

Alameda County

OCT 28 2008

Environmental Health

PHASE II ENVIRONMENTAL SITE ASSESSMENT

SHELL OIL PRODUCTS US, SAP #135696
820 PORTWOOD AVENUE
OAKLAND, CALIFORNIA

DELTA PROJECT NO. CASHL-BADW-A-135696

Prepared for:

Shell Oil Products US
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14 ppb MTBE

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820 PORTWOOD AVE.
OAKLAND, CALIFORNIA
DELTA PROJECT NO. CASHL-BADW-A-135696**

EXECUTIVE SUMMARY

Delta Consultants (Delta) on behalf of Shell Oil Products US has completed a Phase II Environmental Site Assessment (Phase II ESA) for Due Diligence at the Shell branded service station located at 820 Portwood Avenue, Oakland, Alameda County, California (Site).

- Prepared a site-specific Health & Safety Plan prior to the initiation of field activities.
- Notified USA-North to have public utilities in the area of the Site clearly marked.
- Contracted with a private underground utility locating firm (Cruz Brothers) in addition to the public locates to clear each soil boring location.
- Cleared each soil boring location to 5-feet below ground surface (bgs) using air-knifing and vacuum truck equipment.
- Advanced seven soil borings (B-1 through B-7) to maximum depths of between 13 and 20 feet bgs using direct push probe drilling methods and equipment on August 6, 2008.
- Collected representative soil samples from continuously cored boreholes for logging and characterization of soil types, field screening, and potential analytical laboratory testing.
- Conducted headspace screening of the soil samples for volatile organic compound (VOC) vapors using a portable photo-ionization detector (PID).
- Collected one soil sample from each soil boring, the location of which was selected by the following ordered criteria:
 - The sample interval exhibiting the highest PID reading, or
 - In the event that impacts are not observed, the sample interval directly above the soil/groundwater interface, or
 - In the event that groundwater is not encountered in the boring, the termination point of the boring.
- Collected a groundwater sample from each boring in which groundwater was encountered.
- Submitted all samples to CalScience Environmental Laboratories (CalScience) in Garden Grove, California to be analyzed for:
 - Total petroleum hydrocarbons as gasoline (TPH-G) using US Environmental Protection Agency (EPA) Method 8260B.
 - Select VOCs by EPA Method 8260B, including benzene, toluene, ethylbenzene, total xylenes (BTEX), 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), methyl tert-butyl

ether (MTBE), tertiary butyl alcohol (TBA), diisopropyl ether (DIPE), ethyl tert-butyl ether, (ETBE), tert amyl-butyl ether (TAME), and ethanol.

A summary of findings is as follows: All soil and groundwater analytical laboratory results were reviewed for detections of petroleum hydrocarbon constituents above the laboratory method reporting limits (MRLs) and compared to the California Regional Water Quality Control Board Environmental Screening Levels (ESLs)¹. For comparison purposes the following assumptions were used in selecting the ESLs:

- Residential land use,
- Shallow soil (less than 3 meters) or Deep Soil (greater than 3 meters) as appropriate, and;
- Groundwater is a current or potential source of drinking water

The appropriate ESLs were obtained from Summary Table A and Summary Table C in the document *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*¹. Comparisons between the ESLs and laboratory results can be found in **Table 1** for soil samples and **Table 2** for groundwater samples.

- None of the soil samples collected and submitted for laboratory analysis during this investigation contained concentrations of any constituent in excess of the ESLs.
- None of the groundwater samples collected and submitted for laboratory analysis during this investigation contained concentrations of any constituent in excess of the ESLs, with the exception of one MTBE detection. Groundwater sample B-1 contained a concentration of MTBE (14 micrograms per liter [ug/L] in excess of the ESL (5 ug/L).
- A release was not reported since the concentrations detected in soil and groundwater samples during this Phase II ESA were below or consistent with concentrations historically detected at the Site.
- Water wells were not located within 1,000 feet of the Site.

¹ California Regional Water Quality Board, San Francisco Bay Region. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. Interim Final – November 2007, revised May 2008.

PHASE II ENVIRONMENTAL SITE ASSESSMENT

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820 PORTWOOD AVE.
OAKLAND, CALIFORNIA
DELTA PROJECT NO. CASHL-BADW-A-135696**

1.0 INTRODUCTION

1.1 General

At the request of Shell Oil Products US (Shell), Delta Consultants (Delta) has conducted a Phase II Environmental Site Assessment (Phase II ESA) for Due Diligence at the Shell Retail Store located at 820 Portwood Avenue, Oakland, Alameda County, California (Site). This Site is an active Shell service station.

1.2 Purpose and Scope

In order to establish a baseline of environmental conditions, Delta conducted this Phase II ESA to assess subsurface conditions and potential hydrocarbon impacts through implementation of the following scope of work:

- Prepared a site-specific Health & Safety Plan prior to the initiation of field activities.
- Notified USA-North to have public utilities in the area of the Site clearly marked.
- Contracted with a private underground utility locating firm (Cruz Brothers) in addition to the public locates to clear each soil boring location.
- Cleared each soil boring location to 5-feet below ground surface (bgs) using air-knifing and vacuum truck equipment.
- Advanced seven soil borings (B-1 through B-7) to maximum depths of between 13 and 20 feet bgs using direct push probe drilling methods and equipment on August 6, 2008. Borings were placed in the vicinity of the underground storage tank (UST) basin and in the vicinity of dispensers. The scope of work, as defined by Shell, limited drilling depth to 40 feet bgs around tank basins and 20 feet bgs near dispensers; or to the depth of first encountered groundwater or drilling refusal whichever was encountered first.
- Collected representative soil samples from continuously cored boreholes for logging and characterization of soil types, field screening, and potential laboratory analysis.
- Conducted headspace screening of the soil samples for volatile organic compound (VOC) vapors using a portable photo-ionization detector (PID).
- Collected one soil sample from each soil boring, the location of which was selected by the following ordered criteria:
 - The sample interval exhibiting the highest PID reading, or

- In the event that impacts are not observed, the sample interval directly above the soil/groundwater interface, or
- In the event that groundwater is not encountered in the boring, the termination point of the boring.
- Collected a groundwater sample from each boring in which groundwater was encountered.
- Submitted all samples to CalScience Environmental Laboratories (CalScience) in Garden Grove, California to be analyzed for:
 - Total petroleum hydrocarbons as gasoline (TPH-G) using US Environmental Protection Agency (EPA) Method 8260B.
 - Select VOCs by EPA Method 8260B, including benzene, toluene, ethylbenzene, total xylenes (BTEX), 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), methyl tert-butyl ether (MTBE), tertiary butyl alcohol (TBA), diisopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert amyl-butyl ether (TAME), and ethanol.
- Evaluated and compiled field observations and laboratory analytical data into this report, documenting boring installations, soil and groundwater sampling, and analytical data.

1.3 Deviations

- Soil and groundwater samples were not analyzed for EDB or EDC.

1.4 Background

The Site is an active retail gasoline station located in western California, in Alameda County, at 820 Portwood Avenue (**Figure 1**). Above ground structures include a station kiosk and dispenser islands under a canopy in the southeast corner of the Site, and a car wash building at the northern edge of the Site (**Figure 2**). The Site is primarily covered with asphalt and concrete pavement. The USTs are located within a common excavation in the western portion of the Site. Local access to the Site is gained from Portwood Avenue to the northwest and East 8th Street to the southwest.

Water wells were not located within 1,000 feet of the Site. The Environmental Data Resources (EDR) well survey report is included in **Appendix A**.

2.0 SOIL AND GROUNDWATER ENVIRONMENTAL ASSESSMENT

2.1 Drilling and Soil Sampling

Soil borings were advanced using a direct-push hydraulic drive point system to depths ranging from 13 to 20 feet bgs. Soil samples were collected continuously using a 5-foot macrocore sampler with a 1.5-inch inside diameter driven into undisturbed formation materials utilizing a hydraulic piston mechanism. The soils encountered were logged using the Unified Soil Classification System (USCS) and field screened using a PID by a Delta field technician working under the supervision of a California Professional Geologist. Field observations, including soil color, odor, and PID readings, were recorded on the soil boring logs, included as **Appendix B**.

One soil sample from the sample interval exhibiting the highest PID reading, or if no field indications of impacts were noted, the interval located directly above the soil/groundwater interface or at the termination point in each soil boring was submitted for laboratory analysis. Soil samples were either placed in laboratory prepared glass containers or the macrocore sample liner was cut into a 6-inch long section and sealed with Teflon tape and end caps. Soil samples were placed into ice-chilled coolers. Standard chain-of-custody (COC) protocol was followed for transporting soil samples to CalScience in Garden Grove, California. Soil analytical laboratory results are summarized in **Table 1** and shown spatially in **Figure 3**. The soil sample analytical laboratory report and COC records are included in **Appendix C**.

All soil borings were backfilled with bentonite grout and the ground surfaces were repaired to approximate original conditions.

2.2 Grab Groundwater Sampling

Following borehole advancement, groundwater samples were collected utilizing Hydropunch sampling techniques. Hydropunch sampling utilizes a probe rod with a retractable stainless steel screen with a steel drop-off tip. The probe rods are advanced a minimum of two feet into the water table, at which point the tip is released. The drill rods are then retracted to expose the disposable screen. Groundwater was collected from the screened interval using a peristaltic pump and disposable polyethylene tubing. Groundwater samples were decanted directly into laboratory prepared sample containers and placed in an iced cooler for transport to CalScience following standard COC protocols. Groundwater analytical laboratory results are summarized in **Table 2** and shown spatially in **Figure 4**. The analytical laboratory reports and COC records for the groundwater sampling event are included in **Appendix C**.

2.3 Investigation Derived Waste

All investigation derived waste generated during the investigation was stored in US Department of Transportation-approved 55-gallon drums for subsequent disposal following proper waste characterization. Decontamination wash water generated during the investigation was stored in a separate drum for subsequent recycling. Copies of waste disposal records are included as **Appendix D**, if they were available at the time this report was prepared.

2.4 Laboratory Analytical Results

All soil and groundwater analytical laboratory results were reviewed for detections of petroleum hydrocarbon constituents above the laboratory method reporting limits (MRLs) and compared to the California Regional Water Quality Control Board Environmental Screening Levels (ESLs)¹. For comparison purposes the following assumptions were used in selecting the ESLs:

- Residential land use,
- Shallow soil (less than 3 meters) or Deep Soil (greater than 3 meters) as appropriate, and;
- Groundwater is a current or potential source of drinking water

The appropriate ESLs were obtained from Summary Table A and Summary Table C in the document *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*¹. Comparisons between the ESLs and lab results can be found in **Table 1** for soil samples and **Table 2** for groundwater samples.

Soil analytical laboratory results are summarized in **Table 1**. Within the table, samples with concentrations that exceed the ESLs are bolded. The soil sample analytical laboratory report and COC records are included in **Appendix C**.

Groundwater analytical laboratory results are summarized in **Table 2**. Within the table, samples with concentrations that exceed the ESLs are bolded. The analytical laboratory reports and COC records for the groundwater event are included in **Appendix C**.

¹ California Regional Water Quality Board, San Francisco Bay Region. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. Interim Final – November 2007, revised May 2008.

2.5 Release Notification

A release was not reported since the concentrations detected in soil and groundwater samples during this Phase II ESA were below or consistent with concentrations historically detected at the Site.

3.0 SUMMARY OF FINDINGS

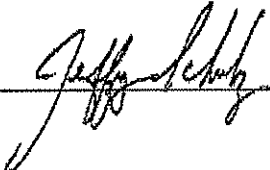
Based on the scope of work performed, Delta presents the following summary of findings:

- Seven soil exploration borings (B-1 through B-7) were advanced on August 6, 2008, to a maximum depth of 20 feet bgs
- All soil and groundwater laboratory results were reviewed for detections of petroleum constituents above the laboratory MRLs and compared to the California Regional Water Quality Control Board ESLs. Comparisons between the ESLs and lab results can be found in **Tables 1 and 2**.
- None of the soil samples collected and submitted for laboratory analysis during this investigation contained concentrations of any constituent in excess of the ESLs.
- None of the groundwater samples collected and submitted for laboratory analysis during this investigation contained concentrations of any constituent in excess of the ESLs, with the exception of one MTBE detection. Groundwater sample B-1 contained a concentration of MTBE (14 micrograms per liter [ug/L] in excess of the ESL (5 ug/L).
- A release was not reported since the concentrations detected in soil and groundwater samples during this Phase II ESA were below or consistent with concentrations historically detected at the Site.
- Water wells were not located within 1,000 feet of the Site.

4.0 REMARKS

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report.

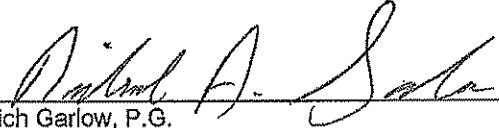
This report was prepared by DELTA CONSULTANTS



Jeffrey Schulz
Project Geologist

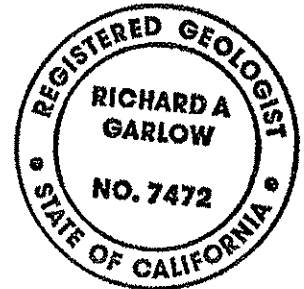
Date: 9/11/2008

Reviewed by:



Rich Garlow, P.G.
California Professional Geologist

Date: 9/29/08



FIGURES

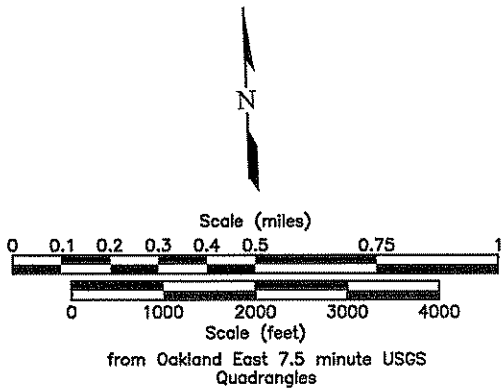
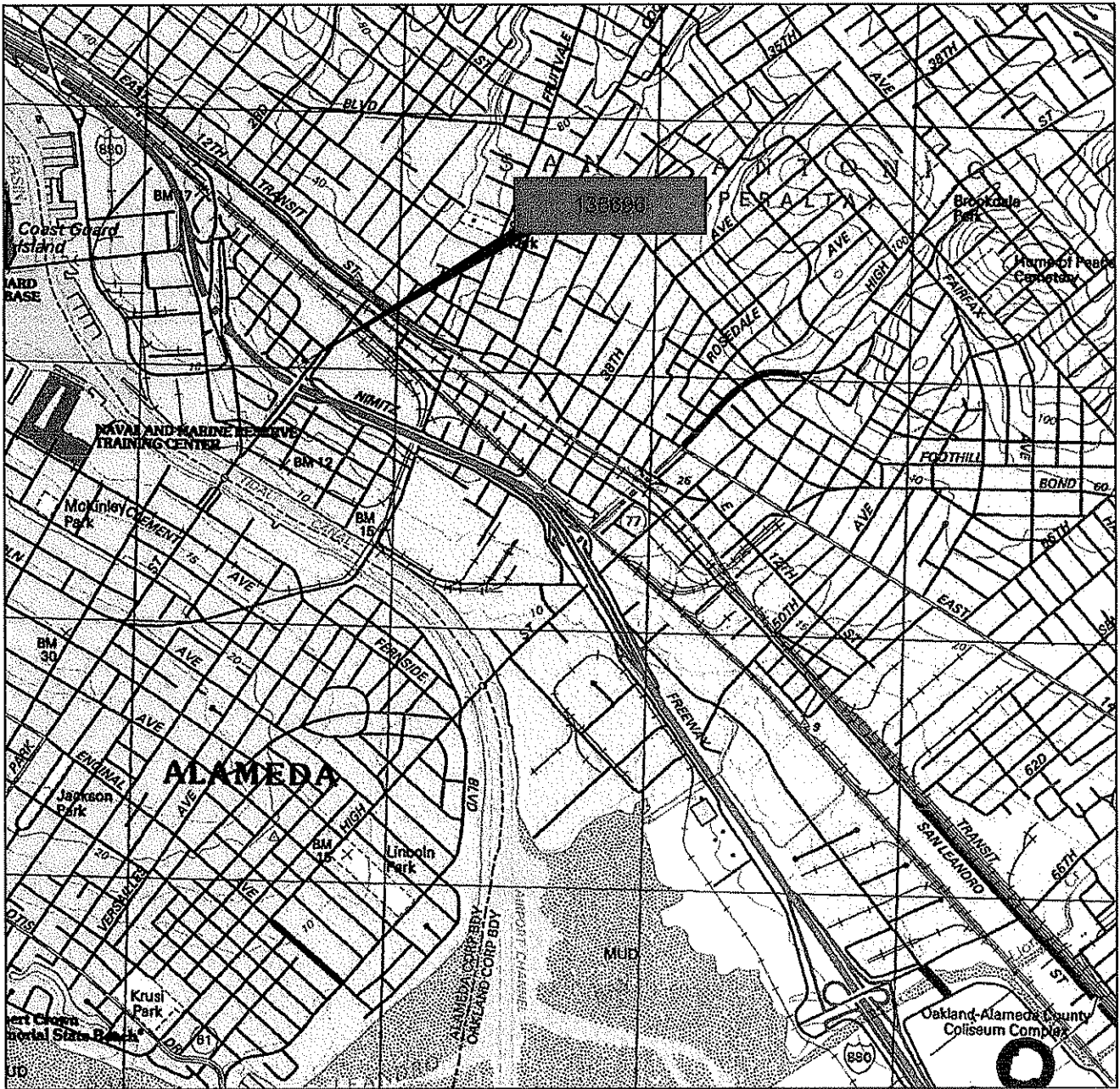

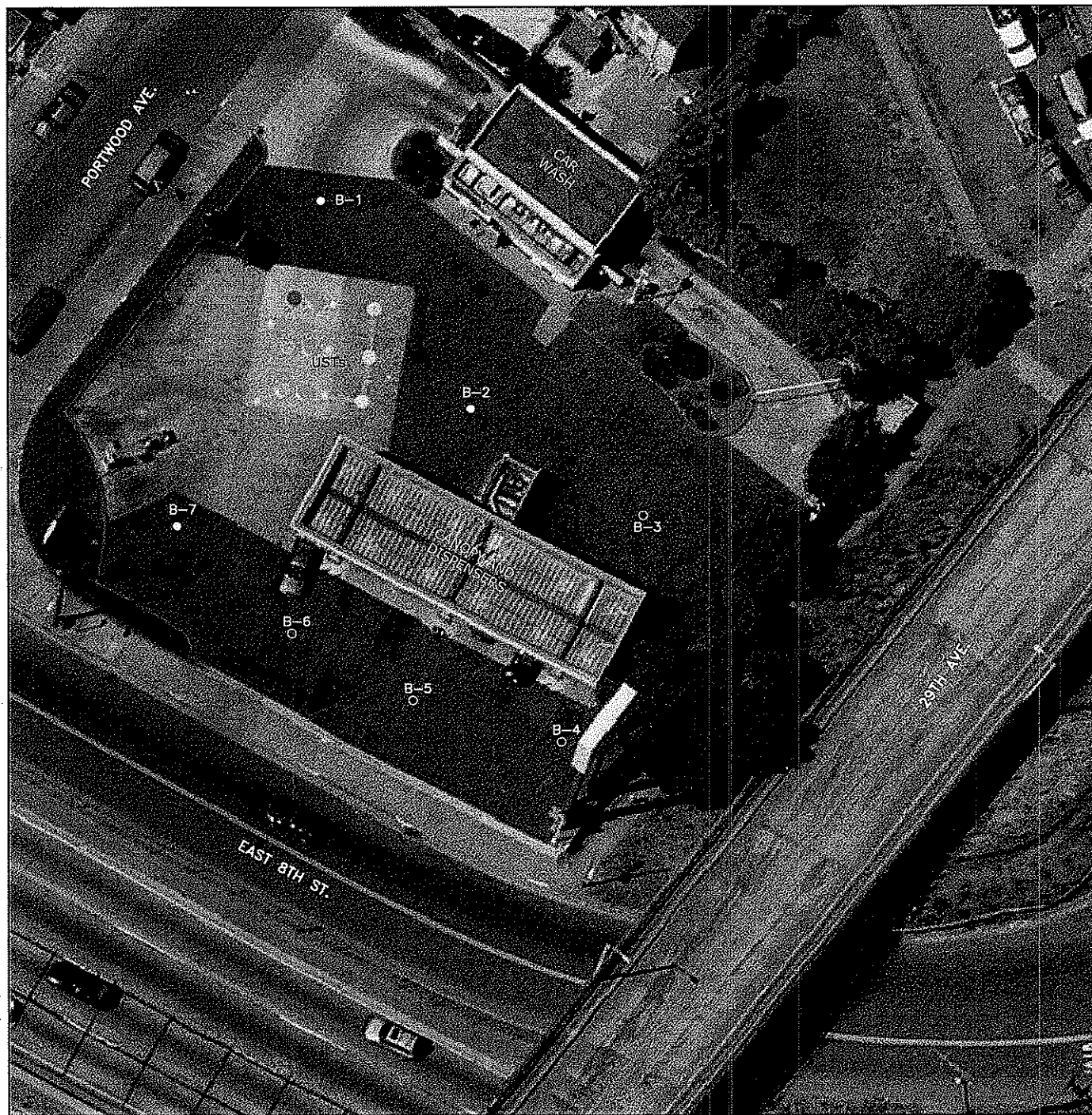


Figure 1
SITE LOCATION MAP

Shell SAP 135696
820 Portwood Avenue
Oakland, California

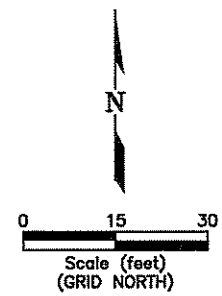
Project No. CASHBADWA	Prepared by LNH	Drawn by LNH	
Date 9/10/08	Reviewed by	Filename 135696-SL	



BORING LOCATIONS ARE APPROXIMATE

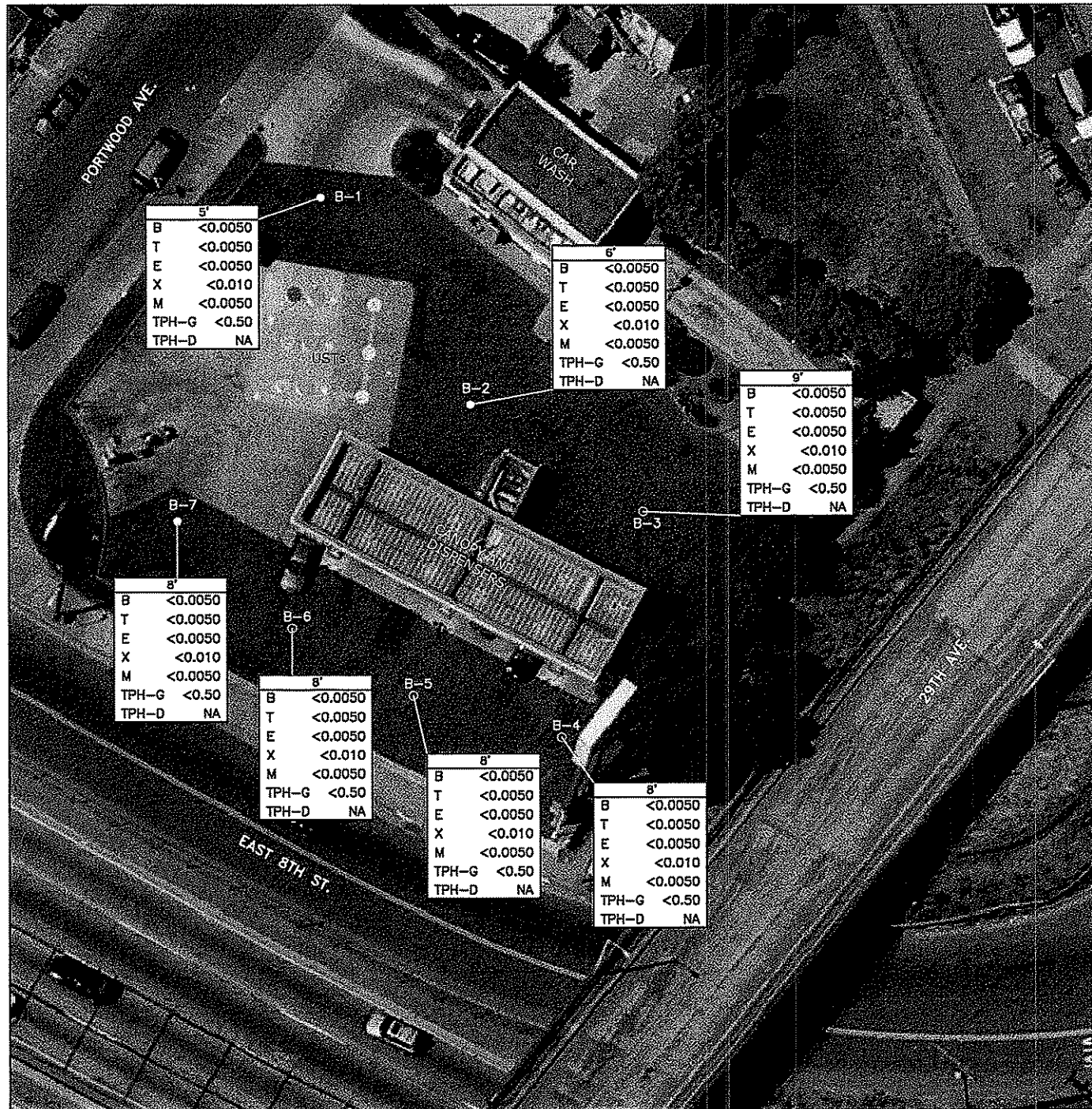
LEGEND

- UNDERGROUND STORAGE TANK (UST) AREA SOIL BORING
- DISPENSER AREA SOIL BORING



Projection: California State Plane Coordinate System, Zone 3, NAD83, U.S. Survey foot

<p>Figure 2 SITE PLAN</p> <p>Shell SAP 135696 820 Portwood Avenue Oakland, California</p>			
Project No. CASHLBADWA	Prepared by LNH	Drawn by LNH	
Date 9/23/06	Reviewed by	Filename 135696	



BORING LOCATIONS ARE APPROXIMATE

LEGEND

- UNDERGROUND STORAGE TANK (UST) AREA SOIL BORING
- DISPENSER AREA SOIL BORING

6'		SAMPLE DEPTH (bgs)	
B	<0.0050	BENZENE (mg/kg)	
T	<0.0050	TOLUENE (mg/kg)	
E	<0.0050	ETHYL-BENZENE (mg/kg)	
X	<0.010	TOTAL XYLENES (mg/kg)	
M	<0.0050	MTBE (mg/kg)	
TPH-G	<0.50	TOTAL PETROLEUM HYDROCARBONS GASOLINE RANGE ORGANICS (mg/kg)	
TPH-D	NA	TOTAL PETROLEUM HYDROCARBONS DIESEL RANGE ORGANICS (mg/kg)	

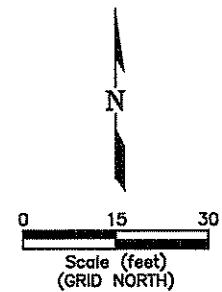
NA NOT ANALYZED

mg/kg MILLIGRAMS PER KILOGRAM

<0.0050 LESS THAN METHOD REPORTING LIMIT (NOT DETECTED)

MTBE METHYL TERT-BUTYL ETHER

bgs BELOW GROUND SURFACE

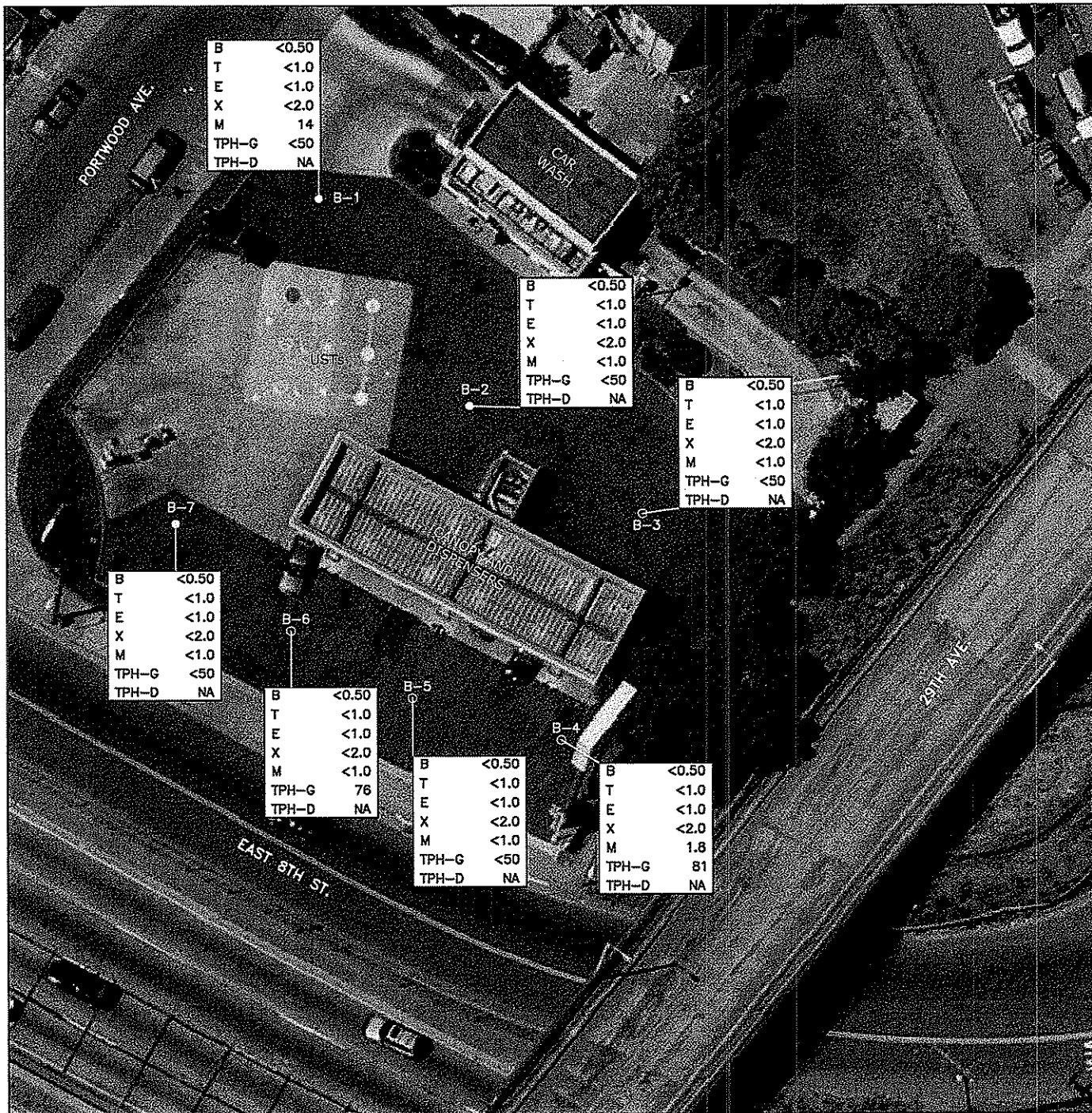


Projection: California State Plane Coordinate System, Zone 3, NAD83, U.S. Survey foot

Figure 3
SOIL CONCENTRATION MAP
AUGUST 6, 2008
Shell SAP 135696
820 Portwood Avenue
Oakland, California

Project No. CASHBADWA	Prepared by LNH	Drawn by LNH
Date 9/23/08	Reviewed by	Filename 135696





BORING LOCATIONS ARE APPROXIMATE

LEGEND

- UNDERGROUND STORAGE TANK (UST) AREA SOIL BORING
- DISPENSER AREA SOIL BORING

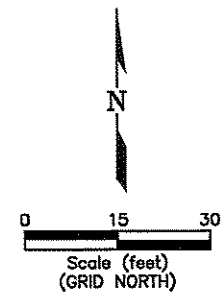
B	<0.50	BENZENE (ug/L)
T	<1.0	TOLUENE (ug/L)
E	<1.0	ETHYL-BENZENE (ug/L)
X	<2.0	TOTAL XYLENES (ug/L)
M	5.8	MTBE (ug/L)
TPH-G	200	TOTAL PETROLEUM HYDROCARBONS GASOLINE RANGE ORGANICS (ug/L)
TPH-D	NA	TOTAL PETROLEUM HYDROCARBONS DIESEL RANGE ORGANICS (ug/L)

NA NOT ANALYZED

ug/L MICROGRAMS PER LITER

<0.50 LESS THAN METHOD REPORTING LIMIT (NOT DETECTED)

MTBE METHYL TERT-BUTYL ETHER



Projection: California State Plane Coordinate System, Zone 3, NAD83, U.S. Survey foot

Figure 4
GROUNDWATER CONCENTRATION MAP
AUGUST 6, 2008
Shell SAP 135696
820 Portwood Avenue
Oakland, California

Project No. CASHBADWA	Prepared by LNH	Drawn by LNH
Date 9/23/08	Reviewed by	Filename 135696



TABLES

Table 1
Summary of Soil Analytical Results - TPH & VOCs
 SAP No. 135696
 820 Portwood Avenue
 Oakland, California

Sample Identification	Sample Depth (feet)	Sample Date	TPH-G (mg/kg)	TPH-D (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	EDB (mg/kg)	EDC (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	Ethanol (mg/kg)
B-1 5'	5	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	<0.050	<0.010	<0.010	<0.010	<0.50
B-2 6'	6	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	<0.050	<0.010	<0.010	<0.010	<0.50
B-3 9'	9	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	<0.050	<0.010	<0.010	<0.010	<0.50
B-4 8'	8	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	<0.050	<0.010	<0.010	<0.010	<0.50
B-5 8'	8	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	<0.050	<0.010	<0.010	<0.010	<0.50
B-6 8'	8	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	<0.050	<0.010	<0.010	<0.010	<0.50
B-7 8'	8	08/06/08	<0.50	NA	<0.0050	<0.0050	<0.0050	<0.010	NA	NA	<0.0050	<0.050	<0.010	<0.010	<0.010	<0.50
ESL ¹ : Shallow Soils (<3m), Residential Land Use, Groundwater is Current or Potential Source of Drinking Water (Table A)			83	83	0.044	2.9	2.3	2.3	0.00033	0.0045	0.023	0.075	NA	NA	NA	NA
ESL ¹ : Deep Soils (>3m), Residential Land Use, Groundwater is Current or Potential Source of Drinking Water (Table C)			83	83	0.044	2.9	3.3	2.3	0.00033	0.0045	0.023	0.075	NA	NA	NA	NA

Notes:
 mg/kg = milligrams per kilogram
 < = Not detected at concentration exceeding laboratory method reporting limit (MRL)
 VOC = Volatile organic compound
 TPH-G = Total Petroleum Hydrocarbons as Gasoline
 TPH-D = Total Petroleum Hydrocarbons as Diesel
 EDB = 1,2-dibromoethane
 EDC = 1,2-dichloroethane
 MTBE = Methyl tert-Butyl Ether
 TBA = Tertiary Butyl Alcohol
 DIPE = Diisopropyl Ether
 ETBE = Ethyl tert-Butyl Ether
 TAME = Tert-Amyl Butyl Ether
 NA = Not Analyzed, Not Available
 VOC analysis by EPA Method 8260B
 Gasoline-range hydrocarbons by EPA Method 8260B
 Diesel-range hydrocarbons by EPA Method 8015B
¹ ESL = Environmental Screening Level. Screening criteria referenced are from the *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final, November 2007, revised May 2008.

Table 2
Summary of Groundwater Analytical Results - TPH & VOCs
 SAP No. 135696
 820 Portwood Avenue
 Oakland, California

Sample Identification	Sample Date	Depth to Water (feet)	TPH-G (µg/L)	TPH-D (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	EDC (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)
B-1	08/06/08	9	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	14	<10	<2.0	<2.0	<2.0	<100
B-2	08/06/08	9	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
B-3	08/06/08	11.9	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
B-4	08/06/08	9	81	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	1.8	<10	<2.0	<2.0	<2.0	<100
B-5	08/06/08	8.9	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
B-6	08/06/08	9	76	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
B-7	08/06/08	8.85	<50	NA	<0.50	<1.0	<1.0	<2.0	NA	NA	<1.0	<10	<2.0	<2.0	<2.0	<100
ESL ¹ : Shallow Soils (<3m); Residential Land Use; Groundwater is a Current or Potential Source of Drinking Water (Table A)			100	100	1	40	30	20	0.05	0.5	5	12	NA	NA	NA	NA
ESL ¹ : Deep Soils (>3m); Residential Land Use; Groundwater is a Current or Potential Source of Drinking Water (Table C)			100	100	1	40	30	20	0.05	0.5	5	12	NA	NA	NA	NA

Notes:

µg/L = micrograms per liter

< = Not detected at concentration exceeding laboratory method reporting limit (MRL)

VOC = Volatile organic compound

TPH-G = Total Petroleum Hydrocarbons as Gasoline

TPH-D = Total Petroleum Hydrocarbons as Diesel

EDB = 1,2-dibromoethane

EDC = 1,2-dichloroethane

MTBE = Methyl tert-Butyl Ether

TBA = Tertiary Butyl Alcohol

DIPE = Diisopropyl Ether

ETBE = Ethyl tert-Butyl Ether

TAME = Tert-Amyl Butyl Ether

NA = Not Analyzed, Not Available

VOC analysis by EPA Method 8260B

Gasoline-range hydrocarbons by EPA Method 8260B

Diesel-range hydrocarbons by EPA Method 8015B

¹ ESL = Environmental Screening Level. Screening criteria referenced are from the *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, San Francisco Bay Region, Interim Final, November 2007, revised May 2008.

APPENDIX A
ENVIRONMENTAL DATA RESOURCES WELL SURVEY REPORT

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Urban land

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 153 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Urban land

Soil Surface Texture:
Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	0.189
Federal FRDS PWS	0.189
State Database	0.189

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

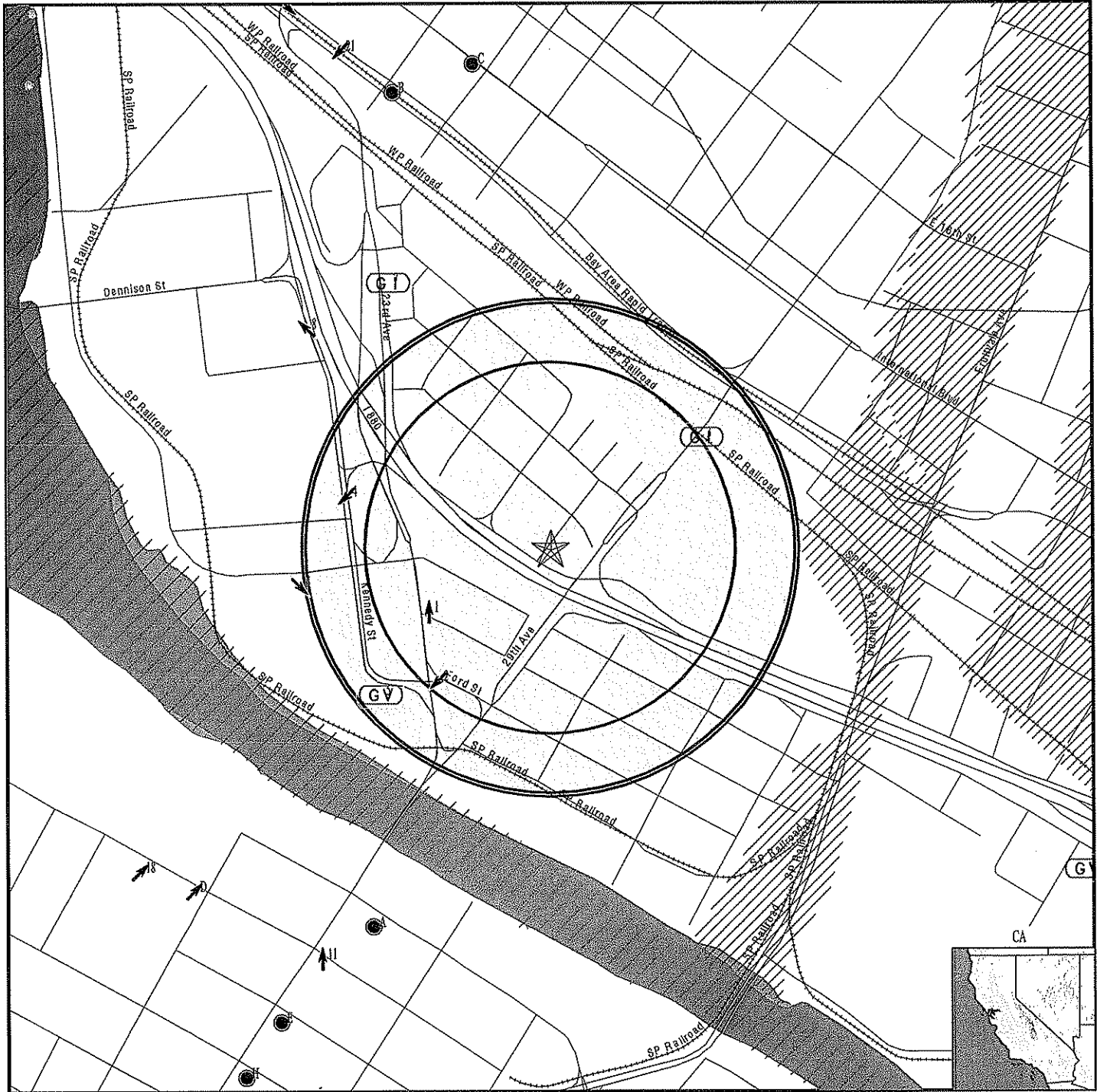
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 02271121.4r



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

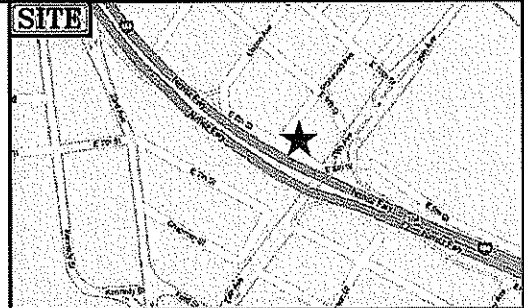
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

SITE NAME: 135696
 ADDRESS: 820 PORTWOOD
 OAKLAND CA 94601
 LAT/LONG: 37.7757 / 122.2337

CLIENT: Delta Consultants
 CONTACT: Gary E. Turgeon
 INQUIRY #: 02271121.4r
 DATE: July 17, 2008 9:39 am

APPENDIX B
BORING LOGS

Drilling Started: 08/06/2008
 Drilling Completed: 08/06/2008
 Drilling Method and Diameter: Direct Push - 2.5" Dia.
 Drilling Company: Cascade Drilling
 Drilled By:
 Logged By: Marisol Ortiz
 Boring: B-1



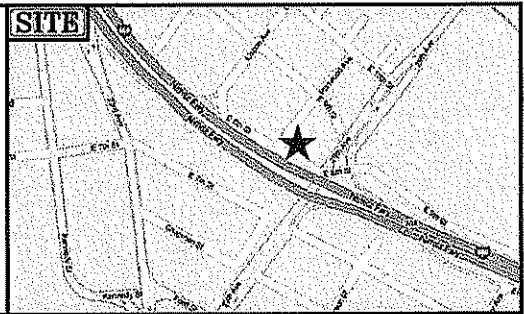
Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
				No Recovery - Air Knifed to 5 feet bgs.			
2							2
4							4
5.00'							5.00'
6.00'	85	163		Silty Clay: Light brown, dry, with some silt, medium plasticity.	CL		6.00'
6.00'	100	82.9		Silty Sand: Light brown, dry, with some low plasticity clay, orange iron oxides, very hard.	SM		6.00'
	100	110					
8.00'							8.00'
8.00'	100	83.3		Sandy Silt: Light brown, dry, with some gravel.	ML		8.00'
9.00'	80	60.9		Silty Sand: Light brown, moist, with gravel.	SM		9.00'
10.00'	20	34.2		Silt: Gray, dry, with little clay.	ML		10.00'
11.00'	100	153		Silty Sand: Light brown, wet, fine to medium grained sand.	SM		11.00'
12.00'	100	146		With little clay.			12.00'
13.00'	100	106		Clayey Silt: Light brown, wet, medium plasticity.	ML		13.00'
14.00'	85	106		Silty Sand: Light brown, wet.	SM		14.00'
15							15

▽ Initial Water Level (9.0')

CONTINUOUS CORE Sample Collected for Laboratory Analysis

	CASHL-BADW-A	SHELL FACILITY No. 135696 820 Portwood Avenue Oakland, California	Soil Boring Log B-1	FIGURE
	09-03-2008			
	CALIFORNIA O.F. A.D.			
	SH5696-B1			

Drilling Started: 08/06/2008
 Drilling Completed: 08/06/2008
 Drilling Method and Diameter: Direct Push - 2.5" Dia.
 Drilling Company: Cascade Drilling
 Drilled By:
 Logged By: Marisol Ortiz
 Boring: B-2



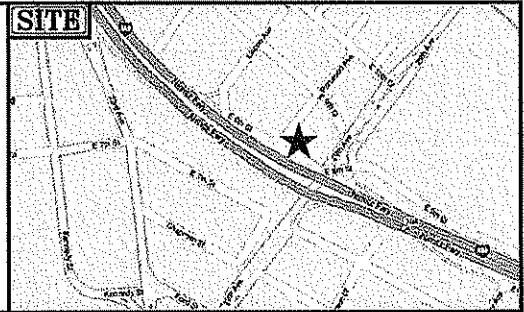
Depth (feet)	Samples Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
0 - 5.00'			No Recovery - Air Knifed to 5 feet bgs.			0 - 5.00'
5.00' - 6.00'	85	219	Silty Clay: Gray, damp, medium plasticity.	CL		5.00' - 6.00'
6.00' - 7.00'	100	314	With little sand, low to medium plasticity.			6.00' - 7.00'
7.00' - 8.00'	100	51.2	Silty Sand: Gray, damp, with little clay.	SM		7.00' - 8.00'
8.00' - 9.00'	100	0.0	Poorly graded Sand: Light brown, dry, with gravel and some silt.	SP		8.00' - 9.00'
9.00' - 10.00'	80	0.0				9.00' - 10.00'
10.00' - 11.00'	0		No Recovery			10.00' - 11.00'
11.00' - 12.00'	75	0.0	Clayey Silt: Light brown, wet, with little sand, medium plasticity.	ML		11.00' - 12.00'
12.00' - 13.00'	100	51.6	Clay: Light brown, moist, medium plasticity, with some silt.	CL		12.00' - 13.00'
13.00' - 14.00'	100	6.5	Poorly graded Sand and Gravel: Light brown, moist, with little silt.	SP		13.00' - 14.00'
14.00' - 15.00'	80	3.1				14.00' - 15.00'

▽ Initial Water Level (9.0')

CONTINUOUS CORE Sample Collected for Laboratory Analysis

	CASHL-BADW-A	SHELL FACILITY No. 135696 820 Portwood Avenue Oakland, California	Soil Boring Log B-2	FIGURE
	09-03-2008			
	CALIFORNIA			

Drilling Started: 08/06/2008
 Drilling Completed: 08/06/2008
 Drilling Method and Diameter: Direct Push - 2.5" Dia.
 Drilling Company: Cascade Drilling
 Drilled By:
 Logged By: Marisol Ortiz
 Boring: B-3



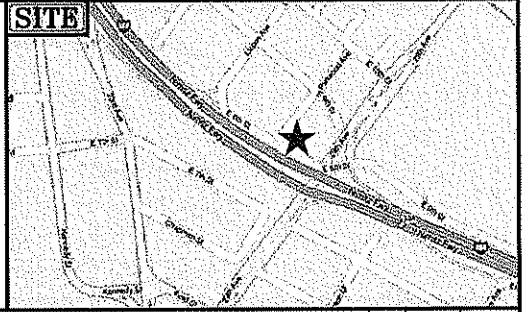
Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
2				No Recovery - Air Knifed to 5 feet bgs.			2
4							4
5.00'	80	0.0		Clay: Dark brown, with high plasticity, dry.	CH		6
6	100	0.0		With little silt, light plasticity.			6
7.00'	100	0.0		Silty Clay: Dark brown, medium plasticity, dry.	CL		8
8.00'	100	0.0		Poorly graded Sand: Dark brown, with gravel and little silt, dry.	SP		8
9.00'	75	0.0		Poorly graded Sand and Gravel: Dark brown, moist, coarse sand.	SP		10
10.00'	0			No Recovery			10
10.00'	0						10
12.00'	50	0.0		Poorly graded Sand and Gravel: Dark brown, coarse sand, with little silt, dry.	SP		12
13.00'	100	0.0		Poorly graded Sand and Gravel: Dark brown, coarse sand, with little silt, moist.	SP		14
14.00'	90	0.0		Poorly graded Gravel: Dark brown, coarse sand, moist.	SP		14
15.00'	0			No Recovery			16
16.00'	10	0.0		Poorly graded Sand and Gravel: Light brown, dry.	SP		16
17.00'	100	0.0		Clay: Light brown, with some sand and gravel, medium plasticity.	CL		18
18.00'	100	0.0		Silty Sand: Light brown, fine grained, wet.	SM		18
19.00'	75	0.0		Clay and Silt: Light brown, medium to high plasticity, moist.	CH		20

▽ Initial Water Level (11.9')

CONTINUOUS CORE
 Sample Collected for
 Laboratory Analysis

	CASHL-BADW-A	SHELL FACILITY No. 135696 820 Portwood Avenue Oakland, California	Soil Boring Log B-3	FIGURE
	09-03-2008			
	CALIFORNIA			

Drilling Started: 08/06/2008
 Drilling Completed: 08/06/2008
 Drilling Method and Diameter: Direct Push - 2.5" Dia.
 Drilling Company: Cascade Drilling
 Drilled By:
 Logged By: Marisol Ortiz
 Boring: B-4



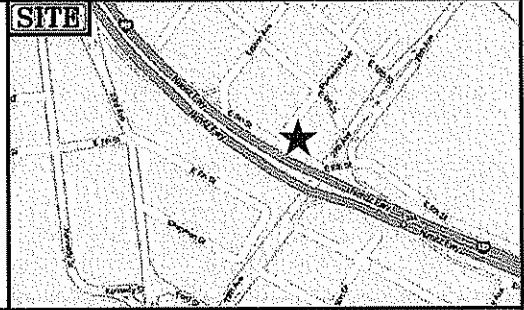
Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
2				No Recovery - Air Knifed to 5 feet bgs.			2
4							4
5.00'							5.00'
6.00'	25	0.0		Clay: Light brown, with high plasticity, damp.	CH		6.00'
7.00'	100	0.0		Clay and Silt: Light brown, with medium plasticity, damp.	CL		7.00'
8.00'	100	0.0		Silt and Clay: Light brown, medium plasticity, dry.	ML		8.00'
9.00'	60	0.0		Silty Sand: Light brown, dry.	SM		9.00'
10.00'	70	0.0		Poorly graded Sand and Gravel: Dark brown, with some silt, dry.	SP		10.00'
11.00'	75	0.0		Silt and Sand: Light gray, dry.	ML		11.00'
12.00'	100	0.0		Poorly graded Sand and Gravel: Light brown, coarse sand, dry.	SP		12.00'
13.00'	100	0.0					13.00'
14.00'	100	0.0		Silt: Light brown, with sand and gravel, damp.	ML		14.00'
15.00'	80	0.0		Silt and Clay: Light brown, medium plasticity, moist.	ML		15.00'

▽ Initial Water Level (9.0')

CONTINUOUS CORE
Sample Collected for
Laboratory Analysis

	CASHL-BADW-A	SHELL FACILITY No. 135696 820 Portwood Avenue Oakland, California	Soil Boring Log B-4	FIGURE
	09-03-2008			
	CALIFORNIA			
	SH5696-B4			

Drilling Started: 08/06/2008
 Drilling Completed: 08/06/2008
 Drilling Method and Diameter: Direct Push - 2.5" Dia.
 Drilling Company: Cascade Drilling
 Drilled By:
 Logged By: Marisol Ortiz
 Boring: B-5



Depth (feet)	Samples Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
2			No Recovery - Air Knifed to 5 feet bgs.			2
4						4
5.00'	85	0.0	Poorly graded Sand and Gravel: Light brown, some silt present, dry.	SP		5.00'
6.00'	100	0.0	Sand and Silt: Light brown, with little gravel, dry.	SM		6.00'
8.00'	100	0.0				8.00'
8.00'	100	0.0	Silt: Light brown, with some sand and gravel, dry.	ML		8.00'
10.00'	85	0.0	Damp			10.00'
10.00'	0		No Recovery			10.00'
11.00'	85	0.0	Poorly graded Sand and Gravel: Dark brown, medium to coarse sand, moist.	SP		11.00'
12.00'	100	0.0	Silty Sand: Dark brown, with some gravel, moist.	SM		12.00'
14.00'	100	0.0				14.00'
14.00'	80	0.0	Poorly graded Sand: Dark brown, coarse sand, with gravel and little silt, moist.	SP		14.00'
15						15

∇ Initial Water Level (8.9')

CONTINUOUS CORE Sample Collected for Laboratory Analysis



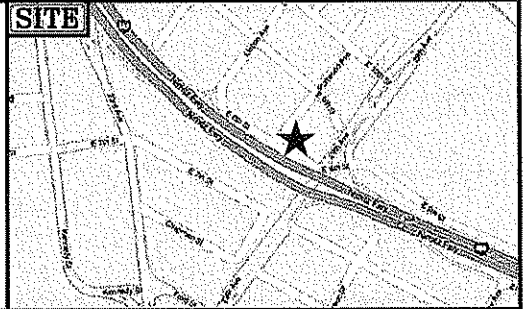
CASHL-BADW-A
 09-03-2008
 CALIFORNIA
 SH5696-B5

SHELL FACILITY No. 135696
 820 Portwood Avenue
 Oakland, California

Soil Boring Log
 B-5

FIGURE

Drilling Started: 08/06/2008
 Drilling Completed: 08/06/2008
 Drilling Method and Diameter: Direct Push - 2.5" Dia.
 Drilling Company: Cascade Drilling
 Drilled By:
 Logged By: Marisol Ortiz
 Boring: B-6



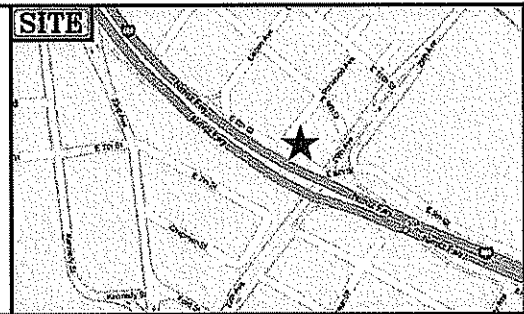
Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
2				No Recovery - Air Knifed to 5 feet bgs.			2
4							4
5.00'	60	0.0		Silt: Gray, with sand, damp.	ML		5.00'
6.00'	100	0.0		Poorly graded Sand and Gravel: Gray, coarse sand, with little silt, dry.	SP		6.00'
8.00'	100	0.0		Light brown			8.00'
8.00'	100	0.0		Silt and Clay: Gray, with some gravel, dry.	ML		8.00'
8.00'	80	0.0		Poorly graded Sand: Black, coarse, with some gravel, damp.	SP		8.00'
10.00'	25	0.0		Poorly graded Sand and Gravel, Light brown, coarse sand, dry.	SP		10.00'
11.00'	100	0.0		Silt: Light brown, with little sand and gravel, damp.	ML		11.00'
12.00'	80	0.0		Silty Sand: Light brown, with some gravel, moist.	SM		12.00'
13							13

▽ Initial Water Level (9.0')

CONTINUOUS CORE Sample Collected for Laboratory Analysis

	CASHL-BADW-A 09-03-2008	SHELL FACILITY No. 135696 820 Portwood Avenue Oakland, California	Soil Boring Log B-6	FIGURE
	CALIFORNIA	O.F. A.D.		
	SH5696-B6			

Drilling Started: 08/06/2008
 Drilling Completed: 08/06/2008
 Drilling Method and Diameter: Direct Push - 2.5" Dia.
 Drilling Company: Cascade Drilling
 Drilled By:
 Logged By: Marisol Ortiz
 Boring: B-7



Depth (feet)	Samples	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION	USCS	Graphic Log	Depth (feet)
2				No Recovery - Air Knifed to 5 feet bgs.			2
4							4
5.00'	20	0.0		Silty Sand: Light brown, dry.	SM	[Pattern]	6
6	100	0.0		With some gravel.			6
7.00'	100	0.0		Poorly graded Sand: Light brown, fine grained, with some gravel, dry.	SP	[Pattern]	8
8	100	0.0		Dark brown, with some gravel and silt, damp.			8
8.85'	80	0.0		Dark brown, moist.			10
10	25	0.0		Light brown, medium grained, moist.			10
11.00'	100	0.0		Poorly graded Sand and Gravel: Light brown, coarse grained sand, moist.	SP	[Pattern]	12
12	80	0.0		Wet			12
13							13

NOTE: Sample not collected from just above water.

▼ Initial Water Level (8.85')

[Pattern] CONTINUOUS CORE Sample Collected for Laboratory Analysis



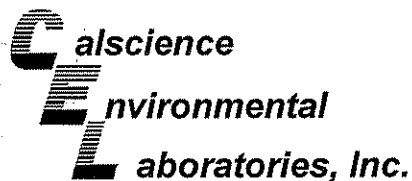
CASHL-BADW-A
 09-03-2008
 CALIFORNIA
 SH5696-B7

SHELL FACILITY No. 135696
 820 Portwood Avenue
 Oakland, California

Soil Boring Log
 B-7

FIGURE

APPENDIX C
LABORATORY REPORTS
AND CHAIN OF CUSTODY FORMS



August 22, 2008

Kevin McCarthy
Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

Subject: **Calscience Work Order No.: 08-08-0885**
Client Reference: **820 Portwood Ave., Oakland, CA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 8/9/2008 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

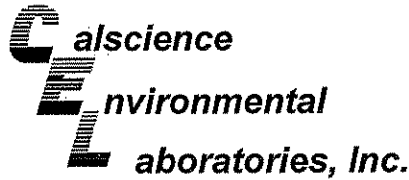
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Jessie Kim".

Calscience Environmental
Laboratories, Inc.
Jessie Kim
Project Manager

A handwritten signature in black ink, appearing to read "Jessie Kim".



Analytical Report



Delta Environmental Consultants
 4640 SW Macadam Ave; Suite 110
 Portland, OR 97239-4283

Date Received: 08/09/08
 Work Order No: 08-08-0885
 Preparation: EPA 5030B
 Method: LUFT GC/MS / EPA 8260B
 Units: ug/L

Project: 820 Portwood Ave., Oakland, CA

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1	08-08-0885-8-B	08/06/08 09:20	Aqueous	GC/MS WW	08/12/08	08/13/08 09:11	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		Methyl-t-Butyl Ether (MTBE)	14	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	102	70-130			1,4-Bromofluorobenzene-TPPH	103	70-130		

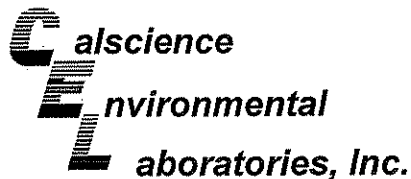
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2	08-08-0885-9-A	08/06/08 11:06	Aqueous	GC/MS WW	08/12/08	08/13/08 09:39	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	100	70-130		

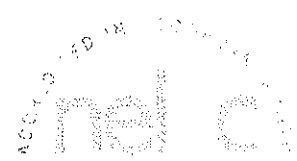
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3	08-08-0885-10-B	08/06/08 14:09	Aqueous	GC/MS WW	08/12/08	08/13/08 10:06	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	70-130			1,4-Bromofluorobenzene-TPPH	100	70-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B
Units: ug/L

Project: 820 Portwood Ave., Oakland, CA

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-4	08-08-0885-11-B	08/06/08 15:27	Aqueous	GC/MS WW	08/12/08	08/13/08 10:34	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	81	50	1		Methyl-t-Butyl Ether (MTBE)	1.8	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	102	70-130		

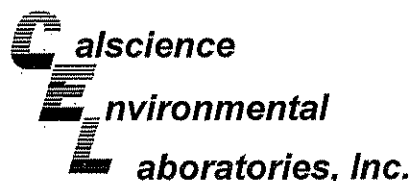
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-5	08-08-0885-12-B	08/06/08 16:28	Aqueous	GC/MS WW	08/12/08	08/13/08 11:02	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	102	70-130			1,4-Bromofluorobenzene-TPPH	102	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-6	08-08-0885-13-B	08/06/08 17:18	Aqueous	GC/MS WW	08/12/08	08/13/08 11:29	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	76	50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	102	70-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B
Units: ug/L

Project: 820 Portwood Ave., Oakland, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7	08-08-0885-14-B	08/06/08 18:03	Aqueous	GC/MS WW	08/12/08	08/13/08 11:57	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	98	70-130			1,4-Bromofluorobenzene-TPPH	100	70-130		

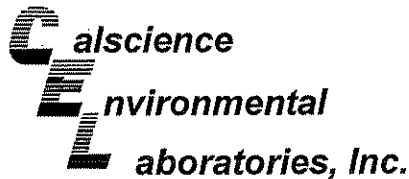
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TRIP BLANK	08-08-0885-15-B	08/06/08 00:00	Aqueous	GC/MS WW	08/12/08	08/13/08 12:52	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	70-130			1,4-Bromofluorobenzene-TPPH	102	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-715-758	N/A	Aqueous	GC/MS WW	08/12/08	08/13/08 05:29	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Benzene	ND	0.50	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
Ethylbenzene	ND	1.0	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Toluene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
p/m-Xylene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
o-Xylene	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	96	70-130			1,4-Bromofluorobenzene-TPPH	97	70-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B
Units: mg/kg

Project: 820 Portwood Ave., Oakland, CA

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-1 5'	08-08-0885-1-A	08/06/08 09:50	Solid	GC/MS R	08/12/08	08/13/08 06:41	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	97	70-130			1,4-Bromofluorobenzene-TPPH	102	70-130		

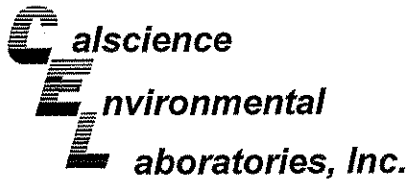
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-2 6'	08-08-0885-2-A	08/06/08 11:10	Solid	GC/MS R	08/12/08	08/13/08 07:11	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	95	70-130			1,4-Bromofluorobenzene-TPPH	100	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-3 9'	08-08-0885-3-A	08/06/08 14:01	Solid	GC/MS R	08/12/08	08/13/08 07:41	080812L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	93	70-130			1,4-Bromofluorobenzene-TPPH	97	70-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B
Units: mg/kg

Project: 820 Portwood Ave., Oakland, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-4 8'	08-08-0885-4-A	08/06/08 15:20	Solid	GC/MS WW	08/14/08	08/14/08 18:47	080814L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	100	70-130		

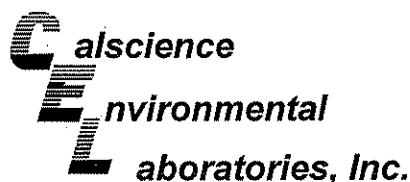
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-5 8'	08-08-0885-5-A	08/06/08 16:18	Solid	GC/MS WW	08/14/08	08/14/08 20:38	080814L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	99	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-6 8'	08-08-0885-6-A	08/06/08 17:12	Solid	GC/MS WW	08/14/08	08/14/08 21:06	080814L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	103	70-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B
Units: mg/kg

Project: 820 Portwood Ave., Oakland, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
B-7 8'	08-08-0885-7-A	08/06/08 17:55	Solid	GC/MS WW	08/15/08	08/15/08 23:39	080815L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	102	70-130			1,4-Bromofluorobenzene-TPPH	103	70-130		

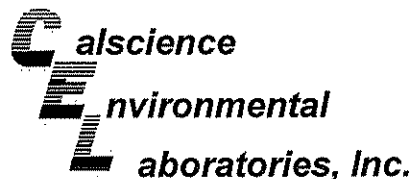
Method Blank	099-12-717-166	N/A	Solid	GC/MS R	08/12/08	08/13/08 02:40	080812L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

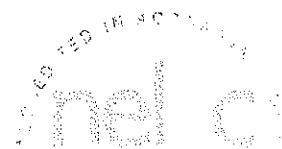
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	70-130			1,4-Bromofluorobenzene-TPPH	97	70-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B
Units: mg/kg

Project: 820 Portwood Ave., Oakland, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-717-169	N/A	Solid	GC/MS WW	08/15/08	08/15/08 19:01	080815L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1	
Benzene	ND	0.0050	1		Tert-Butyl Alcohol (TBA)	ND	0.050	1	
Ethylbenzene	ND	0.0050	1		Diisopropyl Ether (DIPE)	ND	0.010	1	
Toluene	ND	0.0050	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1	
p/m-Xylene	ND	0.0050	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1	
o-Xylene	ND	0.0050	1		Ethanol	ND	0.50	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	98	70-130			1,4-Bromofluorobenzene-TPPH	98	70-130		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

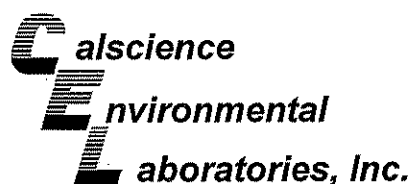
Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA
8260B

Project 820 Portwood Ave., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-08-1005-7	Aqueous	GC/MS WW	08/12/08	08/13/08	080812S02

<u>Parameter</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Benzene	82	89	70-130	8	0-30	
Ethylbenzene	85	90	70-130	6	0-30	
Toluene	82	89	70-130	9	0-30	
p/m-Xylene	87	93	70-130	7	0-30	
o-Xylene	89	93	70-130	5	0-30	
Methyl-t-Butyl Ether (MTBE)	109	114	70-130	4	0-30	
Tert-Butyl Alcohol (TBA)	97	98	70-130	0	0-30	
Diisopropyl Ether (DIPE)	97	102	70-130	5	0-30	
Ethyl-t-Butyl Ether (ETBE)	101	103	70-130	2	0-30	
Tert-Amyl-Methyl Ether (TAME)	95	99	70-130	4	0-30	
Ethanol	97	98	70-130	1	0-30	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

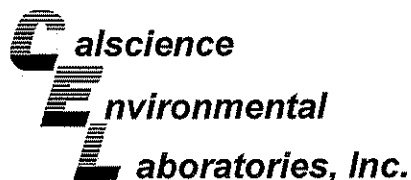
Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA
8260B

Project 820 Portwood Ave., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-08-0858-2	Solid	GC/MS R	08/12/08	08/13/08	080812S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	83	84	70-130	1	0-30	
Ethylbenzene	106	110	70-130	4	0-30	
Toluene	99	101	70-130	1	0-30	
p/m-Xylene	106	110	70-130	4	0-30	
o-Xylene	112	112	70-130	0	0-30	
Methyl-t-Butyl Ether (MTBE)	128	124	70-130	3	0-30	
Tert-Butyl Alcohol (TBA)	106	105	70-130	1	0-30	
Diisopropyl Ether (DIPE)	108	102	70-130	5	0-30	
Ethyl-t-Butyl Ether (ETBE)	121	114	70-130	6	0-30	
Tert-Amyl-Methyl Ether (TAME)	106	102	70-130	4	0-30	
Ethanol	0	39	70-130	200	0-30	3,4

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

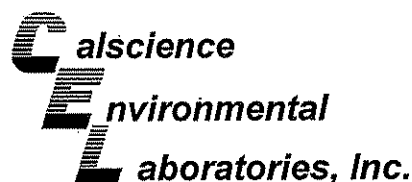
Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA
8260B

Project 820 Portwood Ave., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
B-4 8*	Solid	GC/MS WW	08/14/08	08/14/08	080814S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	92	88	70-130	4	0-30	
Ethylbenzene	96	92	70-130	4	0-30	
Toluene	93	88	70-130	6	0-30	
p/m-Xylene	98	93	70-130	5	0-30	
o-Xylene	98	94	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	118	112	70-130	6	0-30	
Tert-Butyl Alcohol (TBA)	102	111	70-130	8	0-30	
Diisopropyl Ether (DIPE)	105	100	70-130	4	0-30	
Ethyl-t-Butyl Ether (ETBE)	107	102	70-130	5	0-30	
Tert-Amyl-Methyl Ether (TAME)	105	99	70-130	5	0-30	
Ethanol	124	106	70-130	16	0-30	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



Delta Environmental Consultants
4640 SW Macadam Ave; Suite 110
Portland, OR 97239-4283

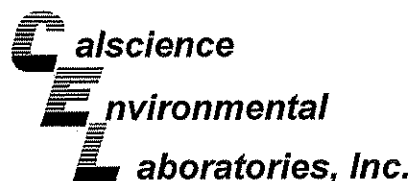
Date Received: 08/09/08
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA
8260B

Project 820 Portwood Ave., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-08-1304-2	Solid	GC/MS WW	08/15/08	08/15/08	080815S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	95	88	70-130	8	0-30	
Ethylbenzene	97	93	70-130	5	0-30	
Toluene	94	89	70-130	5	0-30	
p/m-Xylene	99	94	70-130	5	0-30	
o-Xylene	100	93	70-130	8	0-30	
Methyl-t-Butyl Ether (MTBE)	118	114	70-130	4	0-30	
Tert-Butyl Alcohol (TBA)	106	107	70-130	0	0-30	
Diisopropyl Ether (DIPE)	109	98	70-130	10	0-30	
Ethyl-t-Butyl Ether (ETBE)	110	102	70-130	8	0-30	
Tert-Amyl-Methyl Ether (TAME)	105	99	70-130	6	0-30	
Ethanol	116	107	70-130	8	0-30	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



Delta Environmental Consultants
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Portland, OR 97239-4283

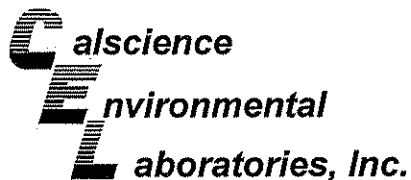
Date Received: N/A
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B

Project: 820 Portwood Ave., Oakland, CA

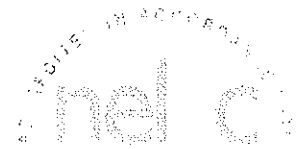
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-715-758	Aqueous	GC/MS WW	08/12/08	08/13/08	080812L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	87	81	65-135	8	0-30	
Benzene	98	100	70-130	2	0-30	
Ethylbenzene	103	104	70-130	1	0-30	
Toluene	98	101	70-130	3	0-30	
p/m-Xylene	105	108	70-130	2	0-30	
o-Xylene	103	104	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	105	112	70-130	6	0-30	
Tert-Butyl Alcohol (TBA)	110	124	70-130	12	0-30	
Diisopropyl Ether (DIPE)	102	104	70-130	2	0-30	
Ethyl-t-Butyl Ether (ETBE)	99	103	70-130	4	0-30	
Tert-Amyl-Methyl Ether (TAME)	94	95	70-130	1	0-30	
Ethanol	113	113	70-130	0	0-30	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Delta Environmental Consultants
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Portland, OR 97239-4283

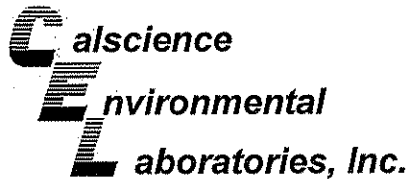
Date Received: N/A
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B

Project: 820 Portwood Ave., Oakland, CA

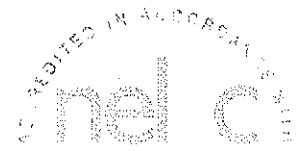
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-166	Solid	GC/MS R	08/12/08	08/13/08	080812L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	105	104	65-135	1	0-30	
Benzene	88	87	70-130	1	0-30	
Ethylbenzene	106	106	70-130	1	0-30	
Toluene	101	100	70-130	1	0-30	
p/m-Xylene	106	106	70-130	1	0-30	
o-Xylene	106	108	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	118	118	70-130	0	0-30	
Tert-Butyl Alcohol (TBA)	105	106	70-130	1	0-30	
Diisopropyl Ether (DIPE)	106	105	70-130	1	0-30	
Ethyl-t-Butyl Ether (ETBE)	113	109	70-130	4	0-30	
Tert-Amyl-Methyl Ether (TAME)	104	102	70-130	2	0-30	
Ethanol	88	88	70-130	0	0-30	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



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Portland, OR 97239-4283

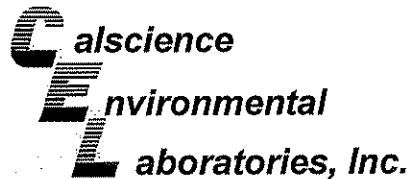
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Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B

Project: 820 Portwood Ave., Oakland, CA

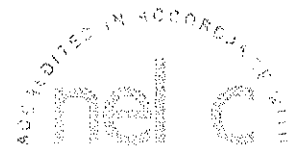
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-167	Solid	GC/MS WW	08/14/08	08/14/08	080814L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	85	90	65-135	5	0-30	
Benzene	99	96	70-130	3	0-30	
Ethylbenzene	104	103	70-130	1	0-30	
Toluene	99	98	70-130	1	0-30	
p/m-Xylene	107	104	70-130	3	0-30	
o-Xylene	105	102	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	109	108	70-130	1	0-30	
Tert-Butyl Alcohol (TBA)	117	126	70-130	7	0-30	
Diisopropyl Ether (DIPE)	103	98	70-130	5	0-30	
Ethyl-t-Butyl Ether (ETBE)	104	99	70-130	5	0-30	
Tert-Amyl-Methyl Ether (TAME)	97	92	70-130	6	0-30	
Ethanol	124	110	70-130	12	0-30	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



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Portland, OR 97239-4283

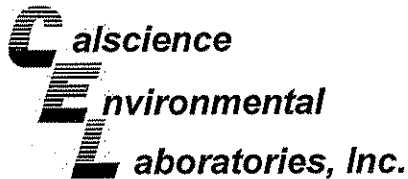
Date Received: N/A
Work Order No: 08-08-0885
Preparation: EPA 5030B
Method: LUFT GC/MS / EPA 8260B

Project: 820 Portwood Ave., Oakland, CA

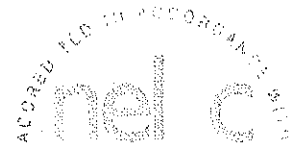
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-169	Solid	GC/MS WW	08/15/08	08/15/08	080815L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	85	91	65-135	7	0-30	
Benzene	102	101	70-130	1	0-30	
Ethylbenzene	105	105	70-130	0	0-30	
Toluene	102	101	70-130	0	0-30	
p/m-Xylene	109	109	70-130	0	0-30	
o-Xylene	104	105	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	110	110	70-130	0	0-30	
Tert-Butyl Alcohol (TBA)	126	124	70-130	2	0-30	
Diisopropyl Ether (DIPE)	105	103	70-130	2	0-30	
Ethyl-t-Butyl Ether (ETBE)	103	106	70-130	3	0-30	
Tert-Amyl-Methyl Ether (TAME)	97	98	70-130	0	0-30	
Ethanol	121	127	70-130	5	0-30	

RPD - Relative Percent Difference, CL - Control Limit



Glossary of Terms and Qualifiers



Work Order Number: 08-08-0885

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	A Marginal Exceedance (ME) is defined as a LCS percent recovery beyond the normal 3 standard deviation Control Limits but still within the marginal exceedance limits (set at 4 standard deviations from the mean)
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

LAB (LOCATION)

- CALSCIENCE ()
- SPL ()
- XENCO ()
- TEST AMERICA ()
- OTHER ()



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____

INCIDENT # (ENV. SERVICES): **97767790**

PO # _____ SAP# _____

DATE: **8/6/08**

PAGE: **1** of **2**

SAMPLING COMPANY: **Delta Environmental Consultants**

LOG CODE: _____

ADDRESS: **5910 Rice Creek Parkway, Suite 100 St, Paul MN 55126**

PROJECT CONTACT (Hardcopy or PDF Report to): **Gary Turgeon**

TELEPHONE: **651-697-5159** FAX: **651-639-9473** EMAIL: **gturgeon@deltaenv.com**

SITE ADDRESS: Street and City: **870 Portwood Ave, Oakland CA**

STATE: **CA** GLOBAL ID NO.: _____

EDP DELIVERABLE TO (Name, Company, City Location): _____ PHONE NO.: _____ EMAIL: _____ CONSULTANT PROJECT NO.: _____

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

SAMPLER NAME(S) (PI#): **Marisol Ortiz**

LAB USE ONLY: **0885**

SPECIAL INSTRUCTIONS OR NOTES : **5 oxygenates are MTBE, ETBE, TBA, TAME, DIPE**

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	TPH-GIBTEX/Shell Oxy and ethanol by EPA 8260	TPH-D by 8015M	Full list VOCs	Oil & Grease (1664)	CAM 17 Metals (60007000)	PMA and creosole (6270c-sim)	1,2 DCA and EDB by EPA 2605	TEMPERATURE ON RECEIPT °C	Container PID Readings or Laboratory Notes
			DATE	TIME		HCL	HVO3	H2SO4	NONE	OTHER										
	1	B-1 5'	8/6/08	9:50	Soil					✓	1	✓								
	2	B-2 6'	8/6/08	11:10	Soil					✓	1	✓								
	3	B-3 9'	8/6/08	14:01	Soil					✓	1	✓								
	4	B-4 8'	8/6/08	15:20	Soil					✓	1	✓								
	5	B-5 8'	8/6/08	16:18	Soil					✓	1	✓								
	6	B-6 8'	8/6/08	17:12	Soil					✓	1	✓								
	7	B-7 8'	8/6/08	17:55	Soil					✓	1	✓								
	8	B-1	8/6/08	9:20	GW	✓					4	✓								
	9	B-2	8/6/08	11:06	GW	✓					4	✓								
	10	B-3	8/6/08	14:09	GW	✓					4	✓								

Relinquished by: (Signature) Mal OS	Received by: (Signature) [Signature]	Date: 8/8/08	Time: 7:30am
Relinquished by: (Signature) GSO	Received by: (Signature) Michael Harty CEL	Date: 8-09-08	Time: 8:45
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

105866900

PEEL OFF HERE

052206 Revision

LAB (LOCATION)

- CALSCIENCE (_____)
- SPL (_____)
- XENCO (_____)
- TEST AMERICA (_____)
- OTHER (_____)



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER _____	

Print Bill To Contact Name: _____

INCIDENT # (ENV. SERVICES): 97767790

PO # _____

SAP # 135696

CHECK IF NO INCIDENT # APPLIES:

DATE: 8/6/08

PAGE: 2 of 2

SAMPLING COMPANY: Delta Environmental Consultants

LOG CODE: _____

ADDRESS: 5910 Rice Creek Parkway, Suite 100 St. Paul MN 55126

PROJECT CONTACT (Hardcopy or PDF Report to): Gary Turgeon

TELEPHONE: 661-697-5159 FAX: 651-639-9473 EMAIL: gturgeon@deltaenv.com

TURNAROUND TIME (CALENDAR DAYS): STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

SPECIAL INSTRUCTIONS OR NOTES: 5 oxygenates are MTBE, ETBE, TBA, TAME, DIPE

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

SITE ADDRESS: Street and City: 820 Portwood Ave, Oakland CA

EDB DELIVERABLE TO (Name, Company, Office Location): _____ PHONE NO.: _____ EMAIL: _____ CONSULTANT PROJECT NO.: _____

SAMPLER NAME(S) (P#): Man'sol Ortiz

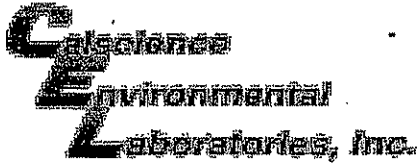
LAB USE ONLY: 0885

NO. OF CONT.	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	TPH-GIBTEX/Shell Oxy and ethanol by EPA 8260	TPH-D by 8015M	Full list VOCs	Oil & Grease (1664)	CAM 17 Metals (6007000)	PbAs and creosote (6270-3in)	1,2-DCA and EDB by EPA 200B	TEMPERATURE ON RECEIPT C°	Container PID Readings or Laboratory Notes
	DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER										
	Field Sample Identification																	
1	8/6/08	15:27	GW	✓				4	✓									
2	8/6/08	16:28	GW	✓				4	✓									
3	8/6/08	17:18	GW	✓				4	✓									
4	8/6/08	18:03	GW	✓				4	✓									
5	TRIP BLANK							4	✓									
	Temperature Blank							1				X						

Relinquished by: (Signature) <i>Michael</i>	Received by: (Signature) <i>Michael</i>	Date: 8/6/08	Time: 7:30 am
Relinquished by: (Signature) GSO	Received by: (Signature) Michael Galt CEL	Date: 8-09-08	Time: 8:45
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

105 886900

06/2008 Revision



WORK ORDER #: 08 - 08 - 0885

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Delta

DATE: 08-09-08

TEMPERATURE - SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- Chilled, cooler with temperature blank provided.
Chilled, cooler without temperature blank.
Chilled and placed in cooler with wet ice.
Ambient and placed in cooler with wet ice.
Ambient temperature (For Air & Filter only).
C Temperature blank.

LABORATORY (Other than Calscience Courier):

- 4.4 C Temperature blank.
C IR thermometer.
Ambient temperature (For Air & Filter only).

Initial: MH

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Present:

Initial: MH

SAMPLE CONDITION:

Table with 4 columns: Item, Yes, No, N/A. Rows include Chain-Of-Custody document(s), Sampler's name, Sample container label(s), Sample container(s) intact, Correct containers and volume, Proper preservation, VOA vial(s) free of headspace, Tedlar bag(s) free of condensation.

Initial: MH

COMMENTS:

Blank lines for handwritten comments.

APPENDIX D
COPIES of WASTE DISPOSAL MANIFESTS
(as applicable and available)

THIS ATTACHMENT HAS BEEN LEFT BLANK INTENTIONALLY. THE DOCUMENTS ASSOCIATED WITH THE DISPOSAL OF SOIL FOR THIS PHASE II ESA WERE NOT AVAILABLE AT THE TIME THE REPORT WAS WRITTEN.