NAME: SHELL Service Station  
230 MacArthur Blvd.  
Oakland, CA

BORING NO.: 1847 G  
DATE DRILLED: 7-12-88  
PROJECT No.: 1847 G  
LOGGED BY: SC

### EXPLORATORY BORING LOG

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
20	3-3	31	SC	CLAYEY SAND, brown, 70% fine sand, medium dense, moist to wet	0	
21			CL	SILTY CLAY, tannish brown, 10% fine sand, trace organic staining, no rootholes, low plasticity, very stiff, wet		
22	3-4	72	SC	CLAYEY SAND, olive with minor orange staining, 60% fine sand, 10% medium to coarse sand, shell fragment, very dense, moist to wet		
23						
24			CL	SANDY CLAY to SILTY CLAY, olive, 25% fine sand (locally sand <10%), low plasticity, hard, moist		
25	3-5	44	SP	CLAYEY SAND, olive with minor orange oxide staining, 60 to 70% fine sand, locally clay to 50%, (becomes very sandy at 30', olive to bluish gray), dense, moist		
26						
27						
28						
29						
30				BOTTOM OF BORING 30'	0	
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						

REVIEWED BY R.G./C.E.G.

Page 2 of 2



ensco  
environmental  
services, inc.

# EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company  
230 MacArthur Blvd.  
Oakland, CA

BORING NO. MW-4

DATE DRILLED: 1/9/90

PROJECT NUMBER: 1847-2G

LOGGED BY: J.M.

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1	MW-4-1	64	CL	SANDY CLAY, light olive brown (2.5Y 5/6), 30-40% rounded to subangular fine to medium grained sand, - 10% coarse gravel to 2", iron stain, black mottling, hard, very low plasticity, dry to damp		0
2						
3						
4						
5						
6						
7	MW-4-2	40	SW	SAND, light olive brown (2.5Y 5/6), fine to medium grained sand, 30% clay, rounded to subangular, poorly sorted, medium dense		0
8						
9						
10						
11	MW-4-3	27	CL	SANDY CLAY, light olive brown (2.5Y 5/6), 35-45% sand, rounded to subangular, fine to medium grained, iron stain, very stiff, low plasticity, damp  Silty lenses		0
12						
13						
14						
15						
16	MW-4-4	33	SP	SAND, olive gray (5Y 4/2), fine to medium grained sand, well sorted, rounded to subrounded, some iron stain, clay 10-20%, silt 10-20%, loose, moist		0
17						
18						
19						
20						
21			CL	SILTY CLAY, brown (10YR 5/3), silt - 40%, black and gray mottling, iron stain, root holes and organic matter, very stiff, low plasticity, moist to damp		

REVIEWED BY R.G./C.E.G.

# EXPLORATORY BORING LOG



**ensco  
environmental  
services, Inc.**

PROJECT NAME: Shell Oil Company  
230 MacArthur Blvd.  
Oakland, CA

BORING NO. MW-4

DATE DRILLED: 1/9/90

PROJECT NUMBER: 1847-2G

LOGGED BY: J.M.

DEPTH (ft.)	SAMPLE No	BLOWS / FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVM READING ppm
-22						
-23						
-24			CL	same as above		
-25	MW-4-5	33				0
-26				Bottom of Boring = 25.5 feet		
-27						
-28						
-29						
-30						
-31						
-32						
-33						
-34						
-35						
-36						
-37						
-38						
-39						
-40						
-41						
-42						

REVIEWED BY R.G./C.E.G.

**Historical Water Level and Hydraulic Gradient Data  
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
MW-2	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
	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

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
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

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
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
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

**Historical Groundwater Monitoring Well Groundwater Analytical Results**  
**Fuel Oxygenates and VOCs**  
**240 W. MacArthur Boulevard, Oakland, California**  
(all concentrations in µg/L)

Well ID	Sampling Event No.	Date Sampled	EDB	EDC	1,2,4-TMB	1,3,5-TMB	t-Butanol	TBA	Naphthalene	cis-1,2-DCE	TCE	PCE	Others
MW-1	7	Jun-00	NA	NA	51	< 5	< 1,000	NA	< 5	< 5	< 5	< 5	ND
	14	Mar-02	NA	NA	< 1	1.6	< 10	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	150	< 50	NA	68	< 50	< 50	< 50	< 50	ND
	19	Mar-03	NA	NA	373	< 0.49	NA	< 10	< 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
	21	Dec-03	< 5.0	< 5.0	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
MW-2	7	Jun-00	NA	NA	< 0.5	< 0.5	< 100	NA	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	NA	NA	< 1	< 1	220	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	< 5	< 5	NA	34	< 5	24	< 5	< 5	ND
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	94	< 0.88	15	< 0.23	< 0.36	ND
	21	Dec-03	< 0.6	< 0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20	Aug-03	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
	22	Mar-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	7	Jun-00	NA	NA	< 0.5	< 0.5	< 100	NA	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	NA	NA	2	4.7	180	NA	2.2	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	< 5	5.0	NA	76	< 5	21	< 5	< 5	(a)
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	< 10	< 0.88	24	< 0.23	< 0.36	ND
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	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
MW-4	7	Jun-00	NA	NA	< 0.5	< 0.5	< 100	NA	< 0.5	< 0.5	< 0.5	< 0.5	ND
	14	Mar-02	NA	NA	< 1	< 1	< 10	NA	< 1	2.9	3.7	5.0	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	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
	21	Dec-03	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
MW-5	14	Mar-02	NA	NA	< 1	2.7	640	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	512	122	NA	< 100	120	< 50	< 50	< 50	ND
	19	Mar-03	NA	NA	554	107	NA	< 10	251	< 0.3	< 0.23	< 0.36	(b)
	20	Aug-03	< 2.0	6.1	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
	22	Mar-04	< 0.26	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-6	14	Mar-02	NA	NA	< 1	2.2	< 10	NA	1.6	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	13	< 5	NA	46	< 5	< 5	< 5	< 5	ND
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	40	< 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
	21	Dec-03	< 5.0	11 / 17.1 <sup>(d)</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
	22	Mar-04	< 0.26	31	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	14	Mar-02	NA	NA	< 1	< 1	< 10	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	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
	21	Dec-03	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
MW-8	14	Mar-02	NA	NA	< 1	< 1	< 10	NA	< 1	< 1	< 1	< 1	ND
	18	Jan-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
	19	Mar-03	NA	NA	< 0.49	< 0.26	NA	< 10	< 0.88	< 0.3	< 0.23	< 0.36	ND
	20	Aug-03	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	21	Dec-03	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
Groundwater ESLs			NLP	NLP	NLP	NLP	NLP	NLP	21	5.0	5.0	5.0	NLP

**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

TBA = Tertiary butyl alcohol

TCE = Trichloroethylene

TMB = Trimethylbenzene

(a) Also detected were: isopropyl ether (DIPE - 2.0 mg/l); 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.

ESLs = Regional Water Quality Control Board Risk-Based Environmental Levels (see "Regulatory Considerations" text for applicable criteria)

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

NLP = No Level Published

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	14.5	61.89
	22	Mar-04	11.78	64.61

Sampling Event No.	Date Measured	Groundwater Flow Direction	Groundwater Hydraulic Gradient (feet/foot)
1	Aug-97	NW	0.0048
2	Dec-97	NW	0.0051
3	Mar-98	NW	0.0063
4	Jul-98	N46W	0.0053
5	Oct-98	N46W	0.0053
6	Jan-99	N73W	0.0043
7	Jun-00	N78W	0.0050
8	Dec-00	NA	NA
9	Feb-01	N50W	0.0028
10	May-01	NA	NA
11	Jul-01	N85W	NA
12	Oct-01	N71W	NA
13	Dec-01	N71W	0.0027
14	Mar-02	N50W	0.0021
15	May-02	NA	NA
16	Jul-02	N80W	0.0075
17	Oct-02	N45W	0.0030
18	Jan-03	N70W	0.0033
19	Mar-03	N80W	0.0063
20	Aug-03	S80W	0.0050
21	Dec-03	W	0.0055
22	Mar-04	W	0.0055

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.



## DEPARTMENT OF WATER RESOURCES

CENTRAL DISTRICT  
3251 S STREET  
SACRAMENTO, CA 95816-7017



AUG 28 2003

Mr. Bruce Rucker  
Stellar Environmental Solutions  
2198 Sixth Street, Suite 201  
Berkeley, California 94710

Dear Mr. Rucker:

We are enclosing Water Well Drillers Report 106930 in response to your request for the well location information from our data base for all types of water wells in the following area:

A 1,500-foot radius of 240 West MacArthur Boulevard, Oakland  
Township 01 South, Range 04 West, Section 23-J and R  
Township 01 South, Range 04 West, Section 24-K, L, M, N, P, and Q

We located one well drillers report as a result of this search, which required 15 minutes of staff time and for which there will be no charge.

If you need additional information or have any questions, please contact Anne Roth at (916) 227-7632 or fax (916) 227-7600.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Niblack".

Robert L. Niblack, Chief  
Geology and Groundwater Section

Enclosure

**CONFIDENTIAL**

STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)

**REMOVED**





Subject: Drilling boring BH-10 located on the west side of Howe Street.

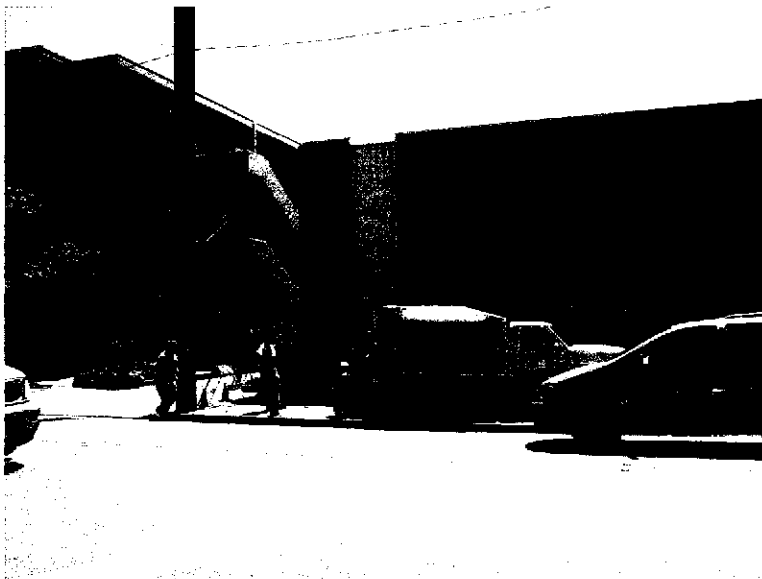
Site: 240 W. MacArthur Blvd, Oakland, Alameda County, California

Date Taken: April 29, 2004

Project No.: SES 2003-43

Photographer: Joe Dinan

Photo No.: 01



Subject: Drilling boring BH-12 located on the east side of Howe Street.

Site: 240 W. MacArthur Blvd, Oakland, Alameda County, California

Date Taken: April 29, 2004

Project No.: SES 2003-43

Photographer: Bruce Rucker

Photo No.: 02



Subject: Drill rig setup at boring BH-15 located on the east side of Howe Street.

Site: 240 W. MacArthur Blvd, Oakland, Alameda County, California

Date Taken: April 29, 2004

Project No.: SES 2003-43

Photographer: Bruce Rucker

Photo No.: 03



Subject: Grouting boring BH-18 located on north side of MacArthur Blvd.

Site: 240 W. MacArthur Blvd, Oakland, Alameda County, California

Date Taken: April 29, 2004

Project No.: SES 2003-43

Photographer: Joe Dinan

Photo No.: 04



Subject: Drilling boring BH-16 located at northeast corner of Howe Street and MacArthur Blvd. intersection.

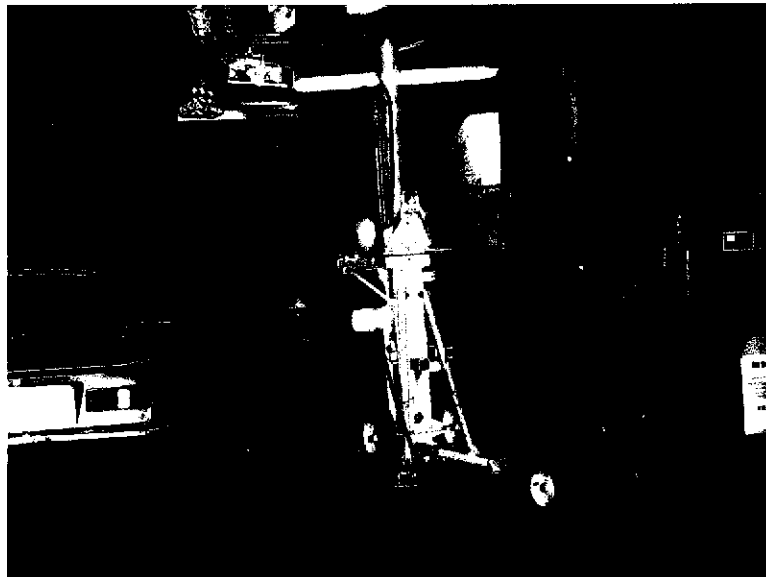
Site: 240 W. MacArthur Blvd, Oakland, Alameda County, California

Date Taken: April 30, 2004

Project No.: SES 2003-43

Photographer: Joe Dinan

Photo No.: 05



Subject: Limited access drill rig set up at interior boring location BH-19.

Site: 240 W. MacArthur Blvd, Oakland, Alameda County, California

Date Taken: April 30, 2004

Project No.: SES 2003-43

Photographer: Joe Dinan

Photo No.: 06

Job Site 240 W MACARTHUR BL Parcel# 012 -0986-028-00 Appl# X0401068  
 Descr soil boring on W MacArthur Permit Issued 04/06/04

Work Type EXCAVATION-PRIVATE P

USA # Util Co. Job # Acctg#:  
 Util Fund #:

Applc# Phone# Lic# --License Classes--  
 Owner POYWING GLEN & ELIZABETH  
 Contractor VIRONEX INC X (510)568-7676 705927 C57  
 Arch/Engr  
 Agent  
 Applic Addr 2110 ADAMS AVE, SAN LEANDRO, CA, 94577

\$291.84 TOTAL FEES PAID AT ISSUANCE  
 \$51.00 Applic \$205.00 Permit  
 \$.00 Process \$23.04 Rec Mgmt  
 \$.00 Gen Plan \$.00 Invstg  
 \$.00 Other \$12.80 Tech Enh

JOB SITE

ADDRESS:

DIST:

CITY OF OAKLAND  
 Community & Economic Development Agency  
 250 Frank H. Ogawa Pl., Oakland CA, 94612  
 Phone: (510)238-3587 FAX: (510)238-2263

PAYMENT RECEIPT

Application# 08848216 Payment# 081  
 CONSTRUCTION PERMIT \$12.00  
 RECORDS MANAGEMENT FEE ( \$1.00  
 TECHNOLOGY ENHANCEMENT FE \$4.60  
 Subtotal: \$13.60

Application# X0401069 Payment# 081  
 APPLICATION FEE \$51.00  
 EXCAVATION PERMIT \$205.00  
 RECORDS MANAGEMENT FEE ( \$23.04  
 TECHNOLOGY ENHANCEMENT FE \$12.80  
 Subtotal: \$291.84

Application# X0401055 Payment# 081  
 APPLICATION FEE \$51.00  
 EXCAVATION PERMIT \$205.00  
 RECORDS MANAGEMENT FEE ( \$23.04  
 TECHNOLOGY ENHANCEMENT FE \$12.80  
 Subtotal: \$291.84

Sales Tax: \$.00  
 \*\*\*\*\* TOTAL PAID: \$597.36

Check Payment: \$597.36

Payor: STELLAK ENVIRONMENT SOLU  
 Date: 04/06/04 Time: 10:26:25  
 By: LHP Register #02 Receipt# 061942  
 \*\*\*\*\*  
 OPTIMUM RECEIPT REQUIRED FOR REFUND  
 \*\*\*\*\*

Job Site 240 W MACARTHUR BL

Parcel# 012 -0986-028-00

Appl# X0401069

Descr soil boring on Howe St

Permit Issued 04/06/04

Work Type EXCAVATION-PRIVATE P

USA #

Util Co. Job #  
Util Fund #:

Acctg#:

Applcmt

Phone#

Lic# --License Classes--

Owner POYWING GLEN & ELIZABETH

Contractor VIRONEX INC

X

(510)568-7676 705927 C57

Arch/Engr

Agent

Applic Addr 2110 ADAMS AVE, SAN LEANDRO, CA, 94577

\$291.84 TOTAL FEES PAID AT ISSUANCE

\$51.00 Applic	\$205.00 Permit
\$.00 Process	\$23.04 Rec Mgmt
\$.00 Gen Plan	\$.00 Invstg
\$.00 Other	\$12.80 Tech Enh

JOB SITE

DIST: ADDRESS:





# APPLICATION FOR TRAFFIC CONTROL PLAN



City of Oakland

Requests may be faxed to (510) 238-7415  
Please Print. All items **MUST** be completed.  
Incomplete applications will be returned.  
**RENEWALS:** edit and fax your old approved plan  
**Transportation Services Fee: \$80/hour**

**Public Works Agency**  
Transportation Services Division

For City Use Only	
Permit Number:	_____
Reviewed By:	_____

10/2003

Contact Person: ICE DICAN

Fax: 510/644-3451

Name of Company: STEAR Environmental Services, Inc.

Phone: 510/644-3023

Describe type of work to be performed:

Work to be performed will include drilling (3) borings in sidewalks of MacArthur Blvd and (3) borings in sidewalks of Howe Street. Borings are for subsurface investigation related to suspected leaking fuel tanks. Work is being performed per directive of Alameda County Environmental Health Agency.

Location of work: SE corner of MacArthur and Howe (see attachment) And

Work date (s): April 24 & 30 2004  Mon-Fri  Sat-Sun Work Hours: 7 am to 5 pm

Sketch of work area. You may use the attached diagram to draw the sketch. Sketches (hand drawn or on striping plans) **MUST** include the following (incomplete submittals will be rejected):

- Drawing** (8 1/2 x 11 or 11 x 17) of the full width of all streets adjacent to the site. Include the entire block in which your work is located for every street that is adjacent to your site. Add attachments as required.
- Street Names, Direction of One Way Streets and North Arrow**
- Roadway Striping** (the lane lines and any pavement arrows for turn lanes) on each street
- Work Area** (area you plan to use);
- Dimensions** of street width (curb to curb), lane widths, sidewalk widths
- Name and Locations** of the advanced warning device, flagger, delineators, warning and construction signs

Copy of typical lane closure/detour plans from the "WATCH" handbook or Caltrans' Traffic Control Manual may be used, but **MUST** show all surrounding street names and staging area.

Transportation Service Division requires a traffic control plan for any Excavation or Obstruction Permit approval. The Contractor must schedule an appointment with Transportation Service Division staff at least three (3) working days prior to any work. Contractors that show up at the office without an appointment will be asked to make an appointment and come back at a later time. Traffic control plans shall follow the guidelines set forth by the "WATCH" handbook or Caltrans' Traffic Control Manual.

# SPECIAL PROVISION 7-10.1 TRAFFIC REQUIREMENTS

Project Name: \_\_\_\_\_  
 Project Number: TSD-047-0040  
 Reviewed By: BMA  
 Date: 4/5/2004  
 Permit good from 4/29/04  
 to 4/30/04

**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 St Between Mac Arthur and 40 <sup>th</sup> St.	9am-4pm	All lanes Open. See TCP for Sidewalk Detour.		N/A	N/A

**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



PUBLIC WORKS AGENCY • 250 FRANK H. OGAWA PLAZA • SUITE 4344 • OAKLAND, CALIFORNIA 94612-2033

Transportation Services Division

Office (510) 238-3466

FAX (510) 238-7415

TDD (510) 839-6451

## Traffic Engineering Services Analysis Fee Invoice

Date: April 5, 2004

TSD Invoice # : 04-0040

To: Joe Dinan

Company: Stellar Environmental Solutions

Address: \_\_\_\_\_

Phone: 510-644-3123

Created/Received By: Ben Mohamed Alaoui

Location	Description of Work	Project Name / Permit #	# of Hours *
240 W. MacArthur Blvd.	Drilling in Sidewalk		1
<b>Total Hours</b>			1
<b>TSD Service Rate</b>			\$ 80.00
<b>Total Fee</b>			\$ 80.00

\* - minimum 1 hour service

FOR CITY USE ONLY	
Cost Center No.	W659
Organization No.	30246
Account No.	45119
Fund No.	1750

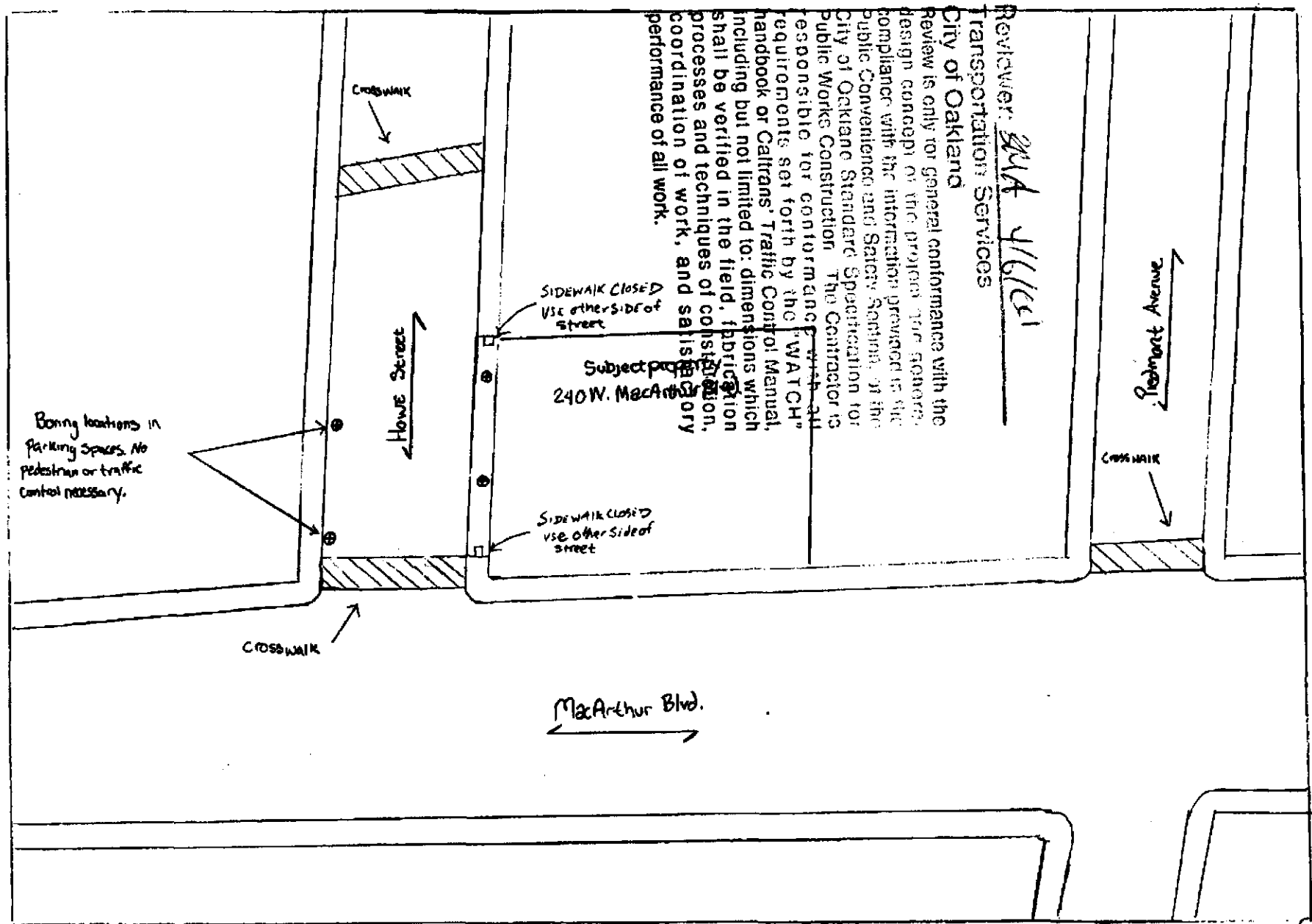
Cc: Rosalie



Reviewer: SAK JG/CEI  
Transportation Services

City of Oakland

Review is only for general conformance with the design concept of the project for general compliance with the information provided in the Public Convenience and Safety Section of the City of Oakland Standard Specification for Public Works Construction. The Contractor is responsible for conformance with all requirements set forth by the "WATCH" handbook or Caltrans' Traffic Control Manual, including but not limited to: dimensions which shall be verified in the field, fabrication processes and techniques of construction, coordination of work, and satisfactory performance of all work.



0 50  
Scale in feet



### Partial Block Closure Pedestrian Traffic Plan Scenario 2 - Howe Street

240 W. MacArthur Blvd, Oakland, CA

Stellar Environmental Solutions, Inc.

April 2004



# ALAMEDA COUNTY PUBLIC WORKS AGENCY

**WATER RESOURCES SECTION**  
399 ELMHURST ST. HAYWARD CA. 94544-1395  
PHONE (510) 670-6633 James Yoo  
FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS  
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT: 240 W. MacArthur Blvd  
OAKLAND CA

PERMIT NUMBER WK-0448  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

### PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT  
Name Oakland Ave Works - Glen Park Works  
Address 240 W. MacArthur Blvd Phone 510-571-9348  
City OAKLAND Zip 94711

- A. GENERAL**
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
  3. Permit is void if project not begun within 90 days of approval date.

APPLICANT  
Name Stellar Environmental Solutions Inc  
Bruce Baker Fax 510-644-3859  
Address 215 South Street 220 Phone 510-644-3173  
City OAKLAND Zip 94710

- B. WATER SUPPLY WELLS**
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
  2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

TYPE OF PROJECT  
Well Construction  Geotechnical Investigation  
Cathodic Protection  General  
Water Supply  Contamination  
Monitoring  Well Destruction

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
  2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WATER SUPPLY WELL USE  
New Domestic  Replacement Domestic   
Municipal  Irrigation   
Industrial  Other

- D. GEOTECHNICAL / Contamination**  
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

DRILLING METHOD:  
Mud Rotary  Air Rotary  Auger   
Cable  Other

- E. CATHODIC**  
Fill hole anode zone with concrete placed by tremie.

DRILLER'S NAME VIGORX

- F. WELL DESTRUCTION**  
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

DRILLER'S LICENSE NO. 705927 (exp 5/1/05)

- G. SPECIAL CONDITIONS - B#1**

WELL PROJECTS  
Drill Hole Diameter \_\_\_\_\_ in. Maximum \_\_\_\_\_  
Casing Diameter \_\_\_\_\_ in. Depth \_\_\_\_\_ ft.  
Surface Seal Depth \_\_\_\_\_ ft. Owner's Well Number \_\_\_\_\_

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

GEOTECHNICAL PROJECTS  
Number of Borings 12 Maximum \_\_\_\_\_  
Hole Diameter 2 in. Depth 22 ft.

STARTING DATE April 29, 2004

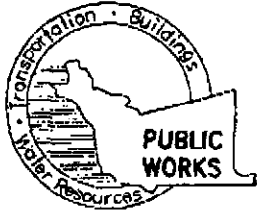
COMPLETION DATE April 30, 2004

APPROVED \_\_\_\_\_ DATE 4-27-04

Applicant agrees to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Bruce M. Baker DATE 4-2-04

PLEASE PRINT NAME BRUCE BAKER Rev.9-18-02



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

### WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD, CA. 94544-1395  
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939

**PERMIT NO. W04-0448**

---

WATER RESOURCES SECTION  
GROUNDWATER PROTECTION ORDINANCE  
**#1-GENERAL CONDITIONS: GEOTECHNICAL & CONTAMINATION BOREHOLES**

1. Prior to any drilling activities shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that Federal, State, County or to the City and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained.
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, 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 statues 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.
4. Permit is valid only for the purpose specified herein April 29 to April 30, 2004. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
5. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
6. 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.



Order #: 517773

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: Drum Composite

Date Sampled: 04/30/2004

Time Sampled: 17:45

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	10	1	1.0	mg/Kg	05/07/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	103			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	50	0.25	mg/Kg	05/10/04 LT
Ethyl benzene	1.0	50	0.25	mg/Kg	05/10/04 LT
Methyl t - butyl ether	ND	50	1.75	mg/Kg	05/10/04 LT
Toluene	0.57	50	0.25	mg/Kg	05/10/04 LT
Xylene (total)	4.3	50	0.75	mg/Kg	05/10/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	99			%	70 - 130

**8015M - Gasoline**

Gasoline	155	50	150.0	mg/Kg	05/10/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	99			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



D/K Environmental  
 3650 East 20th Street  
 Vernon, CA 90075  
 Tel: (323) 268-5050  
 Fax: (323) 268-9672  
 E.P.A. # CAT 080033081

Hazardous Waste Profile Sheet

Price: \_\_\_\_\_ Category: \_\_\_\_\_  
 Comments: \_\_\_\_\_  
 Recycle or Landfill (please check one)

For office use only, do not write in this area

Waste description, qualifying parameters and price are based on profile submitted Waste I.D. # assigned by DKE: \_\_\_\_\_

A. CUSTOMER INFORMATION

Name of Company North State Environmental EPA ID # NA  
 Facility Address 90 South Spruce Avenue Mailing Address PO Box 5624  
South San Francisco CA, 94080

Contact: \_\_\_\_\_ Title \_\_\_\_\_ Phone (650) 588-2838 Fax 650-588-1990

B. GENERATOR INFORMATION (if different than customer)

Name of Company Mr. Glen Fay - Wing US EPA # NA  
 Facility Address 240 W. MacArthur Blvd.  
Oakland, CA 94608 24 Hour Contact: Jerry Heber Phone 650-588-2838  
 Contact: Same Title Sales Mgr. Phone Same Fax 650-588-1990

C. WASTE STREAM INFORMATION

Waste Name Soil Process Generating Waste exploratory drilling at fuel tank site  
 Packaging:  Bulk Liquid  Bulk Solid  Lap Pacs  Drums  Size 45 Other \_\_\_\_\_  
 Volume 1x55 Soil  Gallons  Lbs.  Cubic Yards Per:  Month  Quarter  Year

D. PHYSICAL CHARACTERISTICS OF WASTE

1. General Characteristics  
 Color Brown  Liquid  % free \_\_\_\_\_  
 Odor \_\_\_\_\_  Solid  Single Layer  
 None  Strong  Sludge  Double Layer  
 Mild  Powder  Multi Layer

2. Specific Gravity  
 < 0.8  1.4 - 1.7  
 0.8 - 1.0  > 1.7  
 1.0 - 1.2  Exact \_\_\_\_\_  
 1.2 - 1.4

3. Flash Point  
 < 100F  > 200F  
 100-140F  
 140-200F  
 Method \_\_\_\_\_

4. pH:  < 3  3-4  4-7  7  7-10  10-12.5  > 12.5  Range \_\_\_\_\_

E. CHEMICAL COMPOSITION

<u>Soil</u>	<u>100</u> %
TOTAL	100%

F. METALS

YES	NO	PPM	YES	NO	PPM
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Arsenic(As)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mercury(Hg)
<input type="checkbox"/>	<input type="checkbox"/>	Barium(Ba)	<input type="checkbox"/>	<input type="checkbox"/>	Nickel(Ni)
<input type="checkbox"/>	<input type="checkbox"/>	Cadmium(Cd)	<input type="checkbox"/>	<input type="checkbox"/>	Selenium(Se)
<input type="checkbox"/>	<input type="checkbox"/>	Chromium(Cr)	<input type="checkbox"/>	<input type="checkbox"/>	Silver(Ag)
<input type="checkbox"/>	<input type="checkbox"/>	Copper(Cu)	<input type="checkbox"/>	<input type="checkbox"/>	Thallium(Tl)
<input type="checkbox"/>	<input type="checkbox"/>	Lead(Pb)	<input type="checkbox"/>	<input type="checkbox"/>	Zinc(Zn)
<input type="checkbox"/>	<input type="checkbox"/>	(Hex) Chrome	<input type="checkbox"/>	<input type="checkbox"/>	Other
<input type="checkbox"/>	<input type="checkbox"/>	Other	<input type="checkbox"/>	<input type="checkbox"/>	Other

Total ppm  Extract(TCLP)

8. Is this waste subject to RCRA Subpart CC Controls?  Yes  No Volatile Organic concentration, if known: \_\_\_\_\_ ppmw

9. Is this waste subject to Benzene Waste Operation YES/NO?  YES  NO. If yes, what is the SIC code for operations generating this waste? \_\_\_\_\_

7. If this waste includes any RCRA Codes D001 through D043, can this waste reasonably be expected to exceed the 40CFR268.48 Universal Treatment Standards (UTS) for any Underlying Hazardous Constituents?  YES  NO. If yes, complete Attachment 1 UTS Table.

3. This waste is (check one):  Wastewater  Non-wastewater

9. Does wastewater treatment of this waste generate an F006 or F019 waste?  YES  NO

G. HAZARDOUS CHARACTERISTICS (From CFR-40) Is the waste?

None  Pyrophoric  Infectious/Pathogenic  Reactive  
 Radioactive  PCBs  Explosive/Shock Sensitive  Pesticides/Herbicides

H. OTHER COMPONENTS

YES	NO	PPM
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Cyanides
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Chelating Agents
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Silicates
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ammonia
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Phosphates
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Phenols
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Halogenated Organics
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Aromatic Hydrocarbons

I. SHIPPING INFORMATION

D.O.T. Proper Shipping Name Soil, non-hazardous waste soil  
 UN/NA # \_\_\_\_\_ Hazardous Class \_\_\_\_\_ R.O. \_\_\_\_\_  
 RCRA Waste?  Yes  No  Code \_\_\_\_\_  
 CA Hazardous Waste?  Yes  No  Code \_\_\_\_\_  
 "I hereby certify that this waste is non-hazardous in accordance with both Federal and State of California Hazardous Waste Statutes and Regulations."  
 (check here if you are certifying that this waste is non-hazardous)

J. Special Handling Information

I certify and warrant that the above information, the information attached, and the waste stream as described is true and correct to the best of my knowledge and ability, and that all necessary permits have been obtained, and that a permit has been or is being sent to the proper facility. If this certification is made by a person authorized by an authorized agent of the generator, and has confirmed the information contained in this Profile Sheet from information provided by the generator, additional information is not deemed to be necessary.

Obo Glen Fay-Wing Sales Mgr. 5/17/04

# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

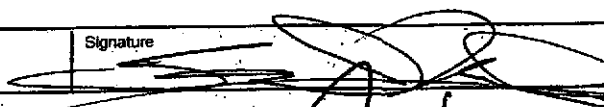
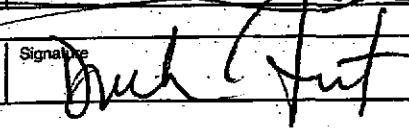
<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <p style="text-align: center;">N/A</p>	Manifest Document No. <b>N750151</b>	2. Page 1 of
3. Generator's Name and Mailing Address <b>GLEN POY-WING</b> <span style="float: right;">SITE = SAME</span> <b>240 W. MACARTHUR BLVD., OAKLAND, CA 94609</b>				
4. Generator's Phone (510) 644-3123				
5. Transporter 1 Company Name <b>NORTH STATE ENVIRONMENTAL</b>		6. US EPA ID Number		A. State Transporter's ID
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone
9. Designated Facility Name and Site Address <b>DK ENVIRONMENTAL</b> <b>3650 EAST 26TH STREET, LOS ANGELES, CA 90223</b>		10. US EPA ID Number		C. State Transporter's ID
				D. Transporter 2 Phone
				E. State Facility's ID
				F. Facility's Phone <b>(323) 268-5056</b>

11. WASTE DESCRIPTION	12. Containers		13. Total Quantity	14. Unit WL/Vol.
	No.	Type		
a. <b>NON-HAZARDOUS WASTE, SOLID (SOIL)</b>	01	DM	000500	P
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above <b>A. 340518-28</b>	H. Handling Codes for Wastes Listed Above <b>A-55</b>
--	--

15. Special Handling Instructions and Additional Information

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 <b>SAMMUEL VELASCO</b>	Signature 	Date Month Day Year <b>05 20 04</b>
17. Transporter 1 Acknowledgement of Receipt of Materials	Printed/Typed Name <b>DEREK FROST</b>	Signature 
18. Transporter 2 Acknowledgement of Receipt of Materials	Printed/Typed Name	Signature

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
--------------------	-----------	------------------------

NON-HAZARDOUS WASTE MANIFEST

## ASSOCIATED LABORATORIES

### NARRATIVE

Date: May 13, 2004

Narrative for Lab Request LR: 128681

**Client Project Identification:**

Project: #2003-43 Oakland Auto Works

This narrative includes all samples as shown on the attached Lab Request final report.

**Analyses Requested:**

- EPA 8015 – TEPH Diesel.
- EPA 8015M – Gasoline.
- EPA 8021B – BTEX & MTBE.
- EPA 8260B – Volatile Organic Compounds.

**Data Validation:**

**Holding Times**

All EPA designated holding times were met.

**Calibration**

Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

**Quality Control Samples**

All QC results were within acceptance criteria for all methods.

**Other Anomalies or Comments**

The reporting limit (DLR) is adjusted if dilution of the sample is necessary. For EPA 8021B and 8260B, the surrogate recovery limits on the report are not correct. The correct limits are on the QC summary sheets, which is 55-200% for EPA 8021B and 70-135% for EPA 8260B.



**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)  
ATTN: Bruce Rucker  
2198 Sixth Street  
#201  
Berkeley, CA 94710

LAB REQUEST 128681

REPORTED 05/11/2004

RECEIVED 05/04/2004

PROJECT #2003-43  
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.

<u>Order No.</u>	<u>Client Sample Identification</u>
517747	BH-17-4.5'
517748	BH-17-9.5'
517749	BH-17-15'
517750	BH-17-20'
517751	BH-17-23.5'
517752	BH-18-4.5'
517753	BH-18-9.5'
517754	BH-18-17'
517755	BH-18-20'
517756	BH-19-4.5'
517757	BH-19-9'
517758	BH-19-13'
517759	BH-19-18'
517760	BH-19-21'
517761	BH-19-23.5'

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.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

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: Bruce Rucker  
2198 Sixth Street  
#201  
Berkeley, CA 94710

LAB REQUEST 128681

REPORTED 05/11/2004

RECEIVED 05/04/2004

PROJECT #2003-43  
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.

<u>Order No.</u>	<u>Client Sample Identification</u>
517762	BH-20-4.5'
517763	BH-20-9'
517764	BH-20-13'
517765	BH-20-20'
517766	BH-20-21.5'
517767	BH-20-23.5'
517768	BH-21-4.5'
517769	BH-21-9.5'
517770	BH-21-15.5'
517771	BH-21-20.5'
517772	BH-21-21.5'
517773	Drum Composite
517774	Laboratory Method Blank

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.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

TESTING & CONSULTING  
Chemical  
Microbiological  
Environmental

Order #: 517747

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-17-4.5'

Date Sampled: 04/30/2004

Time Sampled: 07:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/07/04 AF
-------------	----	---	-----	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	99			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/06/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/06/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/06/04 LT
Toluene	ND	1	0.005	mg/Kg	05/06/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/06/04 LT

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	84			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	84			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



# Chain of Custody Record

Lab job no. \_\_\_\_\_

 Date 1/30/04

 Page 3 of 3

## 128681

 Laboratory Associated Labs

 Method of Shipment Overnight courier

 Address 806 N. Batavia

Shipment No. \_\_\_\_\_

Orange CA

Airbill No. \_\_\_\_\_

714-771-6900

Cooler No. \_\_\_\_\_

 Project Owner Glen Poy-Wing

 Project Manager Bruce Rucker

 Site Address 240 W. MacArthur Blvd.

 Telephone No. (510) 644-3123
Oakland CA

 Fax No. (510) 644-3859

 Project Name Oakland Auto Works

 Samplers: (Signature) B.M. Rucker

 Project Number 0003-43

Filtered	No. of Containers	Analysis Required					Remarks
		TVH-gas (8015)	TEH-gas (8015)	BTEX/HTBE (8015)	EDB/EDC (8060)	5 Fuel Oxygens (8060)	
							(a) Analyze by EPA 8060. (SMR)
		X	X	X	X	X	otherwise analyze by EPA 8021
		X	X	X	X	X	
		X	X	X	X	X	
		X	X	X	X	X	
		X	X	X	X	X	
		X	X	X			Run BTEX/HTBE by EPA 8021 (This Sample only)

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation	
						Cooler	Chemical
		<u>1/30/04</u>		<u>Soil</u>	<u>Acetate Sleeve</u>	<u>Yes</u>	<u>No</u>
<u>BH-21-4.5'</u>			<u>1610</u>				
<u>BH-21-9.5'</u>			<u>1630</u>				
<u>BH-21-15.5'</u>			<u>1650</u>				
<u>BH-21-20.5'</u>			<u>1710</u>				
<u>BH-21-21.5'</u>			<u>1725</u>				
<u>Drum Composite</u>			<u>1745</u>		<u>8oz glass jar</u>		

Relinquished by: Signature <u>B.M. Rucker</u> Printed <u>B.M. Rucker</u> Company <u>Stellar Env. Solns</u>	Date <u>5/3/04</u>	Received by: Signature <u>[Signature]</u> Printed <u>DUONG VU</u> Company <u>Associated Lab</u>	Date <u>5/4</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____	Received by: Signature _____ Printed _____ Company _____	Date _____
---	-----------------------	--	--------------------	---	---------------	---	---------------

Turnaround Time: _____ Comments: _____	Relinquished by: Signature _____ Printed _____ Company _____	Date _____	Received by: Signature _____ Printed _____ Company _____	Date _____
---	---	---------------	---	---------------



Order #: 517748

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-17-9.5'

Date Sampled: 04/30/2004

Time Sampled: 07:45

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.4	1	1.0	mg/Kg	05/07/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	89			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/06/04	LT
Toluene	ND	1	0.005	mg/Kg	05/06/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/06/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	97			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	97			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517749

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-17-15'

Date Sampled: 04/30/2004

Time Sampled: 08:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04 AF
-------------	----	---	-----	-------	-------------

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	107	% 55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/06/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/06/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/06/04 LT
Toluene	ND	1	0.005	mg/Kg	05/06/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/06/04 LT

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	101	% 70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	101	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517750

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-17-20'

Date Sampled: 04/30/2004

Time Sampled: 08:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	82			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/06/04	LT
Toluene	ND	1	0.005	mg/Kg	05/06/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/06/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	105			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	105			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517751

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-17-23.5'

Date Sampled: 04/30/2004

Time Sampled: 08:35

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.1	1	1.0	mg/Kg	05/08/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	107			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/06/04	LT
Toluene	ND	1	0.005	mg/Kg	05/06/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/06/04	LT

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	116			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	116			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517752

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-18-4.5

Date Sampled: 04/30/2004

Time Sampled: 10:55

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.0	1	1.0	mg/Kg	05/08/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/06/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/06/04	LT
Toluene	ND	1	0.005	mg/Kg	05/06/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/06/04	LT

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517753

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-18-9.5'

Date Sampled: 04/30/2004

Time Sampled: 11:05

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.0	1	1.0	mg/Kg	05/08/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

Units Control Limits

o-Terphenyl (sur)	79			%	55 - 200
-------------------	----	--	--	---	----------

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/06/04 LT
---------	----	---	-------	-------	-------------

Ethyl benzene	ND	1	0.005	mg/Kg	05/06/04 LT
---------------	----	---	-------	-------	-------------

Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/06/04 LT
------------------------	----	---	-------	-------	-------------

Toluene	ND	1	0.005	mg/Kg	05/06/04 LT
---------	----	---	-------	-------	-------------

Xylene (total)	ND	1	0.015	mg/Kg	05/06/04 LT
----------------	----	---	-------	-------	-------------

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	96			%	70 - 130
------------------------	----	--	--	---	----------

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	96			%	55 - 200
------------------------	----	--	--	---	----------

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517754

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-18-17

Date Sampled: 04/30/2004

Time Sampled: 11:40

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	6.0	1	1.0	mg/Kg	05/07/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	106			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/07/04	LT
Ethyl benzene	0.12	1	0.005	mg/Kg	05/07/04	LT
Methyl t - butyl ether	0.25	1	0.035	mg/Kg	05/07/04	LT
Toluene	0.035	1	0.005	mg/Kg	05/07/04	LT
Xylene (total)	0.29	1	0.015	mg/Kg	05/07/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	173			%	70 - 130

**8015M - Gasoline**

Gasoline	17	1	3	mg/Kg	05/07/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	173			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517755

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-18-20'

Date Sampled: 04/30/2004

Time Sampled: 11:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	3.8	1	1.0	mg/Kg	05/08/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	103			%	55 - 200

**8021B BTEX + MTBE**

Benzene	0.049	1	0.005	mg/Kg	05/06/04 LT
---------	-------	---	-------	-------	-------------

Ethyl benzene	0.24	5	0.025	mg/Kg	05/06/04 LT
---------------	------	---	-------	-------	-------------

Methyl t - butyl ether	0.84	1	0.035	mg/Kg	05/06/04 LT
------------------------	------	---	-------	-------	-------------

Toluene	0.15	5	0.025	mg/Kg	05/06/04 LT
---------	------	---	-------	-------	-------------

Xylene (total)	0.56	5	0.075	mg/Kg	05/10/04 LT
----------------	------	---	-------	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	79			%	70 - 130

**8015M - Gasoline**

Gasoline	45	5	15.0	mg/Kg	05/06/04 LT
----------	----	---	------	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	79			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report





Order #: 517756

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-19-4.5

Date Sampled: 04/30/2004

Time Sampled: 08:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.7	1	1.0	mg/Kg	05/08/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	108			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/05/04	LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/05/04	LB
Benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/05/04	LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/05/04	LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/05/04	LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/05/04	LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/05/04	LB
Toluene	ND	1	5	ug/Kg	05/05/04	LB
Xylenes, total	ND	1	5	ug/Kg	05/05/04	LB

**Surrogates**

				Units	Control Limits
Surr1 - Dibromofluoromethane	101			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	119			%	70 - 130
Surr3 - Toluene-d8	105			%	70 - 130
Surr4 - p-Bromofluorobenzene	98			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	187			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517757

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-19-9'

Date Sampled: 04/30/2004

Time Sampled: 09:05

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	97			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/05/04 LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/05/04 LB
Benzene	ND	1	5	ug/Kg	05/05/04 LB
Ethyl benzene	ND	1	5	ug/Kg	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/05/04 LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/05/04 LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/05/04 LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/05/04 LB
Toluene	ND	1	5	ug/Kg	05/05/04 LB
Xylenes, total	ND	1	5	ug/Kg	05/05/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	102			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	102			%	70 - 130
Surr3 - Toluene-d8	104			%	70 - 130
Surr4 - p-Bromofluorobenzene	98			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	81			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517758

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-19-13'

Date Sampled: 04/30/2004

Time Sampled: 09:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/09/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	109			%	55 - 200

**3260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/05/04	LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/05/04	LB
Benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/05/04	LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/05/04	LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/05/04	LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/05/04	LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/05/04	LB
Toluene	ND	1	5	ug/Kg	05/05/04	LB
Xylenes, total	ND	1	5	ug/Kg	05/05/04	LB

**Surrogates**

	Result	DF	DLR	Units	Control Limits
Surr1 - Dibromofluoromethane	100			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	99			%	70 - 130
Surr3 - Toluene-d8	106			%	70 - 130
Surr4 - p-Bromofluorobenzene	94			%	70 - 130

**8015M - Gasoline**

Gasoline	105	5	15.0	mg/Kg	05/06/04	LT
----------	-----	---	------	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	106			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517759

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-19-18'

Date Sampled: 04/30/2004

Time Sampled: 09:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	66	10	10.0	mg/Kg	05/08/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	113			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	100	500.0	ug/Kg	05/05/04 LB
1,2-Dichloroethane	ND	100	500.0	ug/Kg	05/05/04 LB
Benzene	ND	100	500.0	ug/Kg	05/05/04 LB
Ethyl benzene	616	100	500.0	ug/Kg	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	100	1000.0	ug/Kg	05/05/04 LB
Isopropyl ether (DIPE)	ND	100	1000.0	ug/Kg	05/05/04 LB
Methyl-tert-butylether (MTBE)	ND	100	500.0	ug/Kg	05/05/04 LB
Tert-amylmethylether (TAME)	ND	100	1000.0	ug/Kg	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	100	5000.0	ug/Kg	05/05/04 LB
Toluene	ND	100	500.0	ug/Kg	05/05/04 LB
Xylenes, total	714	100	500.0	ug/Kg	05/05/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	95			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	86			%	70 - 130
Surr3 - Toluene-d8	101			%	70 - 130
Surr4 - p-Bromofluorobenzene	119			%	70 - 130

**8015M - Gasoline**

Gasoline	859	250	750.0	mg/Kg	05/06/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	86			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517760

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-19-21'

Date Sampled: 04/30/2004

Time Sampled: 09:40

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
<b>8015 TEPH Diesel</b>					
TEPH Diesel	ND	1	1.0	mg/Kg	05/09/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	115			%	55 - 200
<b>260B Volatile Organic Compounds</b>					
1,2-Dibromoethane	ND	1	5	ug/Kg	05/05/04 LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/05/04 LB
Benzene	ND	1	5	ug/Kg	05/05/04 LB
Ethyl benzene	ND	1	5	ug/Kg	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/05/04 LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/05/04 LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/05/04 LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/05/04 LB
Toluene	ND	1	5	ug/Kg	05/05/04 LB
Xylenes, total	ND	1	5	ug/Kg	05/05/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	106			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	124			%	70 - 130
Surr3 - Toluene-d8	103			%	70 - 130
Surr4 - p-Bromofluorobenzene	98			%	70 - 130
<b>015M - Gasoline</b>					
Gasoline	ND	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	104			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

ASSOCIATED LABORATORIES

Analytical Results Report



Order #: 517761

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-19-23.5'

Date Sampled: 04/30/2004

Time Sampled: 10:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04	AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
o-Terphenyl (sur)	115			%	55 - 200	

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/05/04	LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/05/04	LB
Benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/05/04	LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/05/04	LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/05/04	LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/05/04	LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/05/04	LB
Toluene	ND	1	5	ug/Kg	05/05/04	LB
Xylenes, total	ND	1	5	ug/Kg	05/05/04	LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
Surr1 - Dibromofluoromethane	104			%	70 - 130	
Surr2 - 1,2-Dichloroethane-d4	118			%	70 - 130	
Surr3 - Toluene-d8	104			%	70 - 130	
Surr4 - p-Bromofluorobenzene	97			%	70 - 130	

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	113			%	55 - 200	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517762

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-20-4.5'

Date Sampled: 04/30/2004

Time Sampled: 10:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04 AF
-------------	----	---	-----	-------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	94			%	55 - 200

**260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/05/04 LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/05/04 LB
Benzene	ND	1	5	ug/Kg	05/05/04 LB
Ethyl benzene	ND	1	5	ug/Kg	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/05/04 LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/05/04 LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/05/04 LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/05/04 LB
Toluene	ND	1	5	ug/Kg	05/05/04 LB
Xylenes, total	ND	1	5	ug/Kg	05/05/04 LB

**Surrogates**

				Units	Control Limits
Surr1 - Dibromofluoromethane	102			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	108			%	70 - 130
Surr3 - Toluene-d8	105			%	70 - 130
Surr4 - p-Bromofluorobenzene	101			%	70 - 130

**015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	111			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517763

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-20-9'

Date Sampled: 04/30/2004

Time Sampled: 11:05

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	21	1	1.0	mg/Kg	05/08/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	119			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	5	25.0	ug/Kg	05/14/04 LB
1,2-Dichloroethane	ND	5	25.0	ug/Kg	05/14/04 LB
Benzene	ND	5	25.0	ug/Kg	05/14/04 LB
Ethyl benzene	ND	5	25.0	ug/Kg	05/14/04 LB
Ethyl-tertbutylether (ETBE)	ND	5	50.0	ug/Kg	05/14/04 LB
Isopropyl ether (DIPE)	ND	5	50.0	ug/Kg	05/14/04 LB
Methyl-tert-butylether (MTBE)	ND	5	25.0	ug/Kg	05/14/04 LB
Tert-amylmethylether (TAME)	ND	5	50.0	ug/Kg	05/14/04 LB
Tertiary butyl alcohol (TBA)	ND	5	250.0	ug/Kg	05/14/04 LB
Toluene	ND	5	25.0	ug/Kg	05/14/04 LB
Xylenes, total	ND	5	25.0	ug/Kg	05/14/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	103			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	105			%	70 - 130
Surr3 - Toluene-d8	100			%	70 - 130
Surr4 - p-Bromofluorobenzene	101			%	70 - 130

**8015M - Gasoline**

Gasoline	12	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	139			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report





Order #: 517764

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-20-13'

Date Sampled: 04/30/2004

Time Sampled: 11:20

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	107			%	55 - 200

**260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/06/04	LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/06/04	LB
Benzene	ND	1	5	ug/Kg	05/06/04	LB
Ethyl benzene	ND	1	5	ug/Kg	05/06/04	LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/06/04	LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/06/04	LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/06/04	LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/06/04	LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/06/04	LB
Toluene	ND	1	5	ug/Kg	05/06/04	LB
Xylenes, total	ND	1	5	ug/Kg	05/06/04	LB

**Surrogates**

				Units	Control Limits
Surr1 - Dibromofluoromethane	103			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	112			%	70 - 130
Surr3 - Toluene-d8	99			%	70 - 130
Surr4 - p-Bromofluorobenzene	109			%	70 - 130

**015M - Gasoline**

Gasoline	9.5	2	6.0	mg/Kg	05/06/04	LT
----------	-----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	93			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517765

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-20-20'

Date Sampled: 04/30/2004

Time Sampled: 11:35

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	20	10	10.0	mg/Kg	05/08/04 AF
-------------	----	----	------	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	96			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	10	50.0	ug/Kg	05/14/04 LB
1,2-Dichloroethane	ND	10	50.0	ug/Kg	05/14/04 LB
Benzene	ND	10	50.0	ug/Kg	05/14/04 LB
Ethyl benzene	7.5 J	10	50.0	ug/Kg	05/14/04 LB
Ethyl-tertbutylether (ETBE)	ND	10	100.0	ug/Kg	05/14/04 LB
Isopropyl ether (DIPE)	ND	10	100.0	ug/Kg	05/14/04 LB
Methyl-tert-butylether (MTBE)	ND	10	50.0	ug/Kg	05/14/04 LB
Tert-amylmethylether (TAME)	ND	10	100.0	ug/Kg	05/14/04 LB
Tertiary butyl alcohol (TBA)	ND	10	500.0	ug/Kg	05/14/04 LB
Toluene	ND	10	50.0	ug/Kg	05/14/04 LB
Xylenes, total	39 J	10	50.0	ug/Kg	05/14/04 LB

**Surrogates**

	Result	DF	DLR	Units	Control Limits
Surr1 - Dibromofluoromethane	98			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	65			%	70 - 130
Surr3 - Toluene-d8	116			%	70 - 130
Surr4 - p-Bromofluorobenzene	135			%	70 - 130

**8015M - Gasoline**

Gasoline	353	50	150.0	mg/Kg	05/06/04 LT
----------	-----	----	-------	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	108			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517766

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-20-21.5'

Date Sampled: 04/30/2004

Time Sampled: 11:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
<b>8015 TEPH Diesel</b>					
TEPH Diesel	50	10	10.0	mg/Kg	05/08/04 AF
				<b>Units</b>	<b>Control Limits</b>
Surrogates					
o-Terphenyl (sur)	90			%	55 - 200
<b>260B Volatile Organic Compounds</b>					
1,2-Dibromoethane	ND	100	500.0	ug/Kg	05/19/04 LB
1,2-Dichloroethane	ND	100	500.0	ug/Kg	05/19/04 LB
Benzene	ND	100	500.0	ug/Kg	05/19/04 LB
Ethyl benzene	ND	100	500.0	ug/Kg	05/19/04 LB
Ethyl-tertbutylether (ETBE)	ND	100	1000.0	ug/Kg	05/19/04 LB
Isopropyl ether (DIPE)	ND	100	1000.0	ug/Kg	05/19/04 LB
Methyl-tert-butylether (MTBE)	ND	100	500.0	ug/Kg	05/19/04 LB
Tert-amylmethylether (TAME)	ND	100	1000.0	ug/Kg	05/19/04 LB
Tertiary butyl alcohol (TBA)	ND	100	5000.0	ug/Kg	05/19/04 LB
Toluene	ND	100	500.0	ug/Kg	05/19/04 LB
Xylenes, total	5340	100	500.0	ug/Kg	05/19/04 LB
				<b>Units</b>	<b>Control Limits</b>
Surrogates					
Surr1 - Dibromofluoromethane	101			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	89			%	70 - 130
Surr3 - Toluene-d8	106			%	70 - 130
Surr4 - p-Bromofluorobenzene	116			%	70 - 130
<b>8015M - Gasoline</b>					
Gasoline	1060	250	750.0	mg/Kg	05/06/04 LT
				<b>Units</b>	<b>Control Limits</b>
Surrogates					
a,a,a-Trifluorotoluene	120			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517767

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-20-23.5'

Date Sampled: 04/30/2004

Time Sampled: 11:55

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	105			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/06/04	LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/06/04	LB
Benzene	ND	1	5	ug/Kg	05/06/04	LB
Ethyl benzene	ND	1	5	ug/Kg	05/06/04	LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/06/04	LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/06/04	LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/06/04	LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/06/04	LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/06/04	LB
Toluene	ND	1	5	ug/Kg	05/06/04	LB
Xylenes, total	ND	1	5	ug/Kg	05/06/04	LB

**Surrogates**

				Units	Control Limits
Surr1 - Dibromofluoromethane	99			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	114			%	70 - 130
Surr3 - Toluene-d8	104			%	70 - 130
Surr4 - p-Bromofluorobenzene	97			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/07/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	76			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517768

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-21-4.5'

Date Sampled: 04/30/2004

Time Sampled: 16:10

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.0	1	1.0	mg/Kg	05/08/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	108			%	55 - 200

**260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/06/04 LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/06/04 LB
Benzene	ND	1	5	ug/Kg	05/06/04 LB
Ethyl benzene	ND	1	5	ug/Kg	05/06/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/06/04 LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/06/04 LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/06/04 LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/06/04 LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/06/04 LB
Toluene	ND	1	5	ug/Kg	05/06/04 LB
Xylenes, total	ND	1	5	ug/Kg	05/06/04 LB

**Surrogates**

				Units	Control Limits
Surr1 - Dibromofluoromethane	101			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	103			%	70 - 130
Surr3 - Toluene-d8	104			%	70 - 130
Surr4 - p-Bromofluorobenzene	101			%	70 - 130

**015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	180			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517769

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-21-9.5'

Date Sampled: 04/30/2004

Time Sampled: 16:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.2	1	1.0	mg/Kg	05/08/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	71			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/06/04 LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/06/04 LB
Benzene	ND	1	5	ug/Kg	05/06/04 LB
Ethyl benzene	ND	1	5	ug/Kg	05/06/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/06/04 LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/06/04 LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/06/04 LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/06/04 LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/06/04 LB
Toluene	ND	1	5	ug/Kg	05/06/04 LB
Xylenes, total	ND	1	5	ug/Kg	05/06/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	104			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	119			%	70 - 130
Surr3 - Toluene-d8	104			%	70 - 130
Surr4 - p-Bromofluorobenzene	97			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	89			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517770

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-21-15.5'

Date Sampled: 04/30/2004

Time Sampled: 16:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	43	10	10.0	mg/Kg	05/08/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	108			%	55 - 200

**260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	100	500.0	ug/Kg	05/13/04 LB
1,2-Dichloroethane	ND	100	500.0	ug/Kg	05/13/04 LB
Benzene	ND	100	500.0	ug/Kg	05/13/04 LB
Ethyl benzene	823	100	500.0	ug/Kg	05/13/04 LB
Ethyl-tertbutylether (ETBE)	ND	100	1000.0	ug/Kg	05/13/04 LB
Isopropyl ether (DIPE)	ND	100	1000.0	ug/Kg	05/13/04 LB
Methyl-tert-butylether (MTBE)	ND	100	500.0	ug/Kg	05/13/04 LB
Tert-amylmethylether (TAME)	ND	100	1000.0	ug/Kg	05/13/04 LB
Tertiary butyl alcohol (TBA)	ND	100	5000.0	ug/Kg	05/13/04 LB
Toluene	ND	100	500.0	ug/Kg	05/13/04 LB
Xylenes, total	3980	100	500.0	ug/Kg	05/13/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	104			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	96			%	70 - 130
Surr3 - Toluene-d8	98			%	70 - 130
Surr4 - p-Bromofluorobenzene	112			%	70 - 130

**3015M - Gasoline**

Gasoline	690	100	300.0	mg/Kg	05/06/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	130			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517771

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-21-20.5'

Date Sampled: 04/30/2004

Time Sampled: 17:10

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	82			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	5	25.0	ug/Kg	05/06/04 LB
1,2-Dichloroethane	ND	5	25.0	ug/Kg	05/06/04 LB
Benzene	56	5	25.0	ug/Kg	05/06/04 LB
Ethyl benzene	60	5	25.0	ug/Kg	05/06/04 LB
Ethyl-tertbutylether (ETBE)	ND	5	50.0	ug/Kg	05/06/04 LB
Isopropyl ether (DIPE)	ND	5	50.0	ug/Kg	05/06/04 LB
Methyl-tert-butylether (MTBE)	ND	5	25.0	ug/Kg	05/06/04 LB
Tert-amylmethylether (TAME)	ND	5	50.0	ug/Kg	05/06/04 LB
Tertiary butyl alcohol (TBA)	ND	5	250.0	ug/Kg	05/06/04 LB
Toluene	ND	5	25.0	ug/Kg	05/06/04 LB
Xylenes, total	245	5	25.0	ug/Kg	05/06/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	102			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	83			%	70 - 130
Surr3 - Toluene-d8	107			%	70 - 130
Surr4 - p-Bromofluorobenzene	109			%	70 - 130

**8015M - Gasoline**

Gasoline	84	5	15.0	mg/Kg	05/07/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	188			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report





Order #: 517772

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-21-21.5'

Date Sampled: 04/30/2004

Time Sampled: 17:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/08/04 AF
-------------	----	---	-----	-------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	89			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/Kg	05/06/04 LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/06/04 LB
Benzene	ND	1	5	ug/Kg	05/06/04 LB
Ethyl benzene	ND	1	5	ug/Kg	05/06/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/06/04 LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/06/04 LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/06/04 LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/06/04 LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/06/04 LB
Toluene	ND	1	5	ug/Kg	05/06/04 LB
Xylenes, total	ND	1	5	ug/Kg	05/06/04 LB

**Surrogates**

				Units	Control Limits
Surr1 - Dibromofluoromethane	104			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	109			%	70 - 130
Surr3 - Toluene-d8	104			%	70 - 130
Surr4 - p-Bromofluorobenzene	101			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/06/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	199			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517773

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: Drum Composite

Date Sampled: 04/30/2004

Time Sampled: 17:45

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	10	1	1.0	mg/Kg	05/07/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	103			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	50	0.25	mg/Kg	05/10/04 LT
Ethyl benzene	1.0	50	0.25	mg/Kg	05/10/04 LT
Methyl t - butyl ether	ND	50	1.75	mg/Kg	05/10/04 LT
Toluene	0.57	50	0.25	mg/Kg	05/10/04 LT
Xylene (total)	4.3	50	0.75	mg/Kg	05/10/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	99			%	70 - 130

**8015M - Gasoline**

Gasoline	155	50	150.0	mg/Kg	05/10/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	99			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517774

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

8015 TEPH Diesel

TEPH Diesel	ND	1	1.0	mg/Kg	05/06/04	AF
-------------	----	---	-----	-------	----------	----

Surrogates

				Units	Control Limits
o-Terphenyl (sur)	123			%	55 - 200

8021B BTEX + MTBE

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

Surrogates

				Units	Control Limits
a,a,a-Trifluorotoluene	99			%	70 - 130

8260B Volatile Organic Compounds

1,2-Dibromoethane	ND	1	5	ug/Kg	05/05/04	LB
1,2-Dichloroethane	ND	1	5	ug/Kg	05/05/04	LB
Benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl benzene	ND	1	5	ug/Kg	05/05/04	LB
Ethyl-tertbutylether (ETBE)	ND	1	10	ug/Kg	05/05/04	LB
Isopropyl ether (DIPE)	ND	1	10	ug/Kg	05/05/04	LB
Methyl-tert-butylether (MTBE)	ND	1	5	ug/Kg	05/05/04	LB
Tert-amylmethylether (TAME)	ND	1	10	ug/Kg	05/05/04	LB
Tertiary butyl alcohol (TBA)	ND	1	50	ug/Kg	05/05/04	LB
Toluene	ND	1	5	ug/Kg	05/05/04	LB
Xylenes, total	ND	1	5	ug/Kg	05/05/04	LB

Surrogates

				Units	Control Limits
Surr1 - Dibromofluoromethane	101			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	111			%	70 - 130
Surr3 - Toluene-d8	104			%	70 - 130
Surr4 - p-Bromofluorobenzene	102			%	70 - 130

8015M - Gasoline

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517774

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
<b>8015M - Gasoline</b>					
Gasoline	ND	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	99			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



ASSOCIATED LABORATORIES  
LCS REPORT FORM - METHOD 8260 / 624 / 524.2

Sample: LCS/LCSD - Soil Samples

Analysis Date: 05/06/04

Applies to: LR 128681

Reporting Units = ug/Kg

**Lab Controlled Spike / Lab Controlled Spike Duplicate**

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits	
								RPD	%REC
1,1-Dichloroethene	ND	50	49.12	52.02	98	104	6	22	59-172
MTBE	ND	50	49.75	48.16	100	96	3	24	62-137
Benzene	ND	50	50.46	49.98	101	100	1	24	62-137
Trichloroethene	ND	50	50.73	49.76	101	100	2	21	66-142
Toluene	ND	50	51.00	50.63	102	101	1	21	59-139
Chlorobenzene	ND	50	48.44	48.96	97	98	1	21	60-133

Method Blank = All ND

**SURROGATE ( QC Limits : 70-135 )**

Compounds	DBFM	1,2-DCA	Tol-d8	p-BFB
LCS	99	90	99	96
LCSD	98	93	98	100
BLANK # 1	102	96	103	97

ASSOCIATED LABORATORIES  
LCS REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: LCS/LCSD - Soil Samples

Analysis Date: 05/05/04

Applies to: LR 128753, 128681

Reporting Units = ug/Kg

**Lab Controlled Spike / Lab Controlled Spike Duplicate**

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits	
								RPD	%REC
1,1-Dichloroethene	ND	50	52.44	52.55	105	105	0	22	59-172
MTBE	ND	50	49.27	47.78	99	96	3	24	62-137
Benzene	ND	50	50.58	50.39	101	101	0	24	62-137
Trichloroethene	ND	50	53.50	52.75	107	106	1	21	66-142
Toluene	ND	50	53.50	51.55	107	103	4	21	59-139
Chlorobenzene	ND	50	50.74	49.47	101	99	3	21	60-133

Method Blank = All ND

**SURROGATE ( QC Limits : 70-135 )**

Compounds	DBFM	1,2-DCA	Tol-d8	p-BFB
LCS	100	90	103	102
LCSD	99	97	103	98
BLANK # 1	101	111	104	102
BLANK # 2	102	102	103	100

ASSOCIATED LABORATORIES  
LCS REPORT FORM

QC Sample: LCS / LCSD

Matrix: SOLID

Prep. Date: 05/06/04

Analysis Date: 05/06/04

LAB ID#'s in Batch: LR 128681

REPORTING UNITS = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

Test	Method	PREP. BLK	LCS			LCSD	
		Value	Result	TRUE	%Rec	Result	%Rec
Benzene	8021	ND	0.020	0.02	100	0.019	95
Toluene	8021	ND	0.022	0.02	110	0.022	110
Ethylbenzene	8021	ND	0.022	0.02	110	0.022	110
Xylenes	8021	ND	0.069	0.06	115	0.069	115

*LCS = Lab Control Sample Result*

*TRUE = True Value of LCS*

*L.LIMIT / H.LIMIT = LCS Control Limits*

<i>L.Limit</i>	<i>H.Limit</i>
80%	120%

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	89
LCS	96
LCSD	92

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

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: SOLID  
 Prep. Date: 05/05/04  
 Analysis Date: 05/05/04-05/06/04  
 ID#'s in Batch: LR 128681  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

		PREP BLK						
		Value	Result	True	%Rec	L.Limit	H.Limit	
Test	Method	LCS	ND	4.6	5	92	80%	120%
TPH	8015M-G	LCSD	ND	4.7	5	94	80%	120%

*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	99
LCS	139
LCSD	139

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



**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: SOLID  
 Prep. Date: 05/06/04  
 Analysis Date: 05/06/04  
 ID#'s in Batch: LR 128818, 128681  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

		PREP BLK						
		Value	Result	True	%Rec	L.Limit	H.Limit	
Test	Method	LCS	ND	4.9	5	98	80%	120%
TPH	8015M-G	LCSD	ND	4.9	5	98	80%	120%

*LCS Result = Lab Control Sample Result  
 True = True Value of LCS  
 L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	89
LCS	129
LCSD	129

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

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS/LCSD  
 Matrix: SOLID  
 Extraction Method : 3545  
 Prep. Date: 05/06/04  
 Analysis Date: 05/06/04  
 ID#'s in Batch: LR 128681, 128818  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

			PREP BLK					
			Value	Result	True	%Rec	L.Limit	H.Limit
Test	Method	LCS	ND	21.0	25	84	70%	130%
DIESEL	8015D	LCSD	ND	21.2	25	85	70%	130%

*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	O-Terphenyl
QC Limit	55-200
Method Blank	123
LCS	127
LCSD	127

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS/LCSD  
 Matrix: SOLID  
 Extraction Method : 3545  
 Prep. Date: 05/05/04  
 Analysis Date: 05/05/04  
 ID#'s in Batch: LR 128753, 128604, 128681  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

			PREP BLK					
			Value	Result	True	%Rec	L.Limit	H.Limit
Test	Method	LCS	ND	20	25	80	70%	130%
DIESEL	8015D	LCSD	ND	21	25	84	70%	130%

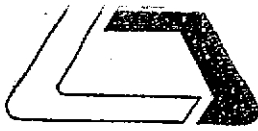
*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	O-Terphenyl
QC Limit	55-200
Method Blank	116
LCS	118
LCSD	123



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: Stellar Env. Project: 2003-43

Date Cooler Received: 5/4 Date Cooler Opened: 5/4

Was cooler scanned for presence of radioactivity? Yes/No  
If yes was radioactivity results above 25 cpm? Yes/No

Was a shipper's packing slip attached to the cooler? Yes/No

If the cooler had custody seal(s), were they signed and intact? Yes/No/Na

Was the cooler packed with: Ice  Ice Packs \_\_\_\_\_ Bubble wrap \_\_\_\_\_  
Styrofoam \_\_\_\_\_ Paper \_\_\_\_\_ None  Other \_\_\_\_\_

Cooler Temperature: 5.0°C \*  
\*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C? Yes/No

If no explain: \_\_\_\_\_

Were all samples sealed in plastic bags? Yes/No

Did all samples arrive intact? If no, indicate below. Yes/No

Were all samples labeled correctly? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers? Yes/No

Were any VOA vials received with head space? Yes/No/Na

Was the correct preservatives used? Yes/No/Na  
If no, see the pH log for a list of samples containers regarding pH

Any other important information: \_\_\_\_\_

Receiving Department: [Signature] Date: 5/4

# Chain of Custody Record

Lab job no. \_\_\_\_\_  
 Date 4/30/04  
 Page 1 of 3

Laboratory Associated Labs  
 Address 806 N. Batavia  
Orange CA  
714-771-6900  
 Project Owner Glen Poy-Wing  
 Site Address 240 W. MacArthur Blvd.  
Oakland CA  
 Project Name Oakland Auto Works  
 Project Number 003-43

Method of Shipment Overnight courier  
 Shipment No. \_\_\_\_\_  
 Airbill No. \_\_\_\_\_  
 Cooler No. \_\_\_\_\_  
 Project Manager Steve Rucker  
 Telephone No. (510) 644-3123  
 Fax No. (510) 644-3859  
 Samplers: (Signature) B.M. Rucker

128681

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Analysis Required										Remarks				
						Cooler	Chemical	Filtered	No. of Containers													
BH-17-4.5'		4/30/04	730	Soil	acetate stove	Yes	NO	1	X	X	X											(a) Analyze by EPA 8260. (BNR) otherwise analyze by EPA 8021
BH-17-9.5'			745					1	X	X	X											
BH-17-15'			815					1	X	X	X											
BH-17-20'			830					1	X	X	X											
BH-17-23.5'			835					1	X	X	X											
BH-18-4.5'			1055					1	X	X	X											
BH-18-9.5'			1105					1	X	X	X											
BH-18-17'			1140					1	X	X	X											
BH-18-20'			1150					1	X	X	X											

Relinquished by: <u>B.M. Rucker</u> Signature _____ Printed <u>B.M. Rucker</u> Company <u>Stellar Env. Solutions</u>	Date <u>5/3/04</u> Time _____	Received by: <u>[Signature]</u> Signature _____ Printed <u>DUANG W</u> Company <u>Associated Lab</u>	Date <u>5/4</u> Time <u>935</u>	Relinquished by: _____ Signature _____ Printed _____ Company _____	Date _____ Time _____	Received by: _____ Signature _____ Printed _____ Company _____	Date _____ Time _____
---	----------------------------------	---	------------------------------------	---	--------------------------	---	--------------------------

Turnaround Time: \_\_\_\_\_

Comments: Water samples in (3) 40ml VOLS (w/ HCl) → TVA-945  
+ (1) 1-L amber (unpreserved) → TEH disc

# Chain of Custody Record

Lab Job no. \_\_\_\_\_

 Date 4/30/04

 Page 2 of 3

Laboratory Associated Labs  
 Address 806 N. Bayview  
Orange CA  
714-771-6900  
 Project Owner Gen Poy-wing  
 Site Address 240 W. MacArthur Blvd.  
Oakland CA  
 Project Name Oakland Auto Works  
 Project Number 2003-43

Method of Shipment Overnight courier  
 Shipment No. \_\_\_\_\_  
 Airbill No. \_\_\_\_\_  
 Cooler No. \_\_\_\_\_  
 Project Manager Steve Rucker  
 Telephone No. (510) 644-3123  
 Fax No. (510) 644-3859  
 Samplers: (Signature) B.M. Rucker

## 128681

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Analysis Required										Remarks			
						Cooler	Chemical	TVH-945	TEH-diesel	BTEX/HIPE	EDB/EDC	5 Fuel Organics	Other	Other	Other	Other	Other		Other	Other	
BH-19-4.5'		7/30/04	850	Soil	acetate sleeve	Yes	No	1	X	X	X	X	X								(a) Analyze by EPA 8060. (BMR) Otherwise, analyze by EPA 8021
BH-19-9'			905					1	X	X	X	X	X								
BH-19-13'			915					1	X	X	X	X	X								
BH-19-18'			930					1	X	X	X	X	X								
BH-19-21'			940					1	X	X	X	X	X								
BH-19-23.5'			105					1	X	X	X	X	X								
BH-20-4.5'			1050					1	X	X	X	X	X								
BH-20-9'			1105					1	X	X	X	X	X								
BH-20-13'			1100					1	X	X	X	X	X								
BH-20-20'			1135					1	X	X	X	X	X								
BH-20-21.5'			1150					1	X	X	X	X	X								
BH-20-23.5'			1155					1	X	X	X	X	X								

Filtered  
 No. of Containers  
 TVH-945 (8015)  
 TEH-diesel (8015)  
 BTEX/HIPE (8060)  
 EDB/EDC (8060)  
 5 Fuel Organics (8060)

Relinquished by: Signature <u>B.M. Rucker</u> Printed <u>B.M. Rucker</u> Company <u>Stellar Env. Solutions</u>	Date <u>5/3/04</u>	Received by: Signature <u>[Signature]</u> Printed <u>[Signature]</u> Company <u>Associated Lab</u>	Date <u>5/4</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____ Time _____	Received by: Signature _____ Printed _____ Company _____	Date _____ Time _____		
Turnaround Time: _____ Comments: <u>Water samples in (3) 40ml vials (w/ HCl) → TVH-945</u> <u>+(1) 1-L amber (unpreserved) → TEH-diesel</u>				Relinquished by: Signature _____ Printed _____ Company _____				Received by: Signature _____ Printed _____ Company _____	





**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)  
ATTN: Bruce Rucker  
2198 Sixth Street  
#201  
Berkeley, CA 94710

LAB REQUEST 128610

REPORTED 05/07/2004

RECEIVED 05/01/2004

PROJECT #2003-43  
Oakland Auto Works

SUBMITTER Client

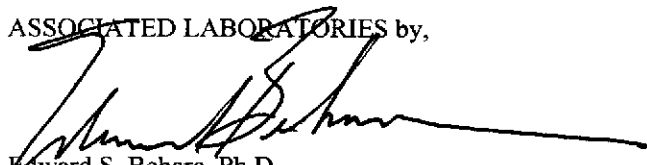
COMMENTS

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.

<u>Order No.</u>	<u>Client Sample Identification</u>
517178	BH-10-GW
517179	BH-11-GW
517180	BH-12-GW
517181	BH-13-GW
517182	BH-14-GW
517183	BH-15-GW
517184	BH-16-GW
517185	Laboratory Method Blank

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.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

TESTING & CONSULTING  
Chemical  
Microbiological  
Environmental



## ASSOCIATED LABORATORIES

### NARRATIVE

Date: May 13, 2004

Narrative for Lab Request LR: 128610

#### **Client Project Identification:**

Project: #2003-43 Oakland Auto Works

This narrative includes all samples as shown on the attached Lab Request final report.

#### **Analyses Requested:**

- EPA 8015 – TEPH Diesel.
- EPA 8015M – Gasoline.
- EPA 8021B – BTEX & MTBE.

#### **Data Validation:**

##### **Holding Times**

All EPA designated holding times were met.

##### **Calibration**

Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

##### **Quality Control Samples**

Following is a summary of the QC data, along with an explanation of any samples that were outside QC limits and corrective actions that were taken:

- **EPA 8015M Gasoline:** a,a,a-TFT surrogate recovery was out of control in Samples #181, 182 & 184, due to matrix interference. Corrective action: The LCS and LCSD spike recoveries were within control. Furthermore, surrogate recoveries for the LCS and blank conformed. The QC batch was acceptable.
- **EPA 8021B:** a,a,a-TFT surrogate recovery was out of control in Samples #184, due to matrix interference. Corrective action: The LCS and LCSD spike recoveries were within control. Furthermore, surrogate recoveries for the LCS and blank conformed. The QC batch was acceptable.
- **EPA 8015 TEPH:** All QC results were within control.

##### **Other Anomalies or Comments**

The reporting limit (DLR) is adjusted if dilution of the sample is necessary. For EPA 8021B, the surrogate recovery limits on the report are not correct. The correct limits are on the QC summary sheets, which is 55-200%.

Order #: 517178

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-10-GW

Date Sampled: 04/29/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	0.1	mg/L	05/05/04 AF
-------------	----	---	-----	------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	122			%	55 - 200

**8021B BTEX + MTBE**

Benzene	1.4	1	0.3	ug/L	05/04/04 LZ
Ethyl benzene	1.8	1	0.3	ug/L	05/04/04 LZ
Methyl t - butyl ether	20	1	5	ug/L	05/04/04 LZ
Toluene	6.5	1	0.3	ug/L	05/04/04 LZ
Xylene (total)	7.0	1	0.6	ug/L	05/04/04 LZ

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	106			%	70 - 130

**8015M - Gasoline**

Gasoline	78	1	50	ug/L	05/04/04 LZ
----------	----	---	----	------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	106			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517179

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-11-GW

Date Sampled: 04/29/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	0.1	mg/L	05/05/04 AF
-------------	----	---	-----	------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	129			%	55 - 200

**8021B BTEX + MTBE**

Benzene	3.4	1	0.3	ug/L	05/04/04 LZ
Ethyl benzene	2.0	1	0.3	ug/L	05/04/04 LZ
Methyl t - butyl ether	ND	1	5	ug/L	05/04/04 LZ
Toluene	8.4	1	0.3	ug/L	05/04/04 LZ
Xylene (total)	8.5	1	0.6	ug/L	05/04/04 LZ

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	108			%	70 - 130

**8015M - Gasoline**

Gasoline	74	1	50	ug/L	05/04/04 LZ
----------	----	---	----	------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	108			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517180

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-12-GW

Date Sampled: 04/29/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	0.1	mg/L	05/05/04 AF
-------------	----	---	-----	------	-------------

**Surrogates**

Units Control Limits

o-Terphenyl (sur)	133			%	55 - 200
-------------------	-----	--	--	---	----------

**8021B BTEX + MTBE**

Benzene	1.4	1	0.3	ug/L	05/04/04 LZ
---------	-----	---	-----	------	-------------

Ethyl benzene	2.0	1	0.3	ug/L	05/04/04 LZ
---------------	-----	---	-----	------	-------------

Methyl t - butyl ether	ND	1	5	ug/L	05/04/04 LZ
------------------------	----	---	---	------	-------------

Toluene	7.7	1	0.3	ug/L	05/04/04 LZ
---------	-----	---	-----	------	-------------

Xylene (total)	9.2	1	0.6	ug/L	05/04/04 LZ
----------------	-----	---	-----	------	-------------

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	110			%	70 - 130
------------------------	-----	--	--	---	----------

**8015M - Gasoline**

Gasoline	77	1	50	ug/L	05/04/04 LZ
----------	----	---	----	------	-------------

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	110			%	55 - 200
------------------------	-----	--	--	---	----------

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517181

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-13-GW

Date Sampled: 04/29/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	3.0	10	1.0	mg/L	05/05/04 AF
-------------	-----	----	-----	------	-------------

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	181	% 55 - 200

**8021B BTEX + MTBE**

Benzene	617	20	6.0	ug/L	05/06/04 LZ
Ethyl benzene	668	20	6.0	ug/L	05/06/04 LZ
Methyl t - butyl ether	548	20	100.0	ug/L	05/06/04 LZ
Toluene	527	20	6.0	ug/L	05/06/04 LZ
Xylene (total)	4680	100	60.0	ug/L	05/04/04 LZ

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	173	% 70 - 130

**8015M - Gasoline**

Gasoline	68300	20	1000.0	ug/L	05/06/04 LZ
----------	-------	----	--------	------	-------------

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	505*	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517182

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-14-GW

Date Sampled: 04/29/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	0.17	1	0.1	mg/L	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	119			%	55 - 200

**8021B BTEX + MTBE**

Benzene	13	1	0.3	ug/L	05/04/04 LZ
Ethyl benzene	6.1	1	0.3	ug/L	05/04/04 LZ
Methyl t - butyl ether	189	10	50.0	ug/L	05/06/04 LZ
Toluene	5.1	1	0.3	ug/L	05/04/04 LZ
Xylene (total)	8.5	1	0.6	ug/L	05/04/04 LZ
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	131			%	70 - 130

**8015M - Gasoline**

Gasoline	923	1	50.0	ug/L	05/04/04 LZ
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	251*			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517183

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-15-GW

Date Sampled: 04/29/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	0.1	mg/L	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	222*			%	55 - 200

**8021B BTEX + MTBE**

Benzene	1.8	1	0.3	ug/L	05/04/04 LZ
Ethyl benzene	1.7	1	0.3	ug/L	05/04/04 LZ
Methyl t - butyl ether	400	10	50.0	ug/L	05/06/04 LZ
Toluene	2.7	1	0.3	ug/L	05/04/04 LZ
Xylene (total)	4.7	1	0.6	ug/L	05/04/04 LZ
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	116			%	70 - 130

**8015M - Gasoline**

Gasoline	742	10	500.0	ug/L	05/06/04 LZ
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	106			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517184

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-16-GW

Date Sampled: 04/29/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	3.0	10	1.0	mg/L	05/05/04 AF
-------------	-----	----	-----	------	-------------

**Surrogates**

Units Control Limits

o-Terphenyl (sur)	136			%	55 - 200
-------------------	-----	--	--	---	----------

**8021B BTEX + MTBE**

Benzene	73	10	3.0	ug/L	05/07/04 LZ
---------	----	----	-----	------	-------------

Ethyl benzene	222	10	3.0	ug/L	05/07/04 LZ
---------------	-----	----	-----	------	-------------

Methyl t - butyl ether	288	10	50.0	ug/L	05/07/04 LZ
------------------------	-----	----	------	------	-------------

Toluene	138	10	3.0	ug/L	05/07/04 LZ
---------	-----	----	-----	------	-------------

Xylene (total)	946	10	6.0	ug/L	05/07/04 LZ
----------------	-----	----	-----	------	-------------

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	360*			%	70 - 130
------------------------	------	--	--	---	----------

**8015M - Gasoline**

Gasoline	26800	10	500.0	ug/L	05/07/04 LZ
----------	-------	----	-------	------	-------------

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	360*			%	55 - 200
------------------------	------	--	--	---	----------

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor





Order #: 517185

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	0.1	mg/L	05/05/04 AF
-------------	----	---	-----	------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	126			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.3	ug/L	05/04/04 LZ
Ethyl benzene	ND	1	0.3	ug/L	05/04/04 LZ
Methyl t - butyl ether	ND	1	5	ug/L	05/04/04 LZ
Toluene	ND	1	0.3	ug/L	05/04/04 LZ
Xylene (total)	ND	1	0.6	ug/L	05/04/04 LZ

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	104			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	50	ug/L	05/04/04 LZ
----------	----	---	----	------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	104			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: WATER  
 Prep. Date: 05/04/04  
 Analysis Date: 05/04/04-05/05/04  
 LAB ID#'s in Batch: LR 128610

REPORTING UNITS = ug/L

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

Test	Method	PREP. BLK	LCS			LCSD	
		Value	Result	TRUE	%Rec	Result	%Rec
Benzene	8021	ND	19.50	20	98	19.60	98
Toluene	8021	ND	18.90	20	95	19.60	98
Ethylbenzene	8021	ND	19.70	20	99	20.00	100
Xylenes	8021	ND	57.80	60	96	58.80	98

LCS = Lab Control Sample Result  
 TRUE = True Value of LCS  
 L.LIMIT / H.LIMIT = LCS Control Limits

L.Limit	H.Limit
80%	120%

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	104
LCS	112
LCSD	112

AAA-TFT = a,a,a-Trifluorotoluene

**ASSOCIATED LABORATORIES  
QA REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: WATER  
 Prep. Date: 05/04/04  
 Analysis Date: 05/04/04-05/05/04  
 ID#'s in Batch: LR 128610, 128614  
 Reporting Units = ug/L

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

		PREP BLK						
		Value	Result	True	%Rec	L.Limit	H.Limit	
Test	Method	LCS	ND	488	500	98	80%	120%
TPH	8015M-G	LCSD	ND	492	500	98	80%	120%

*LCS Result = Lab Control Sample Result  
 True = True Value of LCS  
 L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	104
LCS	167
LCSD	171

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

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS/LCSD  
 Matrix: WATER  
 Extraction Method : 3510 B  
 Prep. Date: 05/04/04  
 Analysis Date: 05/05/04  
 ID#'s in Batch: LR 128606, 128620, 128610  
 Reporting Units = mg/L

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

			PREP BLK					
			Value	Result	True	%Rec	L.Limit	H.Limit
Test	Method	LCS	ND	1.12	1	112	70%	130%
DIESEL	8015D	LCSD	ND	1.21	1	121	70%	130%

*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	O-Terphenyl
QC Limit	55-200
Method Blank	126
LCS	185
LCSD	187



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

### Cooler Receipt Form

Client: Stellar Project: \_\_\_\_\_

Date Cooler Received: 5/1/04 Date Cooler Opened: 5/1/04

Was cooler scanned for presence of radioactivity?  
If yes was radioactivity results above 25 cpm? Yes/No  
 No

Was a shipper's packing slip attached to the cooler? Yes/No  
 No

If the cooler had custody seal(s), were they signed and intact? Yes/No/Na  
 Na

Was the cooler packed with: Ice + Ice Packs \_\_\_\_\_ Bubble wrap \_\_\_\_\_  
Styrofoam \_\_\_\_\_ Paper \_\_\_\_\_ None \_\_\_\_\_ Other \_\_\_\_\_

Cooler Temperature: 30° \*

\*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C? Yes/No

If no explain: \_\_\_\_\_

Were all samples sealed in plastic bags? Yes/No  
 No

Did all samples arrive intact? If no, indicate below. Yes/No  
 No

Were all samples labeled correctly? (ID's Dates, Times) If no, indicate below. Yes/No  
 No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No  
 No

Was sufficient sample volume sent for all containers? Yes/No  
 No

Were any VOA vials received with head space? Yes/No/Na  
 Na

Was the correct preservatives used? Yes/No/Na  
 Na

If no, see the pH log for a list of samples containers regarding pH

Any other important information: \_\_\_\_\_

Receiving Department: [Signature] Date: 5/1/04

# Chain of Custody Record

Lab job no. \_\_\_\_\_

 Date 4/29/04

 Page 1 of 1

Laboratory Associated Labs  
 Address 806 N. Saturnia  
Orange CA  
714-771-6900  
 Project Owner Glen Poy-Wing  
 Site Address 240 W. MacArthur Blvd.  
Oakland CA  
 Project Name Oakland Auto Works  
 Project Number 2003-43

Method of Shipment Overnight courier  
 Shipment No. \_\_\_\_\_  
 Airbill No. \_\_\_\_\_  
 Cooler No. \_\_\_\_\_  
 Project Manager Bruce Rucker  
 Telephone No. (510) 644-3123  
 Fax No. (510) 644-3859  
 Samplers: (Signature) B.M. Rucker

128610

Filtered	No. of Containers	Analysis Required
TVH-905 (805)	TEH-1001 (805)	BTEX/HISE (805)
<del>EDS/LEL (803)</del>	<del>BMR</del>	

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		NO	4	X	X	X	Remarks
						Cooler	Chemical						
BH-10-GW		4/29/04		H <sub>2</sub> O	see below	Yes	see below		4	X	X	X	(u) Analyze by EPA 8260. (BMR)
BH-11-GW									4	X	X	X	Otherwise analyze by EPA 8021
BH-12-GW									4	X	X	X	
BH-13-GW									4	X	X	X	
BH-14-GW									4	X	X	X	
BH-15-GW									4	X	X	X	
BH-16-GW													

Relinquished by: Signature <u>B.M. Rucker</u> Printed <u>B.M. Rucker</u> Company <u>Stellar Env. Solns</u>	Date <u>4/30/04</u> Time _____	Received by: Signature <u>[Signature]</u> Printed <u>Ryan Lewis</u> Company <u>Assoc. Labs</u>	Date <u>5/11/04</u> Time <u>10:40</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____ Time _____	Received by: Signature <u>[Signature]</u> Printed _____ Company _____	Date <u>5/27/04</u> Time <u>10:40</u>		
Turnaround Time: _____ Comments: <u>Volatiles in 40ml VOA vials (3) w/ HCL</u> <u>Diesel in 1-L amber Glass (1)</u>				Relinquished by: Signature _____ Printed _____ Company _____				Date _____ Time _____	



**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)  
ATTN: Bruce Rucker  
2198 Sixth Street  
#201  
Berkeley, CA 94710

LAB REQUEST 128678

REPORTED 05/10/2004

RECEIVED 05/04/2004

PROJECT #2003-43  
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.


517731  
517732  
517733  
517734  
517735  
517736

Client Sample Identification

BH-17-GW  
BH-18-GW  
BH-19-GW  
BH-20-GW  
BH-21-GW  
Laboratory Method Blank

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,



Edyeta 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.*

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

TESTING & CONSULTING  
Chemical  
Microbiological  
Environmental

## ASSOCIATED LABORATORIES

### NARRATIVE

Date: May 13, 2004

**Narrative for Lab Request LR: 128678**

**Client Project Identification:**

Project: #2003-43 Oakland Auto Works

This narrative includes all samples as shown on the attached Lab Request final report.

**Analyses Requested:**

- EPA 8015 – TEPH Diesel.
- EPA 8015M – Gasoline.
- EPA 8260 – Volatile Organic Compounds.

**Data Validation:**

**Holding Times**

All EPA designated holding times were met.

**Calibration**

Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

**Quality Control Samples**

Following is a summary of the QC data, along with an explanation of any samples that were outside QC limits and corrective actions that were taken:

- **EPA 8015M Gasoline:** a,a,a-TFT surrogate recovery was out of control in Samples #732 & 734, due to matrix interference. Corrective action: The LCS and LCSD spike recoveries were within control. Furthermore, surrogate recoveries for the LCS and blank conformed. The QC batch was acceptable.
- **EPA 8015 TEPH & 8260B:** All QC results were within control.

**Other Anomalies or Comments**

The reporting limit (DLR) is adjusted if dilution of the sample is necessary. For EPA 8260B, the surrogate recovery limits on the report are not correct. The correct limits are on the QC summary sheets, which is 70-135%.



Order #: 517731

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-17-GW

Date Sampled: 04/30/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	0.1	mg/L	05/06/04 AF
-------------	----	---	-----	------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	150			%	55 - 200

**260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/L	05/05/04 LB
1,2-Dichloroethane	ND	1	5	ug/L	05/05/04 LB
Benzene	ND	1	1	ug/L	05/05/04 LB
Ethyl benzene	ND	1	5	ug/L	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	1	ug/L	05/05/04 LB
Isopropyl ether (DIPE)	ND	1	1	ug/L	05/05/04 LB
Methyl-tert-butylether (MTBE)	143	1	1	ug/L	05/05/04 LB
Tert-amylmethylether (TAME)	ND	1	1	ug/L	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	1	10	ug/L	05/05/04 LB
Toluene	2.9 J	1	5	ug/L	05/05/04 LB
Xylenes, total	3.0 J	1	5	ug/L	05/05/04 LB

**Surrogates**

				Units	Control Limits
Surr1 - Dibromofluoromethane	78			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	117			%	70 - 130
Surr3 - Toluene-d8	99			%	70 - 130
Surr4 - p-Bromofluorobenzene	95			%	70 - 130

**8015M - Gasoline**

Gasoline	206	1	50	ug/L	05/08/04 LZ
----------	-----	---	----	------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	109			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517732

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-18-GW

Date Sampled: 04/30/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.0	10	1.0	mg/L	05/07/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	195			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	10	50.0	ug/L	05/05/04 LB
1,2-Dichloroethane	ND	10	50.0	ug/L	05/05/04 LB
Benzene	ND	10	10.0	ug/L	05/05/04 LB
Ethyl benzene	76	10	50.0	ug/L	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	10	10.0	ug/L	05/05/04 LB
Isopropyl ether (DIPE)	ND	10	10.0	ug/L	05/05/04 LB
Methyl-tert-butylether (MTBE)	348	10	10.0	ug/L	05/05/04 LB
Tert-amylmethylether (TAME)	ND	10	10.0	ug/L	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	10	100.0	ug/L	05/05/04 LB
Toluene	ND	10	50.0	ug/L	05/05/04 LB
Xylenes, total	232	10	50.0	ug/L	05/05/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	79			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	113			%	70 - 130
Surr3 - Toluene-d8	103			%	70 - 130
Surr4 - p-Bromofluorobenzene	97			%	70 - 130

**8015M - Gasoline**

Gasoline	3220	1	50	ug/L	05/08/04 LZ
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	290*			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517733

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-19-GW

Date Sampled: 04/30/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.3	10	1.0	mg/L	05/07/04 AF
-------------	-----	----	-----	------	-------------

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	192	% 55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	10	50.0	ug/L	05/05/04 LB
1,2-Dichloroethane	ND	10	50.0	ug/L	05/05/04 LB
Benzene	24	10	10.0	ug/L	05/05/04 LB
Ethyl benzene	65	10	50.0	ug/L	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	10	10.0	ug/L	05/05/04 LB
Isopropyl ether (DIPE)	ND	10	10.0	ug/L	05/05/04 LB
Methyl-tert-butylether (MTBE)	ND	10	10.0	ug/L	05/05/04 LB
Tert-amylmethylether (TAME)	ND	10	10.0	ug/L	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	10	100.0	ug/L	05/05/04 LB
Toluene	ND	10	50.0	ug/L	05/05/04 LB
Xylenes, total	108	10	50.0	ug/L	05/05/04 LB

**Surrogates**

	Units	Control Limits
Surr1 - Dibromofluoromethane	77	% 70 - 130
Surr2 - 1,2-Dichloroethane-d4	119	% 70 - 130
Surr3 - Toluene-d8	100	% 70 - 130
Surr4 - p-Bromofluorobenzene	95	% 70 - 130

**8015M - Gasoline**

Gasoline	10000	10	500.0	ug/L	05/08/04 LZ
----------	-------	----	-------	------	-------------

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	203*	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517734

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-20-GW

Date Sampled: 04/30/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	2.7	10	1.0	mg/L	05/07/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	192			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	10	50.0	ug/L	05/06/04 LB
1,2-Dichloroethane	ND	10	50.0	ug/L	05/06/04 LB
Benzene	1830	10	10.0	ug/L	05/06/04 LB
Ethyl benzene	227	10	50.0	ug/L	05/06/04 LB
Ethyl-tertbutylether (ETBE)	ND	10	10.0	ug/L	05/06/04 LB
Isopropyl ether (DIPE)	ND	10	10.0	ug/L	05/06/04 LB
Methyl-tert-butylether (MTBE)	18	10	10.0	ug/L	05/06/04 LB
Tert-amylmethylether (TAME)	ND	10	10.0	ug/L	05/06/04 LB
Tertiary butyl alcohol (TBA)	114	10	100.0	ug/L	05/06/04 LB
Toluene	69	10	50.0	ug/L	05/06/04 LB
Xylenes, total	1430	10	50.0	ug/L	05/06/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	81			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	104			%	70 - 130
Surr3 - Toluene-d8	100			%	70 - 130
Surr4 - p-Bromofluorobenzene	98			%	70 - 130

**8015M - Gasoline**

Gasoline	122000	50	2500.0	ug/L	05/08/04 LZ
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	378*			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517735

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: BH-21-GW

Date Sampled: 04/30/2004

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.9	10	1.0	mg/L	05/07/04	AF
				<b>Units</b>	<b>Control Limits</b>	
o-Terphenyl (sur)	141			%	55 - 200	

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	10	50.0	ug/L	05/06/04	LB
1,2-Dichloroethane	ND	10	50.0	ug/L	05/06/04	LB
Benzene	485	10	10.0	ug/L	05/06/04	LB
Ethyl benzene	474	10	50.0	ug/L	05/06/04	LB
Ethyl-tertbutylether (ETBE)	ND	10	10.0	ug/L	05/06/04	LB
Isopropyl ether (DIPE)	ND	10	10.0	ug/L	05/06/04	LB
Methyl-tert-butylether (MTBE)	ND	10	10.0	ug/L	05/06/04	LB
Tert-amylmethylether (TAME)	ND	10	10.0	ug/L	05/06/04	LB
Tertiary butyl alcohol (TBA)	ND	10	100.0	ug/L	05/06/04	LB
Toluene	70	10	50.0	ug/L	05/06/04	LB
Xylenes, total	2620	10	50.0	ug/L	05/06/04	LB
				<b>Units</b>	<b>Control Limits</b>	
Surr1 - Dibromofluoromethane	83			%	70 - 130	
Surr2 - 1,2-Dichloroethane-d4	119			%	70 - 130	
Surr3 - Toluene-d8	100			%	70 - 130	
Surr4 - p-Bromofluorobenzene	96			%	70 - 130	

**8015M - Gasoline**

Gasoline	10300	20	1000.0	ug/L	05/08/04	LZ
				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	145			%	55 - 200	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517736

Client: Stellar Environmental Solutions

Matrix: WATER

Client Sample ID: Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	0.1	mg/L	05/06/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	112			%	55 - 200

**8260B Volatile Organic Compounds**

1,2-Dibromoethane	ND	1	5	ug/L	05/05/04 LB
1,2-Dichloroethane	ND	1	5	ug/L	05/05/04 LB
Benzene	ND	1	1	ug/L	05/05/04 LB
Ethyl benzene	ND	1	5	ug/L	05/05/04 LB
Ethyl-tertbutylether (ETBE)	ND	1	1	ug/L	05/05/04 LB
Isopropyl ether (DIPE)	ND	1	1	ug/L	05/05/04 LB
Methyl-tert-butylether (MTBE)	ND	1	1	ug/L	05/05/04 LB
Tert-amylmethylether (TAME)	ND	1	1	ug/L	05/05/04 LB
Tertiary butyl alcohol (TBA)	ND	1	10	ug/L	05/05/04 LB
Toluene	ND	1	5	ug/L	05/05/04 LB
Xylenes, total	ND	1	5	ug/L	05/05/04 LB
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
Surr1 - Dibromofluoromethane	79			%	70 - 130
Surr2 - 1,2-Dichloroethane-d4	117			%	70 - 130
Surr3 - Toluene-d8	97			%	70 - 130
Surr4 - p-Bromofluorobenzene	97			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	50	ug/L	05/07/04 LZ
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	103			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



**ASSOCIATED LABORATORIES  
QA REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: WATER  
 Prep. Date: 05/07/04  
 Analysis Date: 05/07/04-05/08/04  
 ID#'s in Batch: LR 128787, 128678, 128669  
 Reporting Units = ug/L

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

		PREP BLK						
		Value	Result	True	%Rec	L.Limit	H.Limit	
Test	Method	LCS	ND	490	500	98	80%	120%
TPH	8015M-G	LCSD	ND	484	500	97	80%	120%

*LCS Result = Lab Control Sample Result  
 True = True Value of LCS  
 L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	103
LCS	167
LCSD	166

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

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS/LCSD  
 Matrix: WATER  
 Extraction Method : 3510 B  
 Prep. Date: 05/05/04  
 Analysis Date: 05/06/04  
 ID#'s in Batch: LR 128678, 128831  
 Reporting Units = mg/L

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

			PREP BLK					
			Value	Result	True	%Rec	L.Limit	H.Limit
Test	Method	LCS	ND	0.79	1	79	70%	130%
DIESEL	8015D	LCSD	ND	0.84	1	84	70%	130%

*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	O-Terphenyl
QC Limit	55-200
Method Blank	112
LCS	150
LCSD	155



ASSOCIATED LABORATORIES  
**QA REPORT FORM - METHOD 8260 / 624 / 524.2**

QC Sample: MS / MSD - Water Samples 128670-691  
 Analysis Date: 05/06/04  
 Applies to: LR 128752, 128613, 128612, 128614, 128678, 128670

Reporting Units = ug/L

**Matrix Spike / Matrix Spike Duplicate**

Test	Sample Result	Spike Added	Matrix Spike	Matrix Spk. Dup	%Rec MS	%Rec MSD	RPD	QC Limits	
								RPD	%REC
1,1-Dichloroethene	ND	50	43.16	42.01	86	84	3	22	59-172
MTBE	ND	50	44.67	45.39	89	91	2	24	62-137
Benzene	ND	50	44.37	44.04	89	88	1	24	62-137
Trichloroethene	ND	50	36.40	34.74	73	69	5	21	66-142
Toluene	ND	50	41.77	41.32	84	83	1	21	59-139
Chlorobenzene	ND	50	40.57	41.31	81	83	2	21	60-133

QC Sample: LCS/LCSD  
 Analysis Date: 05/05/04

**Lab Controlled Spike / Lab Controlled Spike Duplicate**

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits	
								RPD	%REC
1,1-Dichloroethene	ND	50	49.99	53.56	100	107	7	22	59-172
MTBE	ND	50	49.71	54.50	99	109	9	24	62-137
Benzene	ND	50	50.30	54.95	101	110	9	24	62-137
Trichloroethene	ND	50	41.79	44.47	84	89	6	21	66-142
Toluene	ND	50	46.90	51.38	94	103	9	21	59-139
Chlorobenzene	ND	50	47.17	50.65	94	101	7	21	60-133

Method Blank = All ND

**SURROGATE ( QC Limits : 70-135 )**

Compounds	DBFM	1,2-DCA	Tol-d8	p-BFB
MS	76	110	100	90
MSD	76	111	97	94
LCS	77	112	100	91
LCSD	78	110	99	91
BLANK # 1	79	117	97	97
BLANK # 2	80	122	99	96

ASSOCIATED LABORATORIES  
LCS REPORT FORM - METHOD 8260 / 624 / 524.2

QC Sample: LCS/LCSD - Soil Samples

Analysis Date: 05/06/04

Applies to: LR 128678, 128670, 128789

Reporting Units = ug/Kg

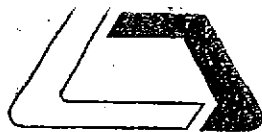
**Lab Controlled Spike / Lab Controlled Spike Duplicate**

Test	Sample Result	Spike Added	LCS Spike	LCS Spk. Dup	%Rec LCS	%Rec LCS D	RPD	QC Limits	
								RPD	%REC
1,1-Dichloroethene	ND	50	55.27	56.30	111	113	2	22	59-172
MTBE	ND	50	58.29	58.64	117	117	1	24	62-137
Benzene	ND	50	57.18	58.05	114	116	2	24	62-137
Trichloroethene	ND	50	48.46	49.34	97	99	2	21	66-142
Toluene	ND	50	51.93	52.74	104	105	2	21	59-139
Chlorobenzene	ND	50	51.68	53.95	103	108	4	21	60-133

Method Blank = All ND

**SURROGATE ( QC Limits : 70-135 )**

Compounds	DBFM	1,2-DCA	Tol-d8	p-BFB
LCS	78	111	98	94
LCSD	81	115	99	93
BLANK # 1	77	119	99	96
BLANK # 2	79	117	101	95



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

Cooler Receipt Form

Client: Stellar Project: 2003-43

Date Cooler Received: 5/4 Date Cooler Opened: 5/4

Was cooler scanned for presence of radioactivity? Yes/No  
If yes was radioactivity results above 25 cpm? Yes/No

Was a shipper's packing slip attached to the cooler? Yes/No

If the cooler had custody seal(s), were they signed and intact? Yes/No/Na

Was the cooler packed with: Ice  Ice Packs  Bubble wrap   
Styrofoam  Paper  None  Other

Cooler Temperature: 5.0°C \*

\*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C? Yes/No

If no explain: \_\_\_\_\_

Were all samples sealed in plastic bags? Yes/No

Did all samples arrive intact? If no, indicate below. Yes/No

Were all samples labeled correctly? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers? Yes/No

Were any VOA vials received with head space? Yes/No/Na

Was the correct preservatives used? Yes/No/Na  
If no, see the pH log for a list of samples containers regarding pH

Any other important information: \_\_\_\_\_

Receiving Department: W Date: 5/4

# Chain of Custody Record

Lab Job no. \_\_\_\_\_  
 Date 4/30/04  
 Page 1 of 1

Laboratory Associated Labs  
 Address 806 N. Batavia  
Orange CA  
714-771-6900  
 Project Owner Glen Poy-Wing  
 Site Address 240 W. Macarthur Blvd.  
Oakland CA  
 Project Name Oakland Auto Works  
 Project Number 2003-43

Method of Shipment Overnight courier  
 Shipment No. \_\_\_\_\_  
 Airbill No. \_\_\_\_\_  
 Cooler No. \_\_\_\_\_  
 Project Manager Bruce Rucker  
 Telephone No. (510) 644-3123  
 Fax No. (510) 644-3859  
 Samplers: (Signature) B.M. Rucker

120678

Filtered	No. of Containers	Analysis Required										Remarks	
		TVH-gg2 (805)	TEH-Jigal (805)	BTEX/HTBE (8260)	EDS/EDC (8260)	5 Fuel Organics (8260)							
		X	X	X	X	X							(*) Analyze by EPA 8060. (BMR)
		X	X	X	X	X							Otherwise, analyze by EPA 8021
		X	X	X	X	X							
		X	X	X	X	X							

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation												
						Cooler	Chemical											
BH-17-GW		4/30/04		H <sub>2</sub> O	see below	Yes	See below	No	4	X	X	X	X	X				
BH-18-GW									4	X	X	X	X	X				
BH-19-GW									4	X	X	X	X	X				
BH-20-GW									4	X	X	X	X	X				
BH-21-GW									4	X	X	X	X	X				

Relinquished by: Signature <u>B.M. Rucker</u> Printed <u>B.M. Rucker</u> Company <u>Stellar Env. Solns</u>	Date <u>5/3/04</u>	Received by: Signature <u>[Signature]</u> Printed _____ Company _____	Date <u>5-4-04/10:55</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____	Received by: Signature <u>[Signature]</u> Printed <u>DUONG WU</u> Company <u>Associated Lab</u>	Date <u>5/4</u>		
Turnaround Time: _____ Comments: <u>TVHg bottles are (3) 40 ml VOA's w/HCl (gas)</u> <u>+ (1) 1-L amber glass unpreserved (diesel)</u>				Relinquished by: Signature _____ Printed _____ Company _____				Date _____	



**ASSOCIATED LABORATORIES**

806 North Batavia - Orange, California 92868 - 714/771-6900

FAX 714/538-1209

CLIENT Stellar Environmental Solutions (10503)  
ATTN: Bruce Rucker  
2198 Sixth Street  
#201  
Berkeley, CA 94710

LAB REQUEST 128611

REPORTED 05/07/2004

RECEIVED 05/01/2004

PROJECT #2003-43  
Oakland Auto Works

SUBMITTER Client

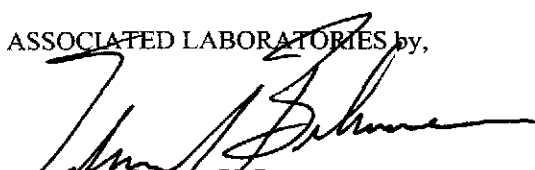
COMMENTS

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.

<u>Order No.</u>	<u>Client Sample Identification</u>
517186	BH-10-4.5'
517187	BH-10-9.5'
517188	BH-10-12'
517189	BH-10-17'
517190	BH-10-20.5'
517191	BH-10-23.5'
517192	BH-11-4.5'
517193	BH-11-9.5'
517194	BH-11-15'
517195	BH-11-21.5'
517196	BH-11-23.5'
517197	BH-12-4.5'
517198	BH-12-9.5'
517199	BH-12-12'
517200	BH-12-16'-20'

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.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

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: Bruce Rucker  
2198 Sixth Street  
#201  
Berkeley, CA 94710

LAB REQUEST 128611

REPORTED 05/07/2004

RECEIVED 05/01/2004

PROJECT #2003-43  
Oakland Auto Works

SUBMITTER Client

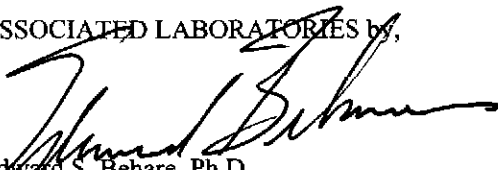
COMMENTS

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.

<u>Order No.</u>	<u>Client Sample Identification</u>
517201	BH-12-20.5'
517202	BH-12-23.5'
517203	BH-13-4.5'
517204	BH-13-9.5'
517205	BH-13-15.5'
517206	BH-13-19.5'
517207	BH-13-23.5'
517208	BH-14-4.5'
517209	BH-14-9.5'
517210	BH-14-16'
517211	BH-14-20'
517212	BH-14-21.5'
517213	BH-15-4.5'
517214	BH-15-9.5'
517215	BH-15-15'

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.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

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: Bruce Rucker  
2198 Sixth Street  
#201  
Berkeley, CA 94710

LAB REQUEST 128611

REPORTED 05/07/2004

RECEIVED 05/01/2004

PROJECT #2003-43  
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.

<u>Order No.</u>	<u>Client Sample Identification</u>
517216	BH-15-20'
517217	BH-15-23.5'
517218	BH-16-4.5'
517219	BH-16-9.5'
517220	BH-16-15'
517221	BH-16-20'
517222	BH-16-23.5'
517223	BH-16-27.5'
517224	Laboratory Method Blank

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.*

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

TESTING & CONSULTING  
Chemical  
Microbiological  
Environmental

Order #: 517186

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-10-4.5'

Date Sampled: 04/29/2004

Time Sampled: 07:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.5	1	1.0	mg/Kg	05/04/04 AF
				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	100			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT
				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	66			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	66			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor





Order #: 517187

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-10-9.5'

Date Sampled: 04/29/2004

Time Sampled: 07:45

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.4	1	1.0	mg/Kg	05/04/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	106			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	62			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	62			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517188

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-10-12'

Date Sampled: 04/29/2004

Time Sampled: 08:00

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.4	1	1.0	mg/Kg	05/04/04	AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
o-Terphenyl (sur)	109			%	55 - 200	

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	102			%	70 - 130	

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	102			%	55 - 200	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517189

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-10-17

Date Sampled: 04/29/2004

Time Sampled: 08:10

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.3	1	1.0	mg/Kg	05/04/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	113			%	55 - 200

**021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	114			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	114			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517190

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-10-20.5'

Date Sampled: 04/29/2004

Time Sampled: 08:20

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	2.2	1	1.0	mg/Kg	05/04/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

Units Control Limits

o-Terphenyl (sur)	110			%	55 - 200	
-------------------	-----	--	--	---	----------	--

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
---------	----	---	-------	-------	----------	----

Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
---------------	----	---	-------	-------	----------	----

Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
------------------------	----	---	-------	-------	----------	----

Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
---------	----	---	-------	-------	----------	----

Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT
----------------	----	---	-------	-------	----------	----

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	113			%	70 - 130	
------------------------	-----	--	--	---	----------	--

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	113			%	55 - 200	
------------------------	-----	--	--	---	----------	--

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517191

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-10-23.5'

Date Sampled: 04/29/2004

Time Sampled: 08:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.2	1	1.0	mg/Kg	05/04/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	109	% 55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	100	% 70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	100	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517192

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-11-4.5'

Date Sampled: 04/29/2004

Time Sampled: 09:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.6	1	1.0	mg/Kg	05/04/04	AF
				<b>Units</b>	<b>Control Limits</b>	
o-Terphenyl (sur)	114			%	55 - 200	

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT
				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	114			%	70 - 130	

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	114			%	55 - 200	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517193

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-11-9.5'

Date Sampled: 04/29/2004

Time Sampled: 09:45

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.1	1	1.0	mg/Kg	05/04/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	106	% 55 - 200

**021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	114	% 70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	114	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517194

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-11-15'

Date Sampled: 04/29/2004

Time Sampled: 10:05

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.4	1	1.0	mg/Kg	05/04/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

Units Control Limits

o-Terphenyl (sur)	113			%	55 - 200	
-------------------	-----	--	--	---	----------	--

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
---------	----	---	-------	-------	----------	----

Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
---------------	----	---	-------	-------	----------	----

Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
------------------------	----	---	-------	-------	----------	----

Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
---------	----	---	-------	-------	----------	----

Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT
----------------	----	---	-------	-------	----------	----

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	114			%	70 - 130	
------------------------	-----	--	--	---	----------	--

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	114			%	55 - 200	
------------------------	-----	--	--	---	----------	--

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor





Order #: 517195

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-11-21.5'

Date Sampled: 04/29/2004

Time Sampled: 10:20

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	2.5	1	1.0	mg/Kg	05/04/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	97	% 55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	102	% 70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	102	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517196

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-11-23.5'

Date Sampled: 04/29/2004

Time Sampled: 10:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.0	1	1.0	mg/Kg	05/04/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	79			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	62			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	62			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517197

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-12-4.5'

Date Sampled: 04/29/2004

Time Sampled: 11:05

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	2.2	1	1.0	mg/Kg	05/04/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	88			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	99			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	99			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517198

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-12-9.5'

Date Sampled: 04/29/2004

Time Sampled: 11:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.1	1	1.0	mg/Kg	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	89			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	99			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	99			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517199

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-12-12'

Date Sampled: 04/29/2004

Time Sampled: 11:25

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.5	1	1.0	mg/Kg	05/05/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	122			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	106			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	106			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517200

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-12-16-20

Date Sampled: 04/29/2004

Time Sampled: 11:40

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.8	1	1.0	mg/Kg	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	122			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	109			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	109			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517201

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-12-20.5'

Date Sampled: 04/29/2004

Time Sampled: 11:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.6	1	1.0	mg/Kg	05/05/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	120			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	107			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	107			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517202

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-12-23.5'

Date Sampled: 04/29/2004

Time Sampled: 12:05

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.0	1	1.0	mg/Kg	05/05/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	97			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
---------	----	---	-------	-------	----------	----

Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
---------------	----	---	-------	-------	----------	----

Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
------------------------	----	---	-------	-------	----------	----

Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
---------	----	---	-------	-------	----------	----

Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT
----------------	----	---	-------	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	99			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	99			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report





Order #: 517203

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-13-4.5'

Date Sampled: 04/29/2004

Time Sampled: 12:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.0	1	1.0	mg/Kg	05/05/04 AF
-------------	-----	---	-----	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	124			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04 LT
---------	----	---	-------	-------	-------------

Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04 LT
---------------	----	---	-------	-------	-------------

Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04 LT
------------------------	----	---	-------	-------	-------------

Toluene	ND	1	0.005	mg/Kg	05/05/04 LT
---------	----	---	-------	-------	-------------

Xylene (total)	ND	1	0.015	mg/Kg	05/05/04 LT
----------------	----	---	-------	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	107			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	107			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517204

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-13-9.5'

Date Sampled: 04/29/2004

Time Sampled: 13:00

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.5	1	1.0	mg/Kg	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	126			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04 LT
Toluene	ND	1	0.005	mg/Kg	05/05/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	103			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	103			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517205

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-13-15.5'

Date Sampled: 04/29/2004

Time Sampled: 13:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	215	10	10.0	mg/Kg	05/04/04	AF
-------------	-----	----	------	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	144			%	55 - 200

**8021B BTEX + MTBE**

Benzene	3.3	100	0.5	mg/Kg	05/05/04	LT
Ethyl benzene	14	100	0.5	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	100	3.5	mg/Kg	05/05/04	LT
Toluene	6.5	100	0.5	mg/Kg	05/05/04	LT
Xylene (total)	142	500	7.5	mg/Kg	05/06/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	170			%	70 - 130

**8015M - Gasoline**

Gasoline	3240	250	750.0	mg/Kg	05/06/04	LT
----------	------	-----	-------	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	120			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517206

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-13-19.5'

Date Sampled: 04/29/2004

Time Sampled: 13:25

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	3.0	1	1.0	mg/Kg	05/05/04	AF
<b>Surrogates</b>				<b>Units</b>		<b>Control Limits</b>
o-Terphenyl (sur)	112			%		55 - 200

**8021B BTEX + MTBE**

Benzene	0.21	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT
<b>Surrogates</b>				<b>Units</b>		<b>Control Limits</b>
a,a,a-Trifluorotoluene	135			%		70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
<b>Surrogates</b>				<b>Units</b>		<b>Control Limits</b>
a,a,a-Trifluorotoluene	135			%		55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517207

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-13-23.5'

Date Sampled: 04/29/2004

Time Sampled: 13:35

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/04/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	107			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	107			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	107			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517208

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-14-4.5'

Date Sampled: 04/29/2004

Time Sampled: 15:00

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/04/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	101	% 55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	95	% 70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	95	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517209

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-14-9.5'

Date Sampled: 04/29/2004

Time Sampled: 15:10

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/04/04	AF
				<b>Units</b>	<b>Control Limits</b>	
o-Terphenyl (sur)	105			%	55 - 200	

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT
				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	108			%	70 - 130	

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	108			%	55 - 200	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517210

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-14-16'

Date Sampled: 04/29/2004

Time Sampled: 15:20

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/04/04	AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
o-Terphenyl (sur)	115			%	55 - 200	

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	113			%	70 - 130	

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>	
a,a,a-Trifluorotoluene	113			%	55 - 200	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor





Order #: 517211

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-14-20'

Date Sampled: 04/29/2004

Time Sampled: 15:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/05/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

	Units	Control Limits
o-Terphenyl (sur)	93	% 55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	110	% 70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Units	Control Limits
a,a,a-Trifluorotoluene	110	% 55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517212

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-14-21.5'

Date Sampled: 04/29/2004

Time Sampled: 15:35

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	109			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04 LT
Toluene	ND	1	0.005	mg/Kg	05/05/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	100			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	100			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517213

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-15-4.5'

Date Sampled: 04/29/2004

Time Sampled: 16:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/04/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	103			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	106			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	106			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517214

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-15-9.5'

Date Sampled: 04/29/2004

Time Sampled: 16:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.2	1	1.0	mg/Kg	05/05/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

Units Control Limits

o-Terphenyl (sur)	115			%	55 - 200	
-------------------	-----	--	--	---	----------	--

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	115			%	70 - 130	
------------------------	-----	--	--	---	----------	--

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	115			%	55 - 200	
------------------------	-----	--	--	---	----------	--

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517215

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-15-15'

Date Sampled: 04/29/2004

Time Sampled: 16:45

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/05/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	113			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04	LT
Toluene	ND	1	0.005	mg/Kg	05/04/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04	LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	89			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	89			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517216  
 Matrix: SOLID  
 Date Sampled: 04/29/2004  
 Time Sampled: 16:50  
 Sampled By:

Client: Stellar Environmental Solutions  
 Client Sample ID: BH-15-20

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	112			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04 LT
Toluene	ND	1	0.005	mg/Kg	05/05/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	85			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	85			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517217

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-15-23.5'

Date Sampled: 04/29/2004

Time Sampled: 17:00

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/05/04 AF
-------------	----	---	-----	-------	-------------

**Surrogates**

				Units	Control Limits
o-Terphenyl (sur)	81			%	55 - 200

**021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04 LT
Toluene	ND	1	0.005	mg/Kg	05/05/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04 LT

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	89			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04 LT
----------	----	---	---	-------	-------------

**Surrogates**

				Units	Control Limits
a,a,a-Trifluorotoluene	89			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517218

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-16-4.5

Date Sampled: 04/29/2004

Time Sampled: 17:50

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/05/04	AF
-------------	----	---	-----	-------	----------	----

**Surrogates**

Units Control Limits

o-Terphenyl (sur)	112			%	55 - 200	
-------------------	-----	--	--	---	----------	--

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
---------	----	---	-------	-------	----------	----

Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
---------------	----	---	-------	-------	----------	----

Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
------------------------	----	---	-------	-------	----------	----

Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
---------	----	---	-------	-------	----------	----

Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT
----------------	----	---	-------	-------	----------	----

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	84			%	70 - 130	
------------------------	----	--	--	---	----------	--

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

Units Control Limits

a,a,a-Trifluorotoluene	84			%	55 - 200	
------------------------	----	--	--	---	----------	--

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor





Order #: 517219

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-16-9.5'

Date Sampled: 04/29/2004

Time Sampled: 18:00

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.2	1	1.0	mg/Kg	05/05/04	AF
-------------	-----	---	-----	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	98			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04	LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04	LT
Toluene	ND	1	0.005	mg/Kg	05/05/04	LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04	LT

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	84			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/05/04	LT
----------	----	---	---	-------	----------	----

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	84			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517220

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-16-15'

Date Sampled: 04/29/2004

Time Sampled: 18:15

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	10	10	10.0	mg/Kg	05/04/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	142			%	55 - 200

**8021B BTEX + MTBE**

Benzene	2.8	500	2.5	mg/Kg	05/05/04 LT
Ethyl benzene	19	500	2.5	mg/Kg	05/05/04 LT
Methyl t - butyl ether	ND	500	17.5	mg/Kg	05/05/04 LT
Toluene	12	500	2.5	mg/Kg	05/05/04 LT
Xylene (total)	72	500	7.5	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	171			%	70 - 130

**8015M - Gasoline**

Gasoline	2950	500	1500.0	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	171			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor

**ASSOCIATED LABORATORIES**

Analytical Results Report



Order #: 517221

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-16-20'

Date Sampled: 04/29/2004

Time Sampled: 18:35

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	10	10	10.0	mg/Kg	05/04/04 AF
-------------	----	----	------	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
o-Terphenyl (sur)	127			%	55 - 200

**801B BTEX + MTBE**

Benzene	ND	50	0.25	mg/Kg	05/06/04 LT
Ethyl benzene	ND	50	0.25	mg/Kg	05/06/04 LT
Methyl t - butyl ether	ND	50	1.75	mg/Kg	05/06/04 LT
Toluene	1.2	50	0.25	mg/Kg	05/06/04 LT
Xylene (total)	6.9	50	0.75	mg/Kg	05/06/04 LT

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	140			%	70 - 130

**8015M - Gasoline**

Gasoline	352	50	150.0	mg/Kg	05/06/04 LT
----------	-----	----	-------	-------	-------------

**Surrogates**

	Result	DF	DLR	Units	Control Limits
a,a,a-Trifluorotoluene	140			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517222  
 Matrix: SOLID  
 Date Sampled: 04/29/2004  
 Time Sampled: 18:50  
 Sampled By:

Client: Stellar Environmental Solutions  
 Client Sample ID: BH-16-23.5'

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	1.8	1	1.0	mg/Kg	05/05/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	74			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Ethyl benzene	0.027	1	0.005	mg/Kg	05/05/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/05/04 LT
Toluene	0.015	1	0.005	mg/Kg	05/05/04 LT
Xylene (total)	0.081	1	0.015	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	129			%	70 - 130

**8015M - Gasoline**

Gasoline	4.0	1	3	mg/Kg	05/05/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	129			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517223

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: BH-16-27.5'

Date Sampled: 04/29/2004

Time Sampled: 19:30

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
<b>8015 TEPH Diesel</b>					
TEPH Diesel	ND	1	1.0	mg/Kg	05/12/04 AF
				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	91			%	55 - 200
<b>8021B BTEX + MTBE</b>					
Benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/05/04 LT
Methyl t - butyl ether	0.043	1	0.035	mg/Kg	05/05/04 LT
Toluene	ND	1	0.005	mg/Kg	05/05/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/05/04 LT
				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	127			%	70 - 130
<b>8015M - Gasoline</b>					
Gasoline	ND	1	3	mg/Kg	05/05/04 LT
				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	127			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



Order #: 517224

Client: Stellar Environmental Solutions

Matrix: SOLID

Client Sample ID: Laboratory Method Blank

Date Sampled:

Time Sampled:

Sampled By:

Analyte	Result	DF	DLR	Units	Date/Analyst
---------	--------	----	-----	-------	--------------

**8015 TEPH Diesel**

TEPH Diesel	ND	1	1.0	mg/Kg	05/04/04 AF
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
o-Terphenyl (sur)	117			%	55 - 200

**8021B BTEX + MTBE**

Benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Ethyl benzene	ND	1	0.005	mg/Kg	05/04/04 LT
Methyl t - butyl ether	ND	1	0.035	mg/Kg	05/04/04 LT
Toluene	ND	1	0.005	mg/Kg	05/04/04 LT
Xylene (total)	ND	1	0.015	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	105			%	70 - 130

**8015M - Gasoline**

Gasoline	ND	1	3	mg/Kg	05/04/04 LT
<b>Surrogates</b>				<b>Units</b>	<b>Control Limits</b>
a,a,a-Trifluorotoluene	105			%	55 - 200

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit, DF = Dilution Factor



## ASSOCIATED LABORATORIES

### NARRATIVE

Date: May 13, 2004

**Narrative for Lab Request LR: 128611**

**Client Project Identification:**

Project: #2003-43 Oakland Auto Works

This narrative includes all samples as shown on the attached Lab Request final report.

**Analyses Requested:**

- EPA 8015 – TEPH Diesel.
- EPA 8015M – Gasoline.
- EPA 8021B – BTEX & MTBE.

**Data Validation:**

**Holding Times**

All EPA designated holding times were met.

**Calibration**

Initial calibration criteria were met for all analytes. Initial and Continuing Calibration Check samples were run at the required frequency. All results were within required limits.

**Quality Control Samples**

All QC results were within acceptance criteria for all methods.

**Other Anomalies or Comments**

The reporting limit (DLR) is adjusted if dilution of the sample is necessary. For EPA 8021B, the surrogate recovery limits on the report are not correct. The correct limits are on the QC summary sheets, which is 55-200%.

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS/LCSD  
 Matrix: SOLID  
 Extraction Method : 3545  
 Prep. Date: 05/03/04  
 Analysis Date: 05/03/04  
 ID#'s in Batch: LR 128579, 128611  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

			PREP BLK					
			Value	Result	True	%Rec	L.Limit	H.Limit
Test	Method	LCS	ND	19.5	25	78	70%	130%
DIESEL	8015D	LCSD	ND	18.0	25	72	70%	130%

*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	O-Terphenyl
QC Limit	55-200
Method Blank	121
LCS	115
LCSD	108



ASSOCIATED LABORATORIES  
LCS REPORT FORM

QC Sample: LCS/LCSD  
 Matrix: SOLID  
 Extraction Method : 3545  
 Prep. Date: 05/04/04  
 Analysis Date: 05/04/04  
 ID#'s in Batch: LR 128611  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

			PREP BLK					
			Value	Result	True	%Rec	L.Limit	H.Limit
Test	Method	LCS	ND	22.0	25	88	70%	130%
DIESEL	8015D	LCSD	ND	24.5	25	98	70%	130%

*LCS Result = Lab Control Sample Result*

*True = True Value of LCS*

*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	O-Terphenyl
QC Limit	55-200
Method Blank	117
LCS	130
LCSD	142

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: SOLID  
 Prep. Date: 05/04/04  
 Analysis Date: 05/04/04-05/05/04  
 ID#'s in Batch: LR 128611  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

		PREP BLK						
		Value	Result	True	%Rec	L.Limit	H.Limit	
Test	Method	LCS	ND	4.8	5	96	80%	120%
TPH	8015M-G	LCSD	ND	4.6	5	92	80%	120%

*LCS Result = Lab Control Sample Result  
 True = True Value of LCS  
 L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	105
LCS	144
LCSD	140

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

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: SOLID  
 Prep. Date: 05/04/04  
 Analysis Date: 05/04/04-05/05/04  
 ID#'s in Batch: LR 128611  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

			PREP BLK					
			Value	Result	True	%Rec	L.Limit	H.Limit
Test	Method	LCS	ND	5.1	5	102	80%	120%
TPH	8015M-G	LCSD	ND	5.1	5	102	80%	120%

*LCS Result = Lab Control Sample Result  
 True = True Value of LCS  
 L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	96
LCS	118
LCSD	119

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

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: SOLID  
 Prep. Date: 05/05/04  
 Analysis Date: 05/05/04  
 ID#'s in Batch: LR 128777, 128611  
 Reporting Units = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

		PREP BLK						
		Value	Result	True	%Rec	L.Limit	H.Limit	
Test	Method	LCS	ND	4.9	5	98	80%	120%
TPH	8015M-G	LCSD	ND	4.9	5	98	80%	120%

*LCS Result = Lab Control Sample Result*  
*True = True Value of LCS*  
*L.Limit / H.Limit = LCS Control Limits*

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	119
LCS	135
LCSD	138

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

ASSOCIATED LABORATORIES  
LCS REPORT FORM

QC Sample: LCS / LCSD

Matrix: SOLID

Prep. Date: 05/04/04

Analysis Date: 05/04/04-05/05/04

LAB ID#'s in Batch: LR 128611

REPORTING UNITS = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

Test	Method	PREP. BLK	LCS			LCSD	
		Value	Result	TRUE	%Rec	Result	%Rec
Benzene	8021	ND	0.020	0.02	100	0.020	100
Toluene	8021	ND	0.020	0.02	100	0.020	100
Ethylbenzene	8021	ND	0.020	0.02	100	0.020	100
Xylenes	8021	ND	0.060	0.06	100	0.063	105

LCS = Lab Control Sample Result

TRUE = True Value of LCS

L.LIMIT / H.LIMIT = LCS Control Limits

L.Limit	H.Limit
80%	120%

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	105
LCS	105
LCSD	103

AAA-TFT = a,a,a-Trifluorotoluene

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: SOLID  
 Prep. Date: 05/04/04  
 Analysis Date: 05/04/04-05/05/04  
 LAB ID#'s in Batch: LR 128611

REPORTING UNITS = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

Test	Method	PREP. BLK	LCS			LCSD	
		Value	Result	TRUE	%Rec	Result	%Rec
Benzene	8021	ND	0.017	0.02	85	0.018	90
Toluene	8021	ND	0.021	0.02	105	0.021	105
Ethylbenzene	8021	ND	0.020	0.02	100	0.021	105
Xylenes	8021	ND	0.070	0.06	117	0.069	115

*LCS = Lab Control Sample Result*  
*TRUE = True Value of LCS*  
*L.LIMIT / H.LIMIT = LCS Control Limits*

<i>L.Limit</i>	<i>H.Limit</i>
80%	120%

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	119
LCS	94
LCSD	95

*AAA-TFT = a.a.a-Trifluorotoluene*

**ASSOCIATED LABORATORIES  
LCS REPORT FORM**

QC Sample: LCS / LCSD  
 Matrix: SOLID  
 Prep. Date: 05/04/04  
 Analysis Date: 05/04/04-05/05/04  
 LAB ID#'s in Batch: LR 128611

REPORTING UNITS = mg/Kg

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

Test	Method	PREP. BLK	LCS			LCSD	
		Value	Result	TRUE	%Rec	Result	%Rec
Benzene	8021	ND	0.022	0.02	110	0.022	110
Toluene	8021	ND	0.022	0.02	110	0.022	110
Ethylbenzene	8021	ND	0.022	0.02	110	0.022	110
Xylenes	8021	ND	0.067	0.06	112	0.066	110

*LCS = Lab Control Sample Result*  
*TRUE = True Value of LCS*  
*L.LIMIT / H.LIMIT = LCS Control Limits*

<i>L.Limit</i>	<i>H.Limit</i>
80%	120%

**SURROGATE RECOVERY**

Sample No.	AAA-TFT
QC Limit	55-200
Method Blank	96
LCS	95
LCSD	98

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



ASSOCIATED LABORATORIES

806 North Batavia - Orange, California 92868-1225 - 714/771-6900 FAX 714/538-1209

### Cooler Receipt Form

Client: Stelker Project: \_\_\_\_\_

Date Cooler Received: 5/1/04 Date Cooler Opened: 5/1/04

Was cooler scanned for presence of radioactivity?  
If yes was radioactivity results above 25 cpm? Yes/No  
Yes/No

Was a shipper's packing slip attached to the cooler? Yes/No

If the cooler had custody seal(s), were they signed and intact? Yes/No/Na

Was the cooler packed with: Ice x Ice Packs \_\_\_\_\_ Bubble wrap \_\_\_\_\_  
Styrofoam \_\_\_\_\_ Paper \_\_\_\_\_ None \_\_\_\_\_ Other \_\_\_\_\_

Cooler Temperature: 3.0 °C \*  
\*cooler needs to be received @ 4°C with an acceptable range of 2°- 6 °C

If samples were hand delivered do they meet the temp. criteria, which should be @ 4°C with an acceptable range of 2°- 6 °C? Yes/No

If no explain: \_\_\_\_\_

Were all samples sealed in plastic bags? Yes/No

Did all samples arrive intact? If no, indicate below. Yes/No

Were all samples labeled correctly? (ID's Dates, Times) If no, indicate below. Yes/No

Can the tests required be ran with the provided containers, If no indicate below. Yes/No

Was sufficient sample volume sent for all containers? Yes/No

Were any VOA vials received with head space? Yes/No/Na

Was the correct preservatives used?  
If no, see the pH log for a list of samples containers regarding pH Yes/No/Na

Any other important information: \_\_\_\_\_

Receiving Department: [Signature] Date: 5/1/04



# Chain of Custody Record

Lab Job no. \_\_\_\_\_  
 Date 4/29/04  
 Page 1 of 4

Laboratory Associated Labs  
 Address 806 N. Basterra  
Orange CA  
714-771-6900  
 Project Owner Gen Poy-wing  
 Site Address 240 W. MacArthur Blvd.  
Oakland CA  
 Project Name Oakland Auto Works  
 Project Number 0003-43

Method of Shipment Overnight courier  
 Shipment No. \_\_\_\_\_  
 Airbill No. \_\_\_\_\_  
 Cooler No. \_\_\_\_\_  
 Project Manager Bruce Rucker  
 Telephone No. (510) 644-3123  
 Fax No. (510) 644-3859  
 Samplers: (Signature) B.M. Rucker

128611

Filtered	No. of Containers	Analysis Required										Remarks			
		TVH-302 (805)	TEH-302 (805)	BTX-302 (805)	ES&LEA (805)										
	1	X	X	X											

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Analysis Required										Remarks				
						Cooler	Chemical	TVH-302 (805)	TEH-302 (805)	BTX-302 (805)	ES&LEA (805)											
BH-10-4.5'		4/29/04	730	Soil	Acetate Sleeve	Yes	NO	1	X	X	X											(u) Analyze by EPA 8260. (BMR)
BH-10-9.5'			745					1	X	X	X											Otherwise analyze by EPA 8021
BH-10-12'			800					1	X	X	X											
BH-10-17'			810					1	X	X	X											
BH-10-20.5'			820					1	X	X	X											
BH-10-23.5'			830					1	X	X	X											
BH-11-4.5'			930					1	X	X	X											
BH-11-9.5'			945					1	X	X	X											
BH-11-15'			1005					1	X	X	X											
BH-11-21.5'			1020					1	X	X	X											
BH-11-23.5'			1030					1	X	X	X											

Relinquished by: Signature <u>B.M. Rucker</u> Printed <u>B.M. Rucker</u> Company <u>Stellar Env. Solutions</u>	Date <u>4/30/04</u>	Received by: Signature <u>Ryan Lewis</u> Printed <u>Ryan Lewis</u> Company <u>Assoc. Labs</u>	Date <u>5/1/04</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____	Received by: Signature _____ Printed _____ Company _____	Date _____
---	------------------------	--	-----------------------	---	---------------	---	---------------

Turnaround Time: _____ Comments: _____	Relinquished by: Signature _____ Printed _____ Company _____	Date _____	Received by: Signature _____ Printed _____ Company _____	Date _____
---	---	---------------	---	---------------

# Chain of Custody Record

128611

Date 4/29/04  
Page 2 of 4

Laboratory Associated Labs  
Address 806 N. Barkway  
Orange CA  
714-771-6400  
Project Owner Glen Poy-Wing  
Site Address 240 W. MacArthur Blvd.  
Oakland CA  
Project Name Oakland Auto Works  
Project Number 2003-43

Method of Shipment Overnight courier  
Shipment No. -  
Airbill No. -  
Cooler No. -  
Project Manager Bruce Rucker  
Telephone No. (510) 644-3123  
Fax No. (510) 644-3859  
Samplers: (Signature) B.M. Rucker

Analysis Required										Remarks
Filtered	No. of Containers	TVH-902 (8015)	TEH-902 (8015)	BTEX/HITBE (8015)	EDS/TEX (8015)	Other	Other	Other	Other	
		X	X	X	X					(4) Analyze by EPA 8260. (BR) otherwise analyze by EPA 8021
		X	X	X	X					
		X	X	X	X					
		X	X	X	X					
		X	X	X	X					
		X	X	X	X					
		X	X	X	X					
		X	X	X	X					
		X	X	X	X					
		X	X	X	X					

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Analysis Required										Remarks				
						Cooler	Chemical	Filtered	No. of Containers	TVH-902 (8015)	TEH-902 (8015)	BTEX/HITBE (8015)	EDS/TEX (8015)	Other	Other	Other	Other					
BH-12-4.5'		4/29/04	1105	Soil	Acetate sleeve	Yes	No	1	X	X	X											(4) Analyze by EPA 8260. (BR) otherwise analyze by EPA 8021
BH-12-9.5'			1115					1	X	X	X											
BH-12-12'			1125					1	X	X	X											
BH-12-16'-20'			1140					1	X	X	X											
BH-12-20.5'			1150					1	X	X	X											
BH-12-23.5'			1205					1	X	X	X											
BH-13-4.5'			1250					1	X	X	X											
BH-13-9.5'			1300					1	X	X	X											
BH-13-15.5'			1315					1	X	X	X											
BH-13-19.5'			1335					1	X	X	X											
BH-13-23.5'			1335					2	X	X	X											

Relinquished by: Signature <u>B.M. Rucker</u> Printed <u>B.M. Rucker</u> Company <u>Stellar Env. Solns</u>	Date <u>4/30/04</u> Time	Received by: Signature <u>Ryan Lewis</u> Printed <u>Ryan Lewis</u> Company <u>Assoc. Labs</u>	Date <u>5/11/04</u> Time <u>10:50</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date Time	Received by: Signature _____ Printed _____ Company _____	Date Time
---	--------------------------------	--	--	---	--------------	---	--------------

Turnaround Time: _____ Comments: _____ _____	Relinquished by: Signature _____ Printed _____ Company _____	Date Time	Received by: Signature _____ Printed _____ Company _____	Date Time
--	---	--------------	---	--------------



128611

Date 4/30/04  
Page 4 of 4

Laboratory Associated Labs  
Address 806 N. Bateman  
Orange CA  
714-771-6900  
Project Owner Glen Poy-Wing  
Site Address 240 W. MacArthur Blvd.  
Oakland CA  
Project Name Oakland Auto Works  
Project Number 0003-43

Method of Shipment Overnight courier  
Shipment No. \_\_\_\_\_  
Airbill No. \_\_\_\_\_  
Cooler No. \_\_\_\_\_  
Project Manager Steve Rucker  
Telephone No. (510) 644-3123  
Fax No. (510) 644-3859  
Samplers: (Signature) B.M. Rucker

Filtered	No. of Containers	Analysis Required										Remarks			
		TVH-905	TEH-1001	BTEX/HISE	EDS/PAH (SM)										
		1	X	X	X										(u) Analyze by EPA 8060. (SMR)
		1	X	X	X										Otherwise analyze by EPA 8021
		1	X	X	X										
		1	X	X	X										
		1													HOLD

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation										
						Cooler	Chemical									
BH-16-4.5'		4/30/04	1750	Soil	acclate sleeve	Yes	No									
BH-16-9.5'			1800													
BH-16-15'			1815													
BH-16-20'			1835													
BH-16-23.5'			1850													
BH-16-27.5'			1930													

Relinquished by: B.M. Rucker  
Signature \_\_\_\_\_  
Printed B.M. Rucker  
Company Stellar Env. Sol's

Date 4/30/04  
Received by: Ryan Lewis  
Signature \_\_\_\_\_  
Printed Ryan Lewis  
Company Assoc. Labs

Date 5/1/04  
Relinquished by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Printed \_\_\_\_\_  
Company \_\_\_\_\_

Date \_\_\_\_\_  
Received by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Printed \_\_\_\_\_  
Company \_\_\_\_\_

Turnaround Time: \_\_\_\_\_  
Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Relinquished by: \_\_\_\_\_  
Signature \_\_\_\_\_  
Printed \_\_\_\_\_  
Company \_\_\_\_\_