



Denis L. Brown

Shell Oil Products US

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Mr. Jerry Wickham  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94205-6577

Re: Former Shell Service Station  
461 8<sup>th</sup> Street  
Oakland, California  
SAP Code: 129453  
Incident No. 97093399  
ACHCSA Case No. 0343

**RECEIVED**

8:47 am, Aug 21, 2008

Alameda County  
Environmental Health

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

Denis L. Brown  
Project Manager



**CONESTOGA-ROVERS  
& ASSOCIATES**

19449 Riverside Drive, Suite 230, Sonoma, California 95476  
Telephone: 707-935-4850 Facsimile: 707-935-6649  
www.CRAworld.com

August 20, 2008

Mr. Jerry Wickham  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

Re: **Well Destruction and Well Installation Report**  
Former Shell Service Station  
461 8<sup>th</sup> Street  
Oakland, California  
SAP Code 129453  
Incident No. 97093399  
ACHCSA Case No. 0343

Dear Mr. Wickham:

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to document well destructions and subsequent well installation activities at the above referenced site. The well destruction work was proposed in CRA's April 17, 2008 *Remedial Action Plan* which was approved by the Alameda County Health Care Services Agency (ACHCSA) in correspondence dated April 24, 2008. The installation of additional wells in advance of proposed chemical injection activities was verbally negotiated with the ACHCSA. The work was performed in accordance with Alameda County and San Francisco Bay Regional Water Quality Control Board guidelines and requirements.

## EXECUTIVE SUMMARY

- In advance of proposed excavation activities, wells AS-1, S-14, S-15, and S-16 were destroyed by pressure grouting.
- To monitor results of chemical oxidation proposed for the open excavation, wells OW-1, S-17, and S-18 were installed.

Equal  
Employment  
Opportunity Employer



- Soil data from the installation of OW-1, S-17, and S-18 confirmed the absence of impacted soils in the vadose zone southwest of the former dispenser islands (proposed area to be excavated), and confirmed the level of impact to saturated zone soils in the same direction.
- Groundwater data from wells S-17 and S-18 confirm the order of magnitude of impact in groundwater in this area as well.

## **SITE DESCRIPTION AND BACKGROUND**

The site is currently a paved parking lot located at the southwest corner of the intersection of 8<sup>th</sup> Street and Broadway in Oakland, California (Figures 1 and 2). The property was leased by American Oil Company from at least 1965 until 1972 when the lease was assigned to Shell Oil Products Company (Shell). A Shell service station operated on the property from 1972 to 1980. The underground storage tanks (USTs) associated with the former Shell service station were removed after Shell terminated operations at the site in May 1980. The subject site is used for paid public parking. A summary of previous work performed at the site and additional background information is contained in Attachment A.

## **WELL DESTRUCTION ACTIVITIES**

In advance of excavation activities proposed for the first of June 2008, CRA obtained agency permission to destroy wells AS-1, S-14, S-15, and S-16. Further, a waiver for destruction by pressure grouting was received because of proposed excavation activities. The field activities are documented below:

***Field Dates:*** May 23, 2008.

***CRA Staff:*** Carmen Rodriguez performed the field work under the direction of California Professional Geologist, Ana Friel.

***Permits:*** Alameda County Public Works Agency – Water Resources Well Permits W2008-0246 to W2—8-0249 (Attachment B).



***Destruction Method:*** All wells were destroyed using pressure grouting, thus no waste was generated during this work. The well boxes were proposed for removal during the excavation work.

## **WELL INSTALLATION ACTIVITIES**

In expectation of performing chemical oxidation in the open excavation at this site, ACHCSA requested the installation of monitoring points near enough to the excavation in the downgradient direction to monitor results from the application of the oxidants. Wells OW-1, S-17, and S-18 were installed.

***Permit:*** Drilling permits (W2008-0295 to W2008-0297) were obtained from ACHCSA (Attachment B).

***Drilling Dates:*** May 30, 2008.

***Drilling Company:*** Gregg Drilling.

***Personnel:*** Geologist Jacquelyn England directed the drilling activities under the supervision of California Professional Geologist Ana Friel.

***Drilling Method:*** Hollow-stem auger.

***Number of Borings:*** Two well borings (S-17 and S-18) and one observation well boring (OW-1) were drilled during this investigation. The boring and well locations are shown on Figure 2.

***Soil Sampling:*** Soil samples were retained from each boring at five foot intervals. The analytical data is presented on Table 1 and the certified analytical laboratory report is included as Attachment D.

***Boring Depths:*** 20 to 35 fbg.

***Groundwater Depths:*** Groundwater was first encountered at 22 feet below grade (fbg).



***Well Construction Details:*** Observation well OW-1 was installed to potentially measure vadose zone reactions during chemical oxidation. It is constructed of 2-inch diameter, schedule 40 PVC, with 0.020 inch slot placed from 5 to 20 fbg. Monitoring wells S-17 and S-18 were installed using 4-inch diameter Schedule 40 PVC, with 0.020 inch slot placed from 15-35 fbg. The boring and well specifications, soil types encountered, sample identification, and field screening measurements are described on the boring logs contained in Attachment C.

***Well Development:*** The wells (S-17 and S-18) were developed by Blaine Tech Services (BTS) on June 19, 2008 by surge and purge technique. The development field notes are included in Blaine's report in Attachment E.

***Wellhead Survey:*** The three new wells were surveyed on June 20, 2008 by Virgil Chavez Land Surveying of Vallejo, California. The survey report is included in Attachment F.

***Monitoring Well Sampling:*** Monitoring wells S-17 and S-18 were sampled on June 25, 2008 by BTS. The sampling documentation, including analytical report, is included in Attachment E.

***Soil Disposal:*** Soil from the well installation activities was staged on site. This material was later combined with the soils removed during excavation activities that occurred in June, and will be documented in a later submittal related to that work (due September 22, 2008).

## **FINDINGS**

***Soil:*** The soil chemical analytical data are summarized in Table 1 and TPHg and benzene analytical results are presented on Figure 3. Laboratory analytical reports are presented in Attachment D.

***Groundwater:*** The groundwater data from wells S-17 and S-18 are presented on the data table included in BTS' report (Attachment E) and the groundwater elevation and TPHg, benzene, and MTBE results are depicted on Figure 4.



**CONESTOGA-ROVERS  
& ASSOCIATES**

Mr. Jerry Wickham  
August 20, 2008

## CONCLUSIONS

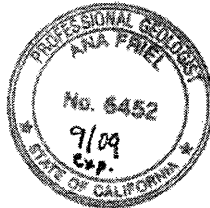
Soil data from OW-1, S-17, and S-18 confirm that the impact to vadose zone soils beneath the former dispensers is not laterally extensive to the south. The groundwater data confirm concentrations in groundwater similar to previous data from grab groundwater samples in this area.

## CLOSING

If you have any questions regarding the contents of this document, please call Ana Friel at (707) 268-3812.

Sincerely,  
**Conestoga-Rovers & Associates**

*Ana Friel*



Ana Friel,  
Project Manager

Table 1            1 – Soil Analytical Data

Figures:            1 – Vicinity Map  
                          2 – Site Plan  
                          3 – Soil Chemical Concentration Map  
                          4 – Groundwater Elevation and Chemical Concentration Map

Attachments:    A - Site History  
                          B - Permits  
                          C - Well Logs  
                          D - Certified Analytical Reports  
                          E - Blaine Tech Services Inc. - Groundwater Monitoring Report  
                          F - Virgil Chavez Land Surveying Report



**CONESTOGA-ROVERS  
& ASSOCIATES**

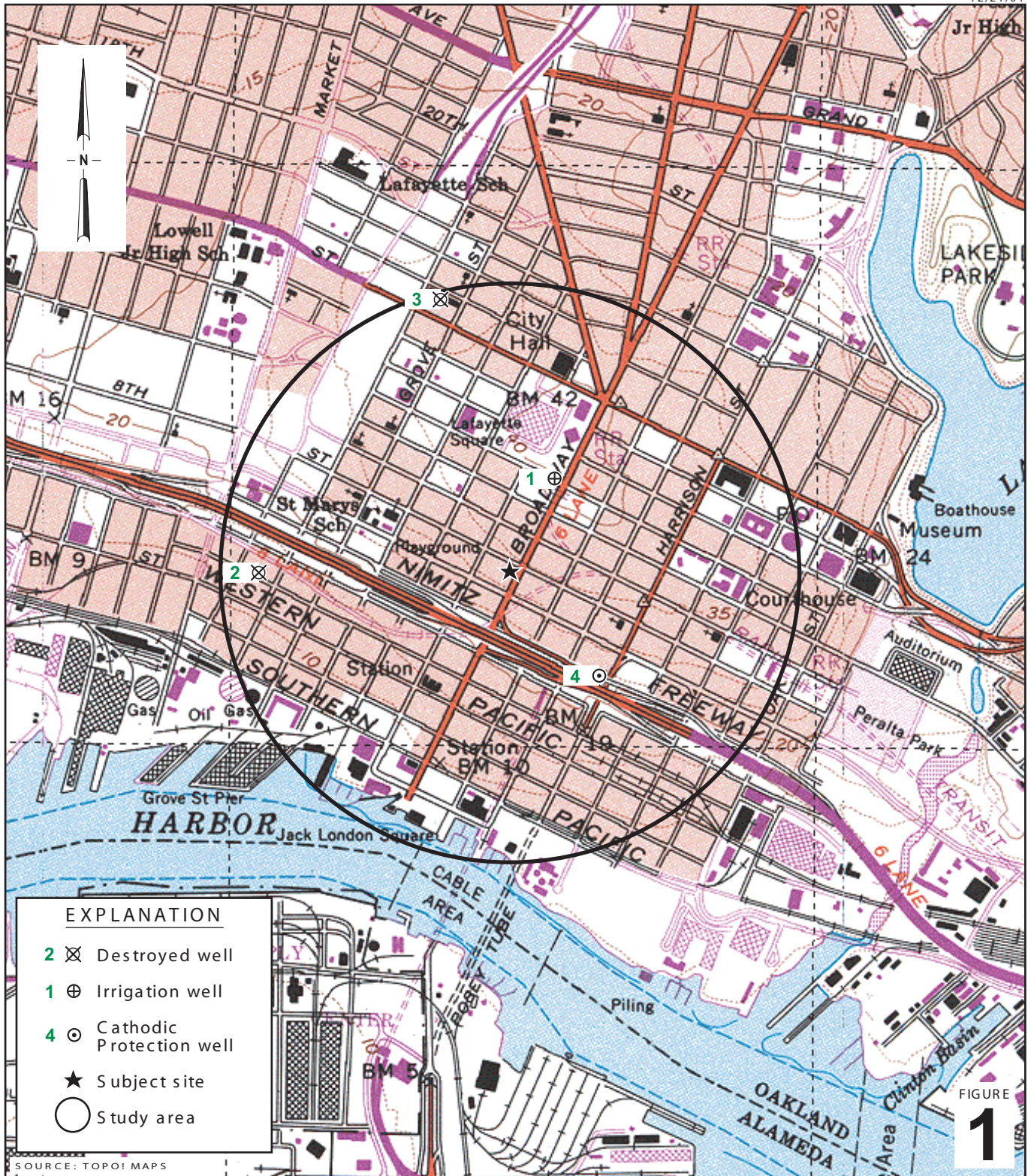
Mr. Jerry Wickham  
August 20, 2008

cc: Denis Brown, Shell Oil Products US  
A.F. Evans Company (Property Owners), c/o Anye Spivey  
R. Casteel & Co.  
Grover Buhr, Treadwell & Rollo, electronic copy only  
Leroy Griffin, City of Oakland Fire Prevention Bureau

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EXPLANATION

- 2 ⊗ Destroyed well
- 1 ⊕ Irrigation well
- 4 ⊙ Cathodic Protection well
- ★ Subject site
- Study area



**Former Shell Service Station**  
 461 8th Street  
 Oakland, California

**Vicinity Map**

1/2 Mile Radius



**CONESTOGA-ROVERS  
 & ASSOCIATES**



**LEGEND**

- ☒ DESTROYED WELL
- GROUNDWATER MONITORING WELL
- ⊕ OBSERVATION WELL
- M.H. ○ MANHOLE
- C.B. □ CATCH BASIN
- FL = 16.50' FLOW LINE DEPTH BELOW GROUND SURFACE
- ← FLOW DIRECTION INDICATOR
- - - UNDERGROUND BART LINE
- STM --- STORM DRAIN LINE
- W --- WATER LINE
- SAN --- SANITARY SEWER LINE
- T --- PACIFIC BELL LINE
- G --- GAS LINE
- E --- ELECTRICAL LINE

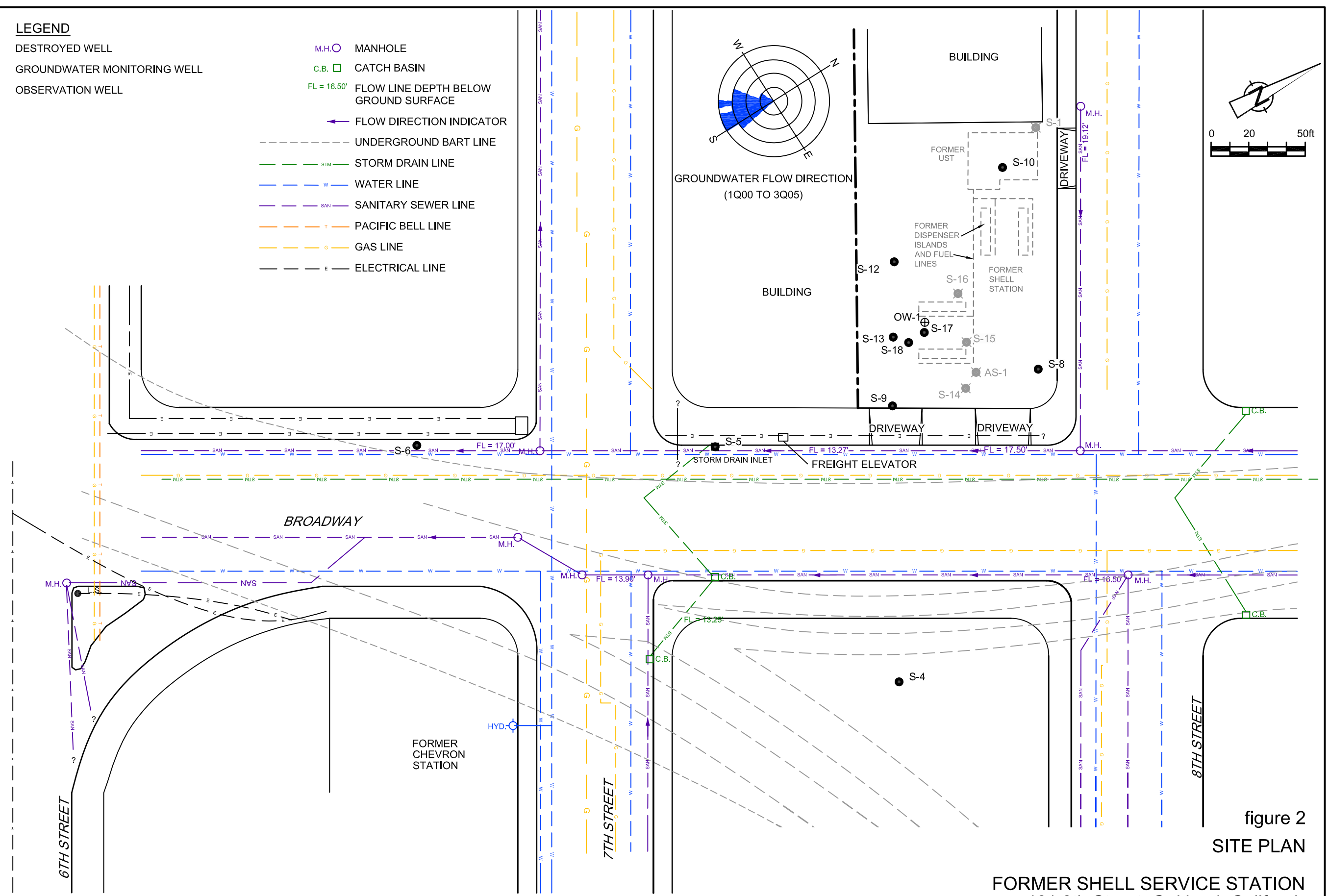
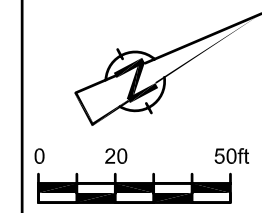
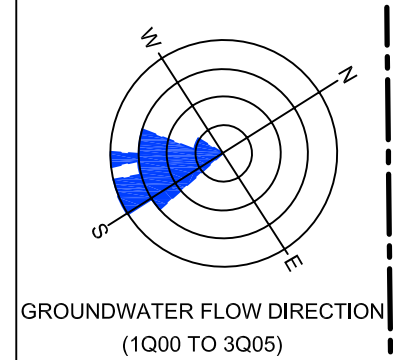


figure 2  
SITE PLAN

FORMER SHELL SERVICE STATION  
461 8th Street, Oakland, California



NOTE: MAP MODIFIED FROM FUGRO MAP DATED 7-9-92. MAP MODIFIED FROM VIRGIL SURVEY MAP DATED 6-25-08.

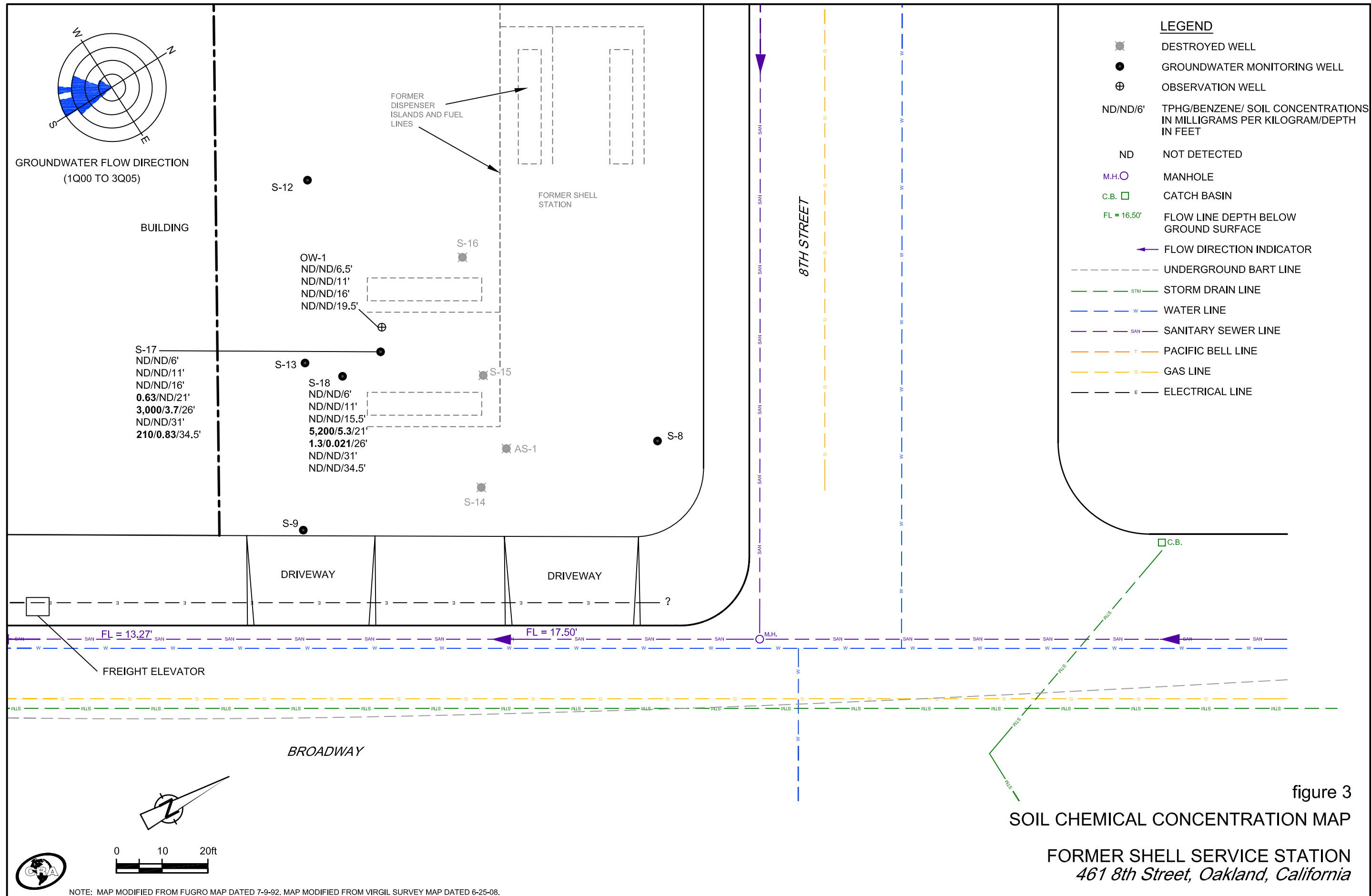


figure 3  
SOIL CHEMICAL CONCENTRATION MAP  
FORMER SHELL SERVICE STATION  
461 8th Street, Oakland, California

NOTE: MAP MODIFIED FROM FUGRO MAP DATED 7-9-92. MAP MODIFIED FROM VIRGIL SURVEY MAP DATED 6-25-08.  
241501-2008(SIR Soil Chem Map\_Jul08)GN-SO001 AUG 18/2008

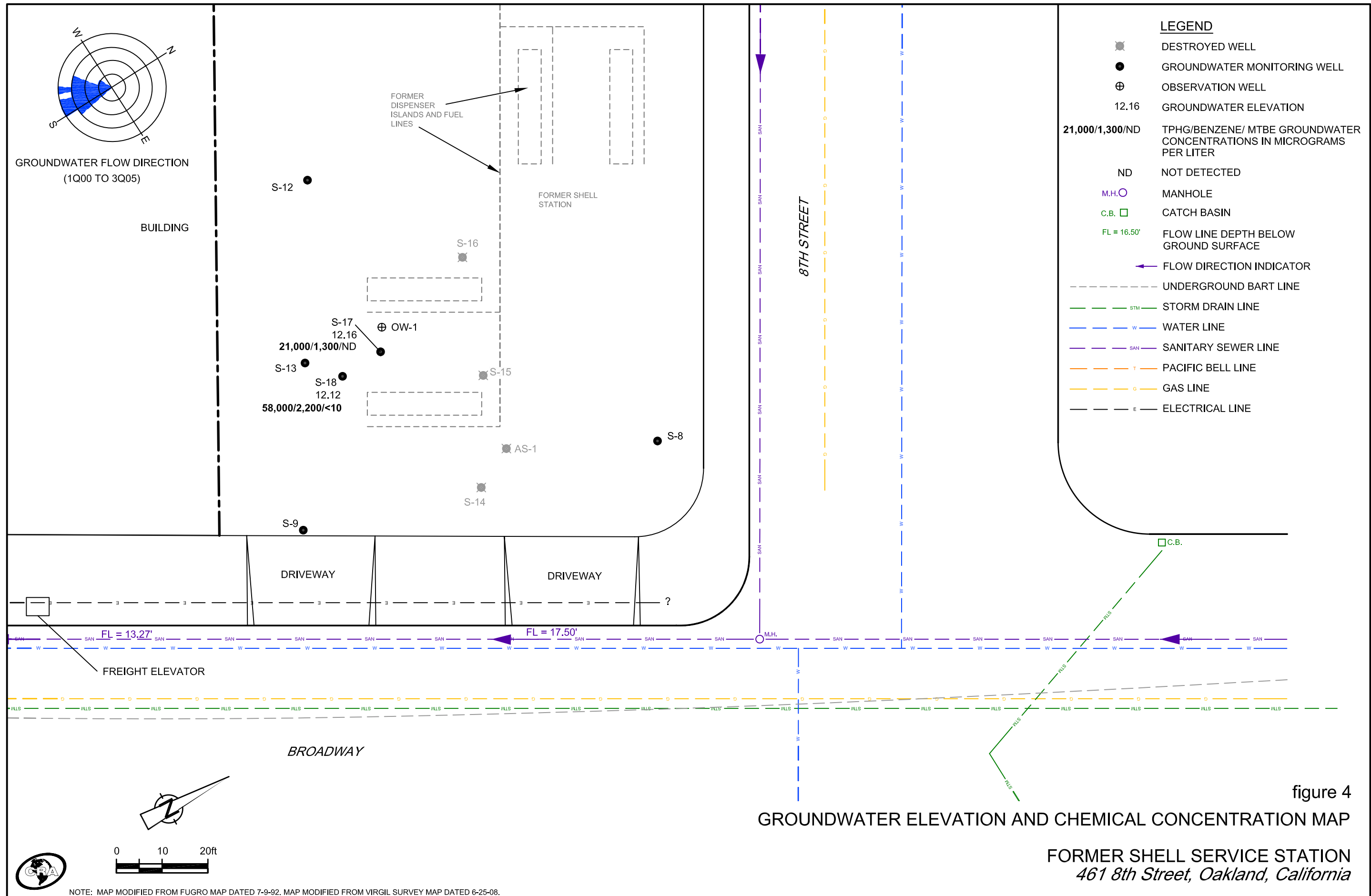
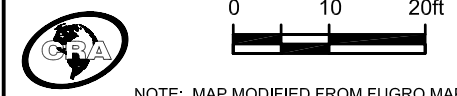


figure 4  
**GROUNDWATER ELEVATION AND CHEMICAL CONCENTRATION MAP**  
**FORMER SHELL SERVICE STATION**  
**461 8th Street, Oakland, California**



NOTE: MAP MODIFIED FROM FUGRO MAP DATED 7-9-92. MAP MODIFIED FROM VIRGIL SURVEY MAP DATED 6-25-08.  
 241501-2008(SIR GW Chem Map\_Jul08)GN-SO001 AUG 18/2008

**Table 1. Soil Analytical Data, Former Shell Service Station, 461 8th Street, Oakland, California**

Sample ID	Depth (feet)	Date	TPHg (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)
S-17-6	6	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
S-17-11	11	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
S-17-16	16	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
S-17-21	21	30-May-08	<b>0.63</b>	<0.0050	<b>0.008</b>	<b>0.0086</b>	<b>0.043</b>
A-17-26	26	30-May-08	<b>3,000</b>	<b>3.7</b>	<b>40</b>	<b>40</b>	<b>193</b>
S-17-31	31	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
S-17-34.5	34.5	30-May-08	<b>210</b>	<b>0.83</b>	<b>6.3</b>	<b>3.1</b>	<b>17.5</b>
S-18-6	6	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
S-18-11	11	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
S-18-15.5	15.5	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
S-18-21	21	30-May-08	<b>5,200</b>	<b>5.3</b>	<b>96</b>	<b>120</b>	<b>630</b>
A-18-26	26	30-May-08	<b>1.3</b>	<b>0.021</b>	<b>0.080</b>	<b>0.026</b>	<b>0.158</b>
S-18-31	31	30-May-08	<0.50	<0.0050	<b>0.0055</b>	<b>0.0234</b>	<0.010
S-18-34.5	34.5	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
OW-1-6.5	6.5	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
OW-11	11	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
OW-16	16	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010
OW-1-19.5	19.5	30-May-08	<0.50	<0.0050	<0.0050	<0.0050	<0.010

**Notes and Abbreviations:**

mg/kg = Milligrams per kilogram

&lt;x = Not detected at or below reporting limits

The following constituents analyzed by GCMS/8260B:

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015M or 8260B.

BTEX = Benzene, toluene, ethylbenzene, xylenes

**Attachment A**

**Site History**

## ATTACHMENT A

### Site Background

Former Shell Service Station  
461 8th Street  
Oakland, California

**1979 – 1980 – BART Construction/SPH:** During January 1979, separate phase hydrocarbons (SPH) were reported in a Bay Area Rapid Transit (BART) tunnel under the intersection of 7<sup>th</sup> Street and Broadway. Product line testing at the site indicated a pressure leak, and the product lines were replaced in January 1979. The USTs were also tested for tightness and passed. According to the *Bart Recovery Project Log* (chronological list of events – 1/10/79 through 12/3/81) and a 1981 Groundwater Technology, Inc. *Considerations on Infiltration of Gasoline into BART KE Line* report, one observation well is reported to have been drilled to a depth of 25 feet concurrent with piping replacement with no reports of contamination. Separate-phase product samples taken from the BART tube in January 1979 and in May 1981 reported the product as Shell Regular. Approximately 2,600 gallons (48 55-gallon drums) of a gasoline-and-water mixture are reported to have been removed from the BART tunnel between October 1979 and April 1980. The Shell station discontinued operation in May 1980, and all existing improvements, tanks, and associated piping were removed at that time. It is unknown whether a UST and piping removal report exists; to date, it has not been located.

**1981 – 1988 – Monitoring Wells and GWE:** Seven monitoring wells (L-1 through L-7) were installed during 1981. Based on recommendations following this investigation, a recovery well was installed in the vicinity of well L-6 (now re-named S-6) in 1982. According to a September 14, 1993 GeoStrategies Inc. (GSI) *Work Plan*, groundwater extraction from the recovery well began in February 1982 and continued until August 1982, when the system was shut down because the effluent discharge exceeded permitted discharge levels. Wells L-1 through L-3 were destroyed during construction of the BART tunnels in the mid-1980's and are no longer accessible. Records of the well destructions are not available. Wells L-4, L-5, and L-6 were renamed S-4, S-5, and S-6. Gettler-Ryan Inc. began gauging wells S-4 through S-6 in 1986 and collecting groundwater samples for analysis in 1988. A November 2, 1993 *Work Plan for Soil and Groundwater Sampling* prepared by Enviros, Inc. (Enviros) indicates that groundwater was extracted from wells S-5 and S-6 by bailing or by a vacuum truck beginning in October 1988.



**1993 – Phase I Assessment:** Information collected by GSI and reported in a June 30, 1993 *Phase I Preliminary Site Assessment* identified seven sites with known UST leaks within a ¼-mile radius of the site. One of the seven sites identified is the Oakland Police Department site, which was noted in the *Bart Recovery Project Log* to have replaced leaking USTs in October 1979 and to have accepted product deliveries by a local Shell gasoline distributor. During a review of available regulatory files, GSI noted a permit to repair the product lines and dispensers at the Oakland Police Department parking lot taken out in 1984 by Egan and Paradiso Company, but no additional information was available. It appears that no environmental investigation has been conducted for this site.

**1994 – B-1 through B-9:** During July 1994, nine soil borings (B-1 through B-9) were installed in the vicinity of the former pump islands and the former USTs at the site. Investigation activities are described in an August 16, 1994 *Enviros Site Investigation Report*. The maximum total petroleum hydrocarbons as gasoline (TPHg) and benzene concentrations reported in soil samples were 15 milligrams per kilogram (mg/Kg) and 0.24 mg/Kg, respectively, collected near the former pump islands. No TPHg or benzene was reported in the area of the former piping or the former UST locations.

**1994-1995 – S-8 through S-10 and Monitoring:** During December 1994, onsite monitoring wells S-8, S-9, and S-10 were installed in similar locations as the previously destroyed wells L-2, L-3, and L-1, respectively. Investigation activities are described in a February 14, 1995 *Enviros Site Investigation Report and Quarterly Monitoring Report – First Quarter 1995*. Except for 0.014 mg/Kg benzene in a sample from S-8 at 21.5 fbg, no TPHg or benzene was reported in soil samples collected from wells S-8 and S-9. Except for 760 mg/Kg TPHg and 0.0032 mg/Kg benzene reported in the sample from S-10 at 11.5 fbg, no TPHg or benzene was reported in soil samples collected from well S-10.

**2003 – Offsite Investigation:** During October 2003, one soil boring (HA-1) was installed within 7<sup>th</sup> Street, south of the site. Three additional offsite soil borings (one in Broadway near well S-5, one northwest of Broadway within 6<sup>th</sup> Street, and one near the eastern corner of Broadway and 6<sup>th</sup> Street) were attempted. However, subsurface obstructions and utility corridors were encountered, and the borings could not be completed. No TPHg, benzene, or methyl tertiary butyl ether (MTBE) was detected in soil samples collected from boring HA-1. No TPHg or benzene, and 6.3 micrograms per liter (µg/L) MTBE were detected in a grab groundwater sample collected from boring HA-1. Investigation activities are described in the December 16, 2003 *Subsurface Investigation Report* prepared by Cambria Environmental Technology, Inc. (Cambria).

**2004 Subsurface Investigation for Development:** During May 2004, Treadwell & Rollo, Inc. (T&R) of Oakland, California installed four soil borings (TR-1 through TR-4) onsite to collect soil and soil vapor samples. No TPHg or volatile organic compounds (VOCs) were detected in soil samples, and no benzene, toluene, ethylbenzene, or xylenes (BTEX) were detected in soil vapor samples collected. Investigation results are summarized in T&R's March 27, 2006 *Subsurface Investigation* report.

**2006 - Work Plan and Access Negotiations:** Access to the subject site for investigation prior to 2006 did not occur as Shell and Wells Fargo did not execute an access agreement. The property subsequently changed ownership, and Shell was granted access for investigation. The new property owner had plans for constructing a commercial development over the entire parcel, with subsurface parking and second story residential units. Once developed, future access to the site for subsurface investigation will not be feasible. Thus, Cambria's June 7, 2006 *Subsurface Investigation Work Plan* proposed installing ten (10) soil borings (B-10 through B-19) in the vicinity of the former piping and dispenser areas and four (4) soil borings (B-20 through B-23) for the collection of soil and grab groundwater samples.

**December 2006 – B-10 through B-23:** During December 2006, fourteen soil borings (B-10 through B-23) were drilled onsite. From the borings reported in this investigation, vadose zone impacted soils exist primarily at B-12, and to a lesser extent at B-13, B-14, and B-19. Fuel oxygenates are not present in any of the soil samples with the exception of 0.05 to 0.083 milligrams per kilogram (mg/kg) of tert butyl alcohol at 15 and 20 fbg in B-13 and at 14 fbg in B-14. Lead scavengers (1,2-Dichloroethane [1,2-DCA] and ethylene dibromide [EDB]) were not reported in any soil samples. Groundwater impact was reported in every grab groundwater sample except B-20. The highest concentrations of TPHg and BTEX were reported beneath the dispensers and product piping, and directly downgradient (southwest) thereof. The maximum concentration of TPHg was reported in the grab sample from B-22 at 960,000 micrograms per liter ( $\mu\text{g/l}$ ) and the maximum concentration of benzene was reported in B-10 at 24,000  $\mu\text{g/l}$ . None of the five fuel oxygenates were reported in any of the grab groundwater samples. 1,2-DCA was reported in 9 of the 14 water samples at concentrations ranging from 3.0 to 410  $\mu\text{g/l}$ , and EDB was reported in one of the 14 water samples (B-12) at a concentration of 52  $\mu\text{g/l}$ . Investigation activities are described in the March 2, 2007 *Subsurface Investigation Report* prepared by Conestoga-Rovers & Associates (CRA). Based on the findings and conclusions, CRA recommended additional delineation of the vertical extent of groundwater impact beneath the site, collection of soil gas samples to further evaluate potential development issues, installation of a monitoring well near boring B-22 for monitoring and possible groundwater

extraction, installation of a monitoring well along 7<sup>th</sup> Street, downgradient of the site to replace monitoring well S-5 which is no longer accessible due to the issue of confined space entry, delineation of the horizontal extent of impact downgradient of impacted well S-6, as requested by the ACEH, and requested a meeting with the agency.

***March – November 2007 - Meetings and Correspondence:*** The ACEH met with Shell and CRA on March 9, 2007. During that meeting, various remedial alternatives were discussed for the site, with consideration toward the potential development of the site. In a letter dated March 30, 2007, the ACEH requested work plans for soil vapor sampling, vertical delineation of contamination and proposed locations for additional wells, an evaluation and proposal for on-site remediation, and information concerning the schedule and design specifications for any proposed development for the site. In response, Shell submitted Cambria's May 25, 2007 *Remedial Alternatives Evaluation, Site Investigation and DPE Pilot Test Work Plan*, which proposed: (1) Permit and destroy well S-5; (2) Permit and install replacement well in 7<sup>th</sup> Street (S-11); (3) Obtain access agreement and install soil vapor probes in basement of adjacent building; sample vapor probes; (4) Install four borings for vertical assessment of lithology, soil and groundwater impact (SB-24 through SB-27); (5) After receipt and review of data from SB-24 through SB-27, confirm location and construction of proposed onsite monitoring wells (S-12 through S-16); install and develop new wells; (6) Perform DPE pilot test. On October 18, 2007, a meeting between ACEH, Shell, and the property owner (A.F. Evans) was held, and in correspondence dated October 19, 2007, the ACEH approved the May 25, 2007 work plan with additional actions. Specifically, Shell was to provide a work plan addendum to include an air sparging pilot test, and onsite soil vapor sampling. Additionally, the ACEH requested that soil excavation be considered as part of a remedial alternative in a Corrective Action Plan. The ACEH's requests were incorporated into CRA's October 30, 2007 *Work Plan Addendum*. The work was conditionally approved by the ACEH correspondence dated November 9, 2007.

***November 2007 – January 2008, Investigation and Pilot Testing:*** Between November 3 and December 13, 2007, CRA installed borings B-24 through B-27, converted them into vapor probes VP-1 through VP-4, installed monitoring wells S-12 through S-16 and air sparge well, AS-1. The DPE pilot test was performed on January 7 and 8, 2008 and AS pilot test was performed on January 10 and 11, 2008. The data, findings, conclusions and recommendations from these activities are documented in CRA's February 25, 2008 *Site Investigation and Pilot Test Report, and Corrective Action Plan*. The CAP evaluated monitored natural attenuation, in-situ chemical oxidation (ISCO), DPE, Excavation, and AS/SVE as remedial alternatives, and selected AS/SVE.

***March and April 2008 - Correspondence and Meetings:*** The ACEH responded to the February 25, 2008 *Site Investigation and Pilot Test Report, and Corrective Action Plan* in correspondence dated March 14, 2008. This correspondence enumerated 7 specific technical comments to be addressed and requested submittal of a “Revised Site Investigation/DPE Pilot Test Report and Draft Corrective Action Plan”. While in the process of preparing this response, Shell attended a meeting with ACEH and the property owners, A.F. Evans on April 1, 2008. During that meeting, Shell agreed to perform limited excavation at the subject site, in an effort to more rapidly remove residual mass from the vadose zone soils at the subject site than would an insitu technique, in consideration of anticipated site development. Thus, the ACEH technical comments from their March 14, 2008 correspondence were responded to, and a plan for remediation by excavation and possible secondary remediation by insitu chemical oxidation (ISCO) were presented in, CRA’s April 17, 2008 *Remedial Action Plan*. The ACEH approved excavation as an interim remedial action, with conditions in correspondence dated April 24, 2008.

***May 2008 – Well Destructions and Installations:*** Owing to the proposed rapid field schedule for excavation work, numerous phone conversations and email correspondence between ACEH, Shell, CRA, and A. F. Evans occurred resulting in the destruction of monitoring wells S-14, S-15, S-16, and AS-1 on May 23, 2008 by pressure grouting, and the installation of wells S-17, S-18, and OW-1 on May 30, 2008 prior to excavation.

**Attachment B**

**Permits**

# Alameda County Public Works Agency - Water Resources Well Permit



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

**Application Approved on: 05/13/2008 By jamesy**

**Permit Numbers: W2008-0246 to W2008-0249**  
**Permits Valid from 05/23/2008 to 05/23/2008**

**Application Id:** 1210184081667  
**Site Location:** 461 8th St, Oakland, CA 94612  
**Project Start Date:** 05/23/2008  
**Requested Inspection:** 05/23/2008  
**Scheduled Inspection:** 05/23/2008 at 2:00 PM (Contact your inspector, Vicky Hamlin at (510) 670-5443, to confirm.)

**City of Project Site:**Oakland  
**Completion Date:**05/23/2008

**Applicant:** Conestoga-Rovers Associates - Jacquelyn England  
19449 Riverside Dr #230, Sonoma, CA 95476  
**Property Owner:** AF Evans Co c/o Greg Lunkes  
1000 Broadway #300, Oakland, CA 94507  
**Client:** \*\* same as Property Owner \*\*

**Phone:** 707-933-2370

**Phone:** --

	<b>Total Due:</b>	\$1200.00
<b>Receipt Number: WR2008-0153</b>	<b>Total Amount Paid:</b>	\$1200.00
<b>Payer Name : Conestoga</b>	<b>Paid By: CHECK</b>	<b>PAID IN FULL</b>

**Works Requesting Permits:**

Well Destruction-Monitoring - 4 Wells  
Driller: Gregg - Lic #: 485165 - Method: press

**Work Total: \$1200.00**

**Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2008-0246	05/13/2008	08/21/2008	AS-1	8.00 in.	2.00 in.	29.00 ft	35.50 ft			
W2008-0247	05/13/2008	08/21/2008	S-14	10.00 in.	4.00 in.	13.00 ft	35.00 ft			
W2008-0248	05/13/2008	08/21/2008	S-15	10.00 in.	4.00 in.	13.00 ft	35.00 ft			
W2008-0249	05/13/2008	08/21/2008	S-16	10.00 in.	4.00 in.	18.00 ft	35.00 ft			

**Specific Work Permit Conditions**

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility 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.

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

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and



**Scheduling Work/Inspections:**

Alameda County Public Works Agency (ACPWA), Water Resources Section requires scheduling and inspection of permitted work. All drilling activities must be scheduled in advance. Availability of inspections will vary from week to week and will come on a first come, first served bases. To ensure inspection availability on your desired or driller scheduled date, the following procedures are required:

Please contact **James Yoo at 510-670-6633** to schedule the inspection date and time (You must have drilling permit approved prior to scheduling).

Schedule the work as far in advance as possible (at least 5 days in advance); and confirm the scheduled drilling date(s) at least 24 hours prior to drilling.

Once the work has been scheduled, an ACPWA Inspector will coordinate the inspection requirements as well as how the Inspector can be reached if they are not at the site when Inspection is required. Expect for special circumstances given, all work will require the inspection to be conducted during the working hours of 8:30am to 2:30pm., Monday to Friday, excluding holidays.

**Request for Permit Extension:**

Permits are only valid from the start date to the completion date as stated on the drilling permit application and Conditions of Approval. To request an extension of a drilling permit application, applicants must request in writing prior to the completion date as set forth in the Conditions of Approval of the drilling permit application. Please send fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. There are no additional fees for permit extensions or for re-scheduling inspection dates. You may not extend your drilling permit dates beyond 90 days from the approval date of the permit application. **NO refunds** shall be given back after 90 days and the permit shall be deemed voided.

**Cancel a Drilling Permit:**

Applicants may cancel a drilling permit only in writing by mail, fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. If you do not cancel your drilling permit application before the drilling completion date or notify in writing within 90 days, Alameda County Public Works Agency, Water Resources Section may void the permit and No refunds may be given back.

**Refunds/Service Charge:**

A service charge of \$25.00 dollars for the first check returned and \$35.00 dollars for each subsequent check returned.

Applicants who cancel a drilling permit application **before** we issue the approved permit(s), will receive a **FULL** refund (at any amount) and will be mailed back within two weeks.

Applicants who cancel a drilling permit application **after** a permit has been issued will then be charged a service fee of \$50.00 (fifty Dollars).

To collect the remaining funds will be determined by the amount of the refund to be refunded (see process below).

Board of Supervisors Minute Order, File No. 9763, dated January 9, 1996, gives blanket authority to the Auditor-Controller to process claims, from all County departments for the refund of fees which do not exceed \$500 (Five Hundred Dollars)(with the exception of the County Clerk whose limit is \$1,500).

Refunds over the amounts must be authorized by the Board of Supervisors Minute Order, File No. 9763 require specific approval by the Board of Supervisors. The forms to request for refunds under \$500.00 (Five Hundred Dollars) are available at this office or any County Offices. If the amount is exceeded, a Board letter and Minute Order must accompany the claim. Applicant shall fill out the request form and the County Fiscal department will process the request.

**Enforcement**

Penalty. Any person who does any work for which a permit is required by this chapter and who fails to obtain a permit shall be guilty of a misdemeanor punishable by fine not exceeding Five Hundred Dollars (\$500.00) or by imprisonment not exceeding six months, or by both such fine and imprisonment, and such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such

# PROGRAMS AND SERVICES

## Well Standards Program

The Alameda County Public Works Agency, Water Resources is located at:

399 Elmhurst Street

Hayward, CA 94544

For Driving Directions or General Info, Please Contact 510-670-5480 or wells@acpwa.org

For Drilling Permit information and process contact James Yoo at

Phone: 510-670-6633

FAX: 510-782-1939

Email: [Jamesy@acpwa.org](mailto:Jamesy@acpwa.org)

Alameda County Public Works is the administering agency of General Ordinance Code, Chapter 6.88 . The purpose of this chapter is to provide for the regulation of groundwater wells and exploratory holes as required by California Water Code. The provisions of these laws are administered and enforced by Alameda County Public Works Agency through its Well Standards Program.

**Drilling Permit Jurisdictions in Alameda County:** There are four jurisdictions in Alameda County.

### Location: Agency with Jurisdiction Contact Number

Berkeley City of Berkeley Ph: 510-981-7460

Fax: 510-540-5672

Fremont, Newark, Union City Alameda County Water District Ph: 510-668-4460

Fax: 510-651-1760

Pleasanton, Dublin, Livermore, Sunol Zone 7 Water Agency Ph: 925-454-5000

Fax: 510-454-5728

The Alameda County Public Works Agency, Water Resources has the responsibility and authority to issue drilling permits and to enforce the County Water Well Ordinance 73-68. This jurisdiction covers the western Alameda County area of **Oakland, Alameda, Piedmont, Emeryville, Albany, San Leandro, San Lorenzo, Castro Valley, and Hayward** . The purpose of the drilling permits are to ensure that any new well or the destruction of wells, including geotechnical investigations and environmental sampling within the above jurisdiction and within Alameda County will not cause pollution or contamination of ground water or otherwise jeopardize the health, safety or welfare of the people of Alameda County.

**Permits** are required for all work pertaining to wells and exploratory holes at any depth within the jurisdiction of the Well Standards Program. A completed permit application (30 Kb)\* , along with a site map, should be submitted at least **ten (10) working days prior to the planned start of work**. Submittals should be sent to the address or fax number provided on the application form. When submitting an application via fax, please use a high resolution scan to retain legibility.

### Fees

**Beginning April 11, 2005** , the following fees shall apply:

A permit to construct, rehabilitate, or destroy wells, including cathodic protection wells, but excluding dewatering wells (\*Horizontal hillside dewatering and dewatering for construction period only), shall cost \$300.00 per well.

A permit to bore exploratory holes, including temporary test wells, shall cost \$200 per site. A site includes the project parcel as well as any adjoining parcels.

Please make checks payable to: **Treasurer, County of Alameda**

### Permit Fees are exempt to State & Federal Projects

Applicants shall submit a letter from the agency requesting the fee exemption.

violation is committed, continued, or permitted, and shall be subject to the same punishment as for the original offense. (Prior gen. code §3-160.6)

**Enforcement actions will be determined by this office on a case-by-case basis**

Drilling without a permit shall be the cost of the permit(s) and a fine of \$500.00 (Five Hundred Dollars).

**Well Completion Reports** (State DWR-188 forms) must be filed with the Well Standards Program within 60 days of completing work. Staff will review the report, assign a state well number, and then forward it to the California Department of Water Resources (DWR). Drillers should not send completed reports to DWR directly. Failure to file a Well Completion Report or deliberate falsification of the information is a misdemeanor; it is also grounds for disciplinary action by the Contractors' State License Board. Also note that filed Well Completion Reports are considered private record protected by state law and can only be released to the well owner or those specifically authorized by government agencies.



See our website ([www.acgov.org/pwa/wells/index.shtml](http://www.acgov.org/pwa/wells/index.shtml)) for links to additional forms.

## **Alameda County Public Works Agency - Water Resources Well Permit**

mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

4. 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 and liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

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

6. 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 statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

7. Remove the Christy box or similar structure.

Destroy well by grouting neat cement with a tremie pipe or pressure grouting (25 psi for 5min.) to the bottom of the well and by filling with neat cement to three (3-5) feet below surface grade. Allow the sealing material to spill over the top of the casing to fill any annular space between casing and soil.

After the seal has set, backfill the remaining hole with concrete or compacted material to match existing conditions.

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

9. Christy box will be removed at another time per-email submitted and approved by our office.

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# Alameda County Public Works Agency - Water Resources Well Permit



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

**Application Approved on: 05/28/2008 By jamesy**

**Permit Numbers: W2008-0295 to W2008-0297**  
**Permits Valid from 05/30/2008 to 05/30/2008**

**Application Id:** 1211473080677  
**Site Location:** 461 8th St, Oakland, CA  
**Project Start Date:** 05/30/2008  
**Requested Inspection:** 05/30/2008  
**Scheduled Inspection:** 05/30/2008 at 2:30 PM (Contact your inspector, Vicky Hamlin at (510) 670-5443, to confirm.)

**City of Project Site:** Oakland  
**Completion Date:** 05/30/2008

**Applicant:** Conestoga-Rovers & Associates - Jacquelyn England  
19449 Riverside Dr. #230, Sonoma, CA 95476  
**Phone:** 707-933-2370

**Property Owner:** AF Evans Co. Greg Lunkes  
1000 Broadway #300, Oakland, CA 94507  
**Phone:** 510-267-4686

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

	<b>Total Due:</b>	\$900.00
<b>Receipt Number: WR2008-0179</b>	<b>Total Amount Paid:</b>	\$900.00
<b>Payer Name : Conestoga-Rovers &amp; Associates</b>	<b>PAID By: CHECK</b>	<b>PAID IN FULL</b>

**Works Requesting Permits:**

Well Construction-Monitoring-Monitoring - 3 Wells  
Driller: Gregg Drilling - Lic #: 485165 - Method: auger

**Work Total: \$900.00**

**Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2008-0295	05/28/2008	08/28/2008	DW-1	8.00 in.	1.00 in.	3.00 ft	20.00 ft
W2008-0296	05/28/2008	08/28/2008	S-17	8.00 in.	2.00 in.	13.00 ft	35.00 ft
W2008-0297	05/28/2008	08/28/2008	S-18	8.00 in.	2.00 in.	13.00 ft	35.00 ft

**Specific Work Permit Conditions**

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the

## **Alameda County Public Works Agency - Water Resources Well Permit**

permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
  5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
  6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
  7. Minimum surface seal thickness is two inches of cement grout placed by tremie
  8. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
  9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
-



# PROGRAMS AND SERVICES

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**Request for Permit Extension:**

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violation is committed, continued, or permitted, and shall be subject to the same punishment as for the original offense. (Prior gen. code §3-160.6)

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See our website ([www.acgov.org/pwa/wells/index.shtml](http://www.acgov.org/pwa/wells/index.shtml)) for links to additional forms.

**Attachment C**

**Well Logs**

# Boring/Well Log Legend

## KEY TO SYMBOLS/ABBREVIATIONS

- ▽ First encountered groundwater
- ▼ Static groundwater
- ▩ Soils logged by hand-auger or air-knife cuttings
- ⎓ Soils logged by drill cuttings or disturbed sample
- ▭ Undisturbed soil sample interval
- Soil sample retained for submittal to analytical laboratory
- No recovery within interval
- ▨ Hydropunch or vapor sample screen interval
- PID = Photo-ionization detector or organic vapor meter reading in parts per million (ppm)
- fbg = Feet below grade
- Blow Counts = Number of blows required to drive a California-modified split-spoon sampler using a 140-pound hammer falling freely 30 inches, recorded per 6-inch interval of a total 18-inch sample interval
- (10YR 4/4) = Soil color according to Munsell Soil Color Charts
- msl = Mean sea level
- Soils logged according to the USCS.

## UNIFIED SOILS CLASSIFICATION SYSTEM (USCS) SUMMARY

Major Divisions		Graphic	Group Symbol	Typical Description
Coarse-Grained Soils (>50% Sands and/or Gravels)	Gravel and Gravelly Soils	Clean Gravels (≤5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		Gravels with Fines (≥15% fines)	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Sand and Sandy Soils	Clean Sands (≤5% fines)	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
		Sands with Fines (≥15% fines)	SW	Well-graded sands, gravelly sands, little or no fines
			SP	Poorly-graded sands, gravelly sand, little or no fines
Fine-Grained Soils (>50% Silts and/or Clays)	Silts and Clays	SM	Silty sands, sand-silt mixtures	
		SC	Clayey sands, sand-clay mixtures	
		ML	Inorganic silts, very fine sands, silty or clayey fine sands, clayey silts with slight plasticity	
	Silts and Clays	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
		OL	Organic silts and organic silty clays of low plasticity	
		MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils	
		CH	Inorganic clays of high plasticity	
Highly Organic Soils	OH	Organic clays of medium to high plasticity, organic silts		
	PT	Peat, humus, swamp soils with high organic contents		



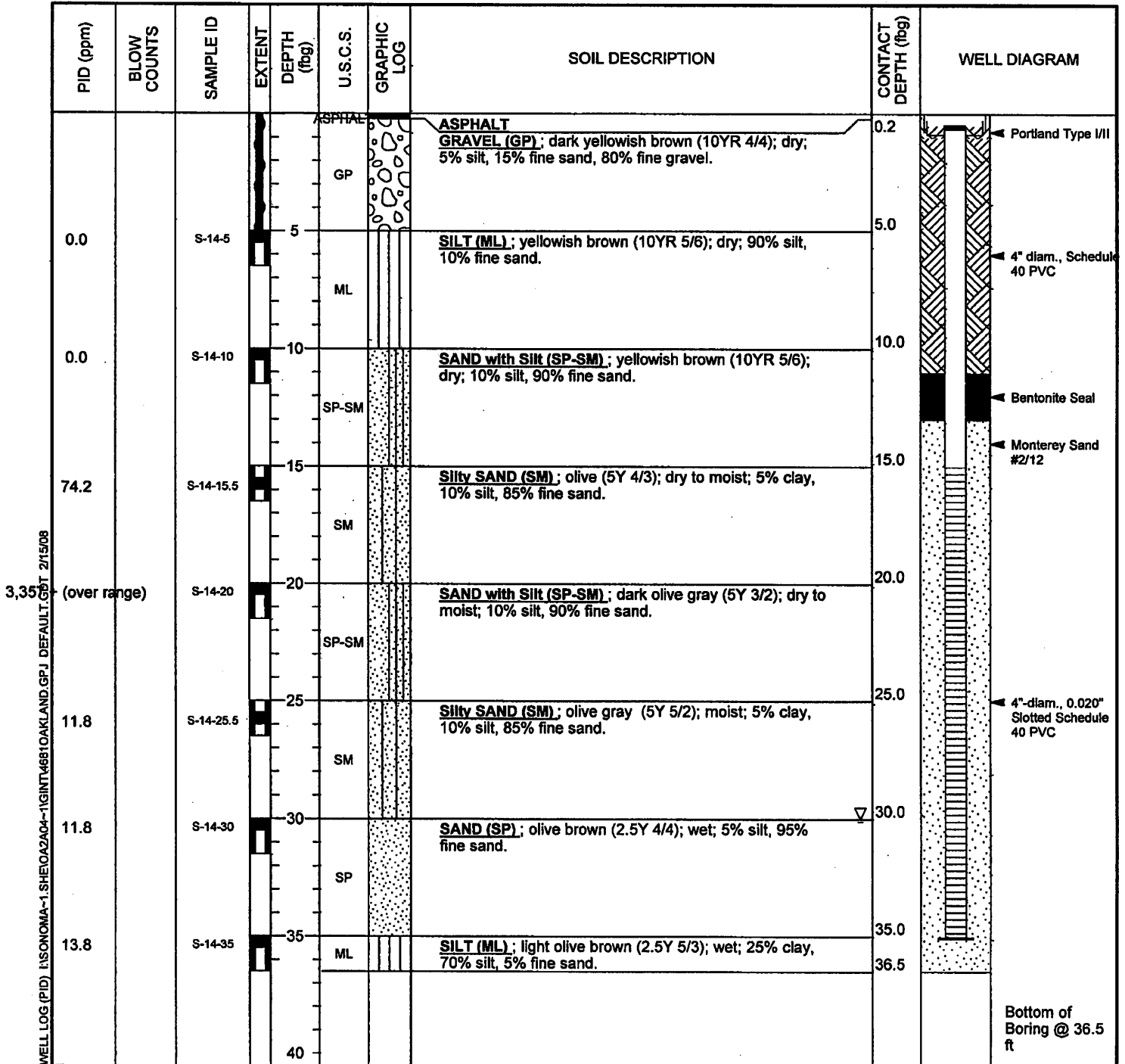
M:\Templates & Forms\Boring Logs\Boring Log Legend



Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, California 95476  
 Telephone: 707-935-4850  
 Fax: 707-935-6649

# BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	S-14
JOB/SITE NAME	Former Shell Service Station	DRILLING STARTED	12-Dec-07
LOCATION	461 8th Street, Oakland, California	DRILLING COMPLETED	12-Dec-07
PROJECT NUMBER	241501-009	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	35.47 ft above msl
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	34.94 ft above msl
BORING DIAMETER	10"	SCREENED INTERVAL	15 to 35 fbg
LOGGED BY	L. Goldfinch	DEPTH TO WATER (First Encountered)	30.0 ft (12-Dec-07)
REVIEWED BY	A. Friel, PG 6452	DEPTH TO WATER (Static)	NA
REMARKS	Air knifed to 5'. Located S of S-8.		



WELL LOG (PID) I:\SONOMA-1\SHEVOA2A04-1\GINTY4681OAKLAND.GPJ\_DEFAULT.GPJ 2/15/08

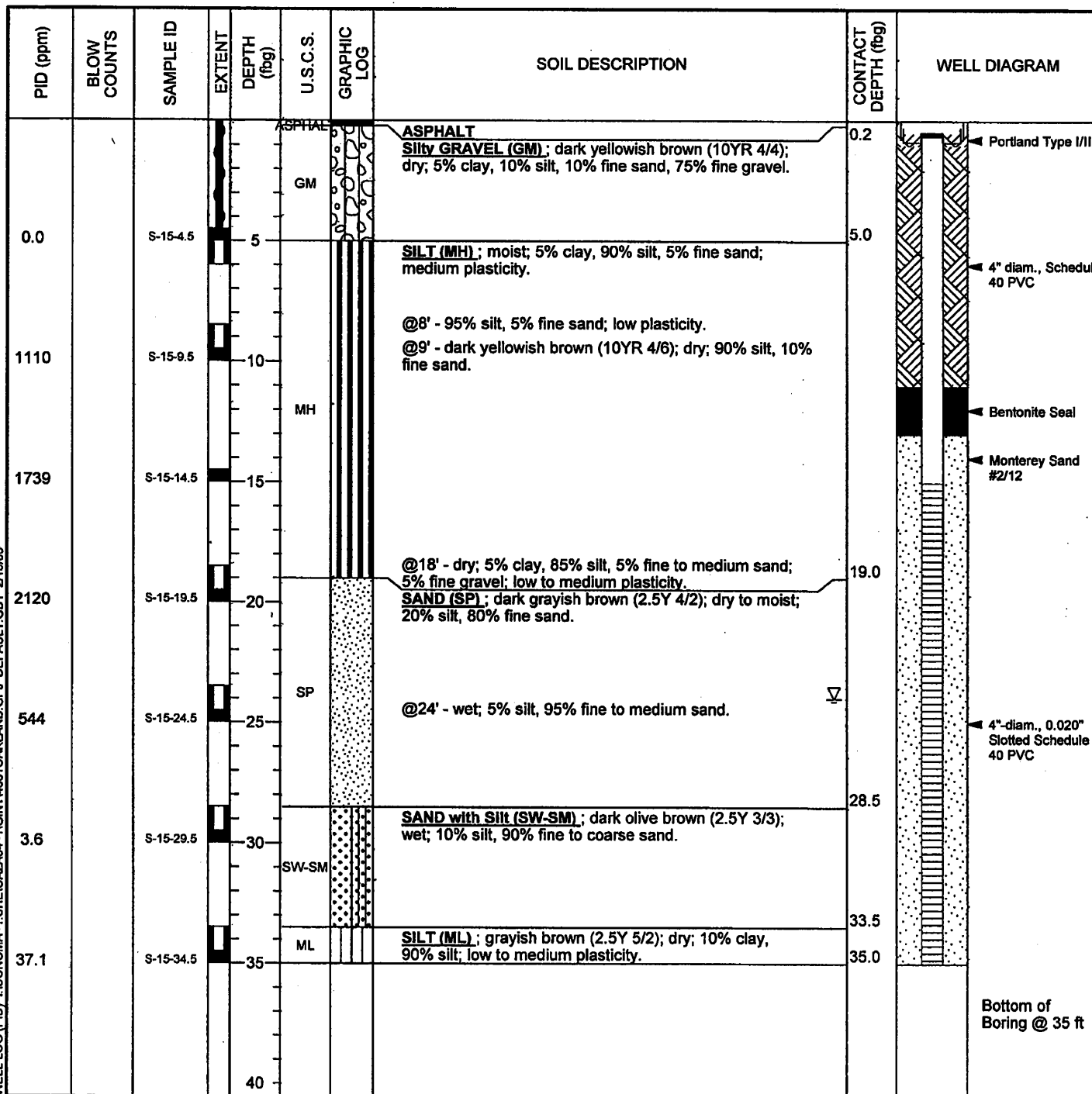




Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, California 95476  
 Telephone: 707-935-4850  
 Fax: 707-935-6649

# BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	S-15
JOB/SITE NAME	Former Shell Service Station	DRILLING STARTED	11-Dec-07
LOCATION	461 8th Street, Oakland, California	DRILLING COMPLETED	11-Dec-07
PROJECT NUMBER	241501-009	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	35.86 ft above msl
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	35.34 ft above msl
BORING DIAMETER	10"	SCREENED INTERVAL	15 to 35 fbg
LOGGED BY	C.Rodriguez	DEPTH TO WATER (First Encountered)	24.0 ft (11-Dec-07)
REVIEWED BY	A. Friel, PG 6452	DEPTH TO WATER (Static)	NA
REMARKS	Air knifed to 5'. Located N of S-8.		



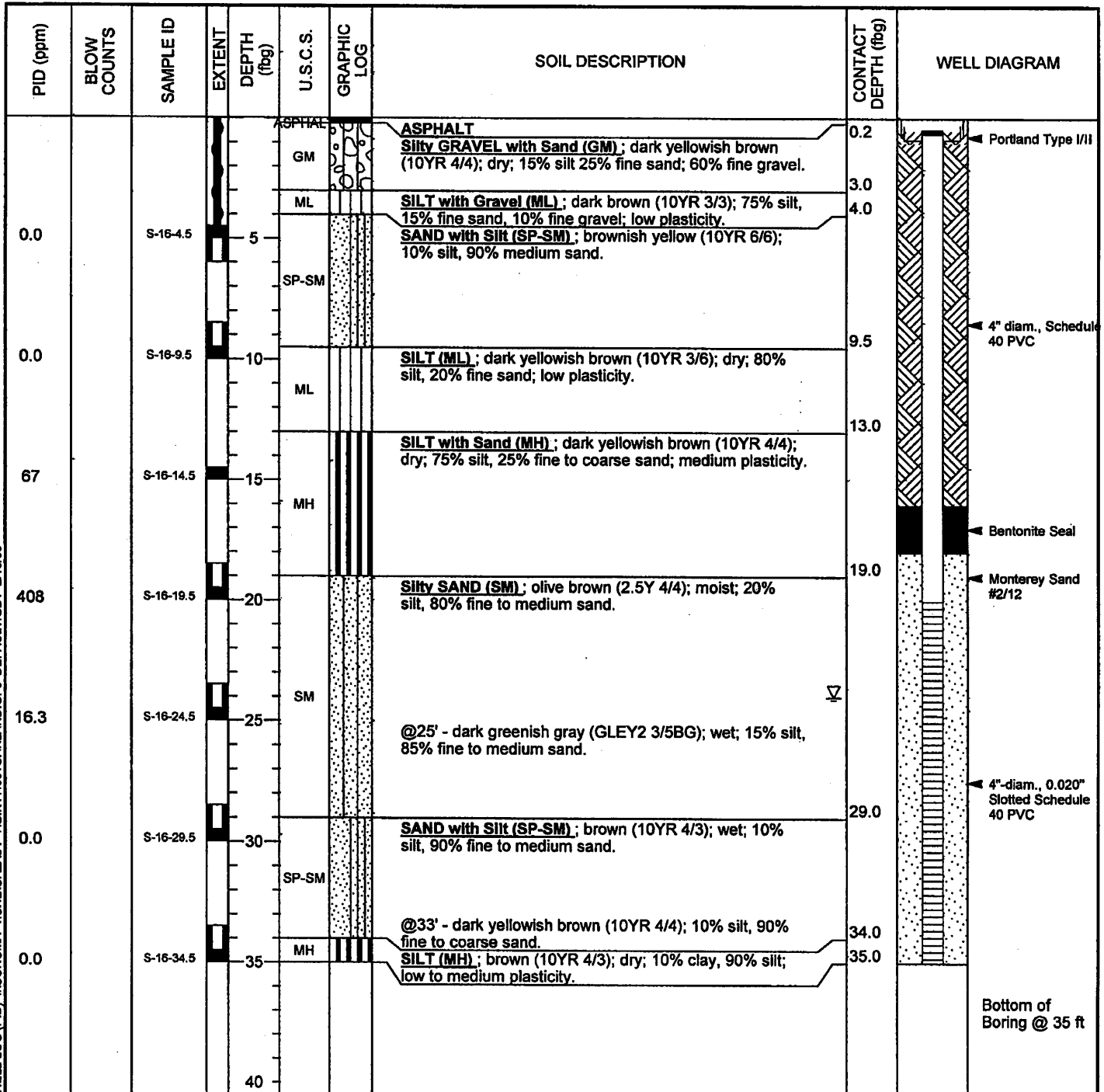
WELL LOG (PID): I:SONOMA-1.SHEIOA2A04-1GINTV4681OAKLAND.GPJ DEFAULT.GDT 2/15/08



Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, California 95476  
 Telephone: 707-935-4850  
 Fax: 707-935-6649

# BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	S-16
JOB/SITE NAME	Former Shell Service Station	DRILLING STARTED	11-Dec-07
LOCATION	461 8th Street, Oakland, California	DRILLING COMPLETED	11-Dec-07
PROJECT NUMBER	241501-009	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	36.51 ft above msl
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	36.08 ft above msl
BORING DIAMETER	10"	SCREENED INTERVAL	20 to 35 fbg
LOGGED BY	C.Rodriguez	DEPTH TO WATER (First Encountered)	24.0 ft (11-Dec-07)
REVIEWED BY	A. Friel, PG 6452	DEPTH TO WATER (Static)	NA
REMARKS	Air knifed to 5'.		



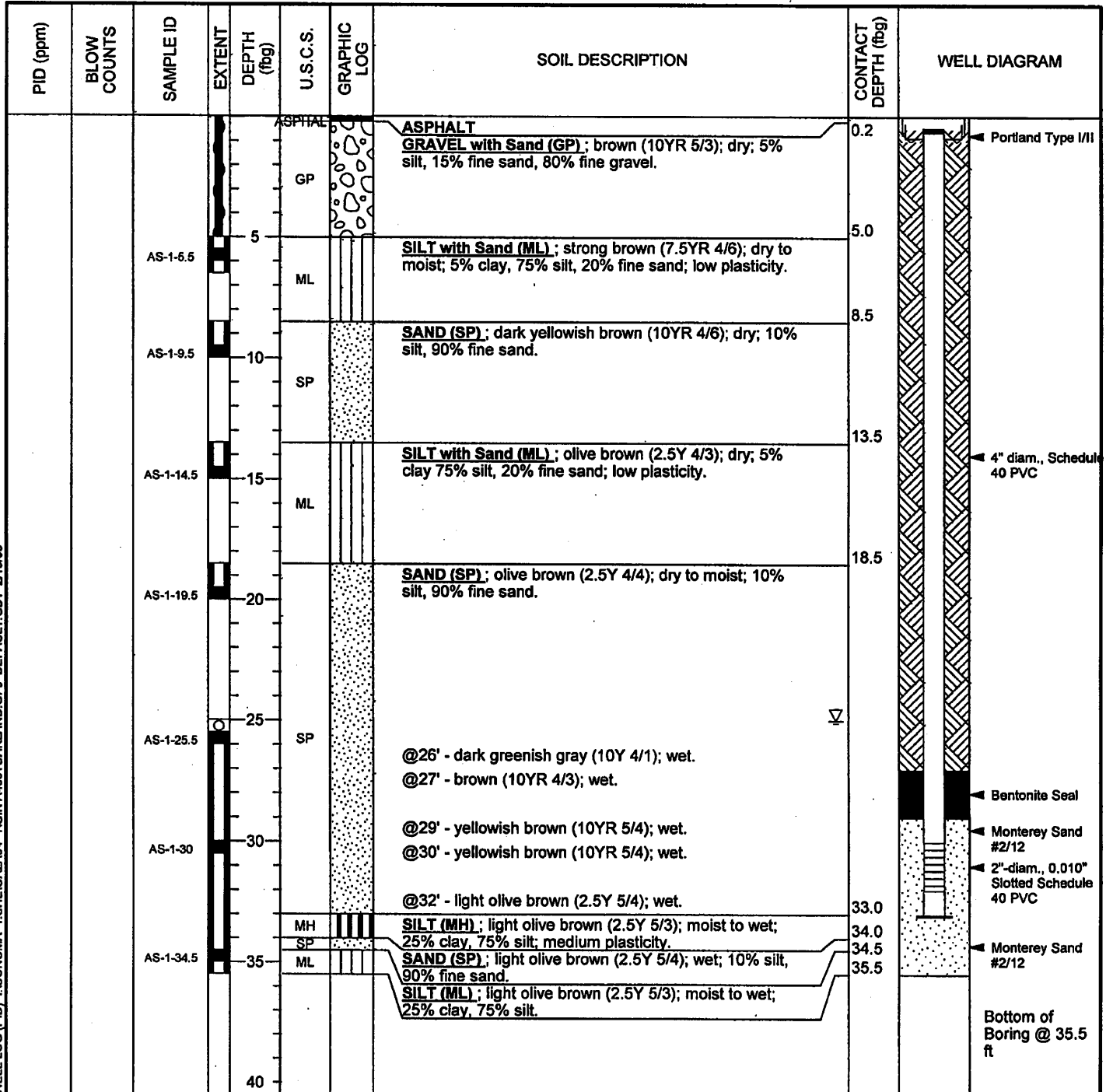
WELL LOG (PID) \SONOMA-1.SHELOA2A04-1\GINT\4681\OAKLAND.GPJ DEFAULT.GDT 2/15/08



Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, California 95476  
 Telephone: 707-935-4850  
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# BORING/WELL LOG

<b>CLIENT NAME</b>	Shell Oil Products US	<b>BORING/WELL NAME</b>	AS-1
<b>JOB/SITE NAME</b>	Former Shell Service Station	<b>DRILLING STARTED</b>	13-Dec-07
<b>LOCATION</b>	461 8th Street, Oakland, California	<b>DRILLING COMPLETED</b>	13-Dec-07
<b>PROJECT NUMBER</b>	241501-009	<b>WELL DEVELOPMENT DATE (YIELD)</b>	NA
<b>DRILLER</b>	Gregg Drilling	<b>GROUND SURFACE ELEVATION</b>	35.59 ft above msl
<b>DRILLING METHOD</b>	Hollow-stem auger	<b>TOP OF CASING ELEVATION</b>	35.33 ft above msl
<b>BORING DIAMETER</b>	8"	<b>SCREENED INTERVAL</b>	30 to 32 fbg
<b>LOGGED BY</b>	L. Goldfinch	<b>DEPTH TO WATER (First Encountered)</b>	25.0 ft (13-Dec-07)
<b>REVIEWED BY</b>	A. Friel, PG 6452	<b>DEPTH TO WATER (Static)</b>	NA
<b>REMARKS</b>	Air knifed to 5'. NE of S-8.		



WELL LOG (PID) I:\SONOMA-1.SHEVOA2A04-1\GINT\4681OAKLAND.GPJ DEFAULT.GDT 2/15/08



Conestoga-Rovers & Associates  
 1420 80th Street, SW, Suite A  
 Everett, Washington 98203  
 Telephone: 425-212-5100  
 Fax: 425-212-5199

# BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	OW-1
JOB/SITE NAME	Former Shell Service Station	DRILLING STARTED	30-May-08
LOCATION	461 8th Street, Oakland, California	DRILLING COMPLETED	30-May-08
PROJECT NUMBER	241501-009	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	8"	SCREENED INTERVAL	5 to 20 fbg
LOGGED BY	J. England, PG 8468	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	A. Friel, PG 6452	DEPTH TO WATER (Static)	NA
REMARKS	Hand Augered to 5.5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (ftg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (ftg)	WELL DIAGRAM
				0	ASPHAL		<b>ASPHALT</b>	1.0	<p>Portland Type I/II            Bentonite Seal            Monterey Sand #2/12            2"-diam., 0.020" Slotted Schedule 40 PVC</p>
				3.5	GM		<b>Silty GRAVEL (GM)</b> ; dry; 30% silt, 20% sand, 50% gravel.	3.5	
				5	SM		<b>Silty SAND (SM)</b> ; dry; 15% silt, 85% sand.	5.5	
2		OW-1-6.5		5			<b>SAND (SP)</b> ; light olive brown (2.5Y 5/6); dry; 95% sand, 5% fine gravel.	5.5	
0		OW-1-11		10	SP		@10.5' - 100% fine sand.		
12		OW-1-16		15			@15.5' - dark olive gray (5Y 3/2); 100% fine sand.		
42		OW-1-19.5		20			@18.5' - olive (5Y 4/4); 100% fine sand.	20.0	
				25					
				30					
				35					Bottom of Boring @ 20 ft

WELL LOG (PID) I:\SONOMA-1\SHE10A2A04-1\GIN14681\OAKLAND.GPJ DEFAULT.GDT 8/18/08



Conestoga-Rovers & Associates  
 1420 80th Street, SW, Suite A  
 Everett, Washington 98203  
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 Fax: 425-212-5199

# BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	S-17
JOB/SITE NAME	Former Shell Service Station	DRILLING STARTED	30-May-08
LOCATION	461 8th Street, Oakland, California	DRILLING COMPLETED	30-May-08
PROJECT NUMBER	241501-009	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	8"	SCREENED INTERVAL	15 to 35 fbg
LOGGED BY	J. England, PG 8468	DEPTH TO WATER (First Encountered)	22.0 ft (30-May-08) ▽
REVIEWED BY	A. Friel, PG 6452	DEPTH TO WATER (Static)	NA ▾
REMARKS	Air knifed to 5'.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
No odor				ASPHALT		<b>ASPHALT</b>	1.0	
				GM		<b>Silty GRAVEL (GM)</b> ; brick rubble; dry; 30% silt, 20% sand, 50% gravel.	3.5	
			5	SM		<b>Silty SAND (SM)</b> ; dry; 15% silt, 85% sand.	6.0	
2		S-17-6		SM		@5' - tree roots.	6.0	
				SM		<b>Silty SAND with Gravel (SM)</b> ; olive brown (2.5Y 4/4); dry; 30% silt, 50% fine to coarse sand; 20% fine to coarse gravel; low plasticity.	10.5	
0		S-17-11	10			<b>SAND with Silt (SP-SM)</b> ; brown (7.5YR 4/4); dry; 10% silt, 90% fine sand.	10.5	
			15	SP-SM		@15.5' - olive gray (5Y 4/2).	20.5	
66		S-17-16					20.5	
			20			<b>SAND (SP)</b> ; olive gray (5Y 5/2); dry; 100% fine sand.	20.5	
825		S-17-21					20.5	
			25	SP		@25.5' - dark olive gray (5Y 3/2); wet.	35.0	
1316		S-17-26					35.0	
			30			@30.5' - dark grayish brown (2.5Y 4/2); wet.	35.0	
41		S-17-31					35.0	
			35			@33.5' - olive brown (2.5Y 4/4); wet.	35.0	
464		S-17-34.5					35.0	
			40				35.0	

Portland Type I/II

Bentonite Seal

Monterey Sand #2/12

2"-diam., 0.020" Slotted Schedule 40 PVC

Bottom of Boring @ 35 ft

WELL LOG (PID) I:\SONOMA-1\SHE10A2A04-1\GIN\T4681OAKLAND.GPJ DEFAULT.GDT 8/18/08



Conestoga-Rovers & Associates  
 1420 80th Street, SW, Suite A  
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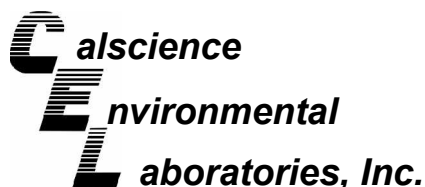
# BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	S-18
JOB/SITE NAME	Former Shell Service Station	DRILLING STARTED	30-May-08
LOCATION	461 8th Street, Oakland, California	DRILLING COMPLETED	30-May-08
PROJECT NUMBER	241501-009	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Gregg Drilling	GROUND SURFACE ELEVATION	NA
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	NA
BORING DIAMETER	8"	SCREENED INTERVAL	15 to 35 fbg
LOGGED BY	J. England, PG 8468	DEPTH TO WATER (First Encountered)	22.0 ft (30-May-08)
REVIEWED BY	A. Friel, PG 6452	DEPTH TO WATER (Static)	NA
REMARKS	Hand Augered to 5'		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT DEPTH (ft)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
			0.3	GP		ASPHALT	0.3	<p>Portland Type I/II</p> <p>Bentonite Seal</p> <p>Monterey Sand #2/12</p> <p>2"-diam., 0.020" Slotted Schedule 40 PVC</p> <p>Bottom of Boring @ 35 ft</p>
			0.5	GM		GRAVEL (GP) Silty GRAVEL (GM); dry; 30% silt, 20% sand, 50% gravel.	0.5	
			3.5	SM		Silty SAND (SM); dry; 15% silt, 85% sand.	3.5	
		S-18-6	5			SAND (SP); yellowish brown (10YR 5/6); dry; 90% fine sand, 10% fine gravel.	5.5	
		S-18-11	10			@10.5' - dark yellowish brown (10YR 4/6); 100% fine sand.		
		S-18-15.5	15			@15.5' - dark yellowish brown (10YR 4/6); 100% fine sand.		
807		S-18-21	20	SP		@20.5' - grayish brown (2.5Y 5/2); damp; 100% fine sand.		
757		S-18-26	25			@25.5' - dark gray (5Y 4/1); wet; 100% fine sand.		
50		S-18-31	30			@30.5' - dark grayish brown (2.5Y 4/2); wet; 100% fine sand.		
7		S-18-34.5	35	ML		@33' - dark grayish brown (2.5Y 4/2). Sandy SILT (ML); grayish brown (2.5Y 5/2); wet; 10% clay, 60% silt, 30% fine sand; low plasticity.	34.5 35.0	
			40					

WELL LOG (PID) I:\SONOMA-1\SHEEO2A04-1\GINT\4681OAKLAND GPJ\_DEFAULT.GDT 8/18/08

**Attachment D**  
**Certified Analytical**



June 16, 2008

Ana Friel  
Conestoga-Rovers & Associates  
19449 Riverside Drive, Suite 230  
Sonoma, CA 95476-6955

Subject: **CalScience Work Order No.: 08-06-0098**  
**Client Reference: 461 8th Street, Oakland, CA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/3/2008 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



**Analytical Report**



Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, CA 95476-6955

Date Received: 06/03/08  
 Work Order No: 08-06-0098  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: mg/kg

Project: 461 8th Street, Oakland, CA

Page 1 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18-6	08-06-0098-1-A	05/30/08 09:23	Solid	GC/MS WW	06/07/08	06/08/08 05:45	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	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	104	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18-11	08-06-0098-2-A	05/30/08 09:35	Solid	GC/MS WW	06/07/08	06/08/08 06:10	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	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	102	70-130			1,4-Bromofluorobenzene-TPPH	104	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18-15.5	08-06-0098-3-A	05/30/08 09:40	Solid	GC/MS WW	06/07/08	06/08/08 06:36	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	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	104	70-130			1,4-Bromofluorobenzene-TPPH	104	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18-21	08-06-0098-4-A	05/30/08 09:44	Solid	GC/MS R	06/10/08	06/11/08 09:31	080610L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	5200	620	1250		Toluene	96	1.2	250	
Benzene	5.3	1.2	250		p/m-Xylene	440	1.2	250	
Ethylbenzene	120	1.2	250		o-Xylene	190	1.2	250	
<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	105	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

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

## Analytical Report



Conestoga-Rovers & Associates  
19449 Riverside Drive, Suite 230  
Sonoma, CA 95476-6955

Date Received: 06/03/08  
Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: mg/kg

Project: 461 8th Street, Oakland, CA

Page 2 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18-26	08-06-0098-5-A	05/30/08 09:49	Solid	GC/MS WW	06/07/08	06/08/08 07:02	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	1.3	0.50	1		Toluene	0.080	0.0050	1	
Benzene	0.021	0.0050	1		p/m-Xylene	0.11	0.0050	1	
Ethylbenzene	0.026	0.0050	1		o-Xylene	0.048	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	104	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18-31	08-06-0098-6-A	05/30/08 09:55	Solid	GC/MS WW	06/07/08	06/08/08 07:28	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	0.0055	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	0.016	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	0.0074	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	103	70-130			1,4-Bromofluorobenzene-TPPH	104	70-130		

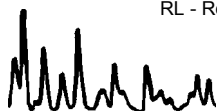
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18-34.5	08-06-0098-7-A	05/30/08 10:05	Solid	GC/MS WW	06/07/08	06/08/08 07:53	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	104	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-17-6	08-06-0098-8-A	05/30/08 11:33	Solid	GC/MS WW	06/07/08	06/08/08 08:18	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	105	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

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



**Analytical Report**



Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, CA 95476-6955

Date Received: 06/03/08  
 Work Order No: 08-06-0098  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: mg/kg

Project: 461 8th Street, Oakland, CA

Page 3 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-17-11	08-06-0098-9-A	05/30/08 11:40	Solid	GC/MS WW	06/07/08	06/08/08 08:44	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	104	70-130			1,4-Bromofluorobenzene-TPPH	104	70-130		

S-17-16	08-06-0098-10-A	05/30/08 11:45	Solid	GC/MS WW	06/07/08	06/08/08 09:09	080607L03
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	101	70-130			1,4-Bromofluorobenzene-TPPH	102	70-130		

S-17-21	08-06-0098-11-A	05/30/08 11:51	Solid	GC/MS WW	06/07/08	06/08/08 09:35	080607L03
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	0.63	0.50	1		Toluene	0.0080	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	0.030	0.0050	1	
Ethylbenzene	0.0086	0.0050	1		o-Xylene	0.013	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	105	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

S-17-26	08-06-0098-12-A	05/30/08 11:55	Solid	GC/MS R	06/10/08	06/11/08 10:01	080610L03
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	3000	120	250		Toluene	40	0.50	100	
Benzene	3.7	0.50	100		p/m-Xylene	140	0.50	100	
Ethylbenzene	40	0.50	100		o-Xylene	53	0.50	100	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	106	70-130			1,4-Bromofluorobenzene-TPPH	104	70-130		

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

## Analytical Report



Conestoga-Rovers & Associates  
19449 Riverside Drive, Suite 230  
Sonoma, CA 95476-6955

Date Received: 06/03/08  
Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: mg/kg

Project: 461 8th Street, Oakland, CA

Page 4 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-17-31	08-06-0098-13-A	05/30/08 12:00	Solid	GC/MS WW	06/07/08	06/08/08 10:00	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	104	70-130			1,4-Bromofluorobenzene-TPPH	105	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-17-34.5	08-06-0098-14-A	05/30/08 12:05	Solid	GC/MS R	06/10/08	06/11/08 10:32	080610L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	210	25	50		Toluene	6.3	0.25	50	
Benzene	0.83	0.25	50		p/m-Xylene	13	0.25	50	
Ethylbenzene	3.1	0.25	50		o-Xylene	4.5	0.25	50	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	101	70-130			1,4-Bromofluorobenzene-TPPH	101	70-130		

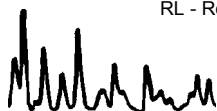
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OW-1-6.5	08-06-0098-15-A	05/30/08 14:03	Solid	GC/MS R	06/10/08	06/11/08 04:58	080610L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	94	70-130			1,4-Bromofluorobenzene-TPPH	94	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OW-1-11	08-06-0098-16-A	05/30/08 14:07	Solid	GC/MS WW	06/07/08	06/08/08 10:25	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	103	70-130			1,4-Bromofluorobenzene-TPPH	104	70-130		

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



**Analytical Report**



Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, CA 95476-6955

Date Received: 06/03/08  
 Work Order No: 08-06-0098  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: mg/kg

Project: 461 8th Street, 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
OW-1-16	08-06-0098-17-A	05/30/08 14:11	Solid	GC/MS R	06/10/08	06/11/08 06:29	080610L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	97	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
OW-1-19.5	08-06-0098-18-A	05/30/08 14:18	Solid	GC/MS W	06/13/08	06/13/08 18:58	080613L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	96	70-130			1,4-Bromofluorobenzene-TPPH	109	70-130		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-717-55	N/A	Solid	GC/MS WW	06/07/08	06/08/08 02:44	080607L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	101	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	099-12-717-56	N/A	Solid	GC/MS R	06/10/08	06/11/08 04:28	080610L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	96	70-130			1,4-Bromofluorobenzene-TPPH	98	70-130		

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

**Analytical Report**



Conestoga-Rovers & Associates  
 19449 Riverside Drive, Suite 230  
 Sonoma, CA 95476-6955

Date Received: 06/03/08  
 Work Order No: 08-06-0098  
 Preparation: EPA 5030B  
 Method: LUFT GC/MS / EPA 8260B  
 Units: mg/kg

Project: 461 8th Street, 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>Method Blank</b>	<b>099-12-717-57</b>	<b>N/A</b>	<b>Solid</b>	<b>GC/MS R</b>	<b>06/10/08</b>	<b>06/11/08 03:58</b>	<b>080610L03</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	12	25		Toluene	ND	0.12	25	
Benzene	ND	0.12	25		p/m-Xylene	ND	0.12	25	
Ethylbenzene	ND	0.12	25		o-Xylene	ND	0.12	25	
<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	104	70-130			1,4-Bromofluorobenzene-TPPH	111	70-130		

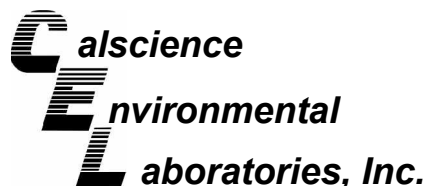
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	12	25		Toluene	ND	0.12	25	
Benzene	ND	0.12	25		p/m-Xylene	ND	0.12	25	
Ethylbenzene	ND	0.12	25		o-Xylene	ND	0.12	25	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	97	70-130			1,4-Bromofluorobenzene-TPPH	103	70-130		

<b>Method Blank</b>	<b>099-12-717-60</b>	<b>N/A</b>	<b>Solid</b>	<b>GC/MS W</b>	<b>06/13/08</b>	<b>06/13/08 18:32</b>	<b>080613L01</b>
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPPH	ND	0.50	1		Toluene	ND	0.0050	1	
Benzene	ND	0.0050	1		p/m-Xylene	ND	0.0050	1	
Ethylbenzene	ND	0.0050	1		o-Xylene	ND	0.0050	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	96	70-130			1,4-Bromofluorobenzene-TPPH	97	70-130		

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



## Quality Control - Spike/Spike Duplicate



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Sonoma, CA 95476-6955

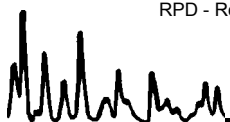
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Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

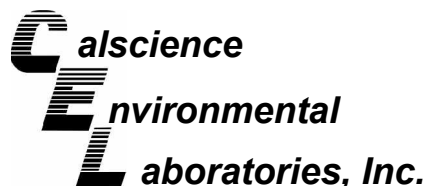
Project 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-06-0193-1	Solid	GC/MS WW	06/07/08	06/08/08	080607S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	80	84	70-130	5	0-30	
Ethylbenzene	78	83	70-130	6	0-30	
Toluene	77	82	70-130	6	0-30	
p/m-Xylene	77	82	70-130	6	0-30	
o-Xylene	76	80	70-130	6	0-30	
Methyl-t-Butyl Ether (MTBE)	74	83	70-130	12	0-30	
Tert-Butyl Alcohol (TBA)	76	83	70-130	9	0-30	
Diisopropyl Ether (DIPE)	57	85	70-130	40	0-30	3,4
Ethyl-t-Butyl Ether (ETBE)	59	75	70-130	24	0-30	3
Tert-Amyl-Methyl Ether (TAME)	63	69	70-130	10	0-30	3
Ethanol	22	66	70-130	98	0-30	3,4

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - Spike/Spike Duplicate



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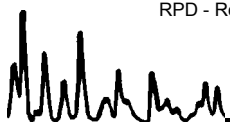
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Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

Project 461 8th Street, Oakland, CA

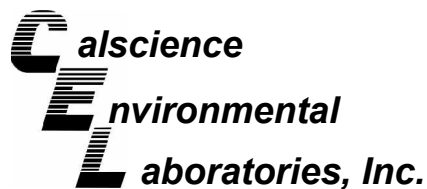
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
OW-1-6.5	Solid	GC/MS R	06/10/08	06/11/08	080610S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	108	106	70-130	2	0-30	
Ethylbenzene	111	110	70-130	1	0-30	
Toluene	113	110	70-130	2	0-30	
p/m-Xylene	113	111	70-130	2	0-30	
o-Xylene	113	111	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	126	122	70-130	3	0-30	
Tert-Butyl Alcohol (TBA)	99	104	70-130	5	0-30	
Diisopropyl Ether (DIPE)	115	111	70-130	4	0-30	
Ethyl-t-Butyl Ether (ETBE)	115	120	70-130	4	0-30	
Tert-Amyl-Methyl Ether (TAME)	127	121	70-130	4	0-30	
Ethanol	53	82	70-130	44	0-30	3,4

RPD - Relative Percent Difference , CL - Control Limit







## Quality Control - Spike/Spike Duplicate



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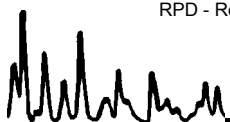
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Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

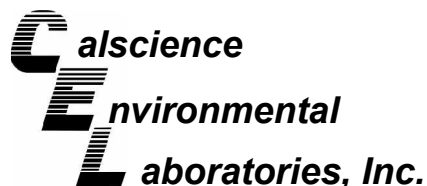
Project 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-06-0625-2	Solid	GC/MS W	06/12/08	06/12/08	080612S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	101	94	70-130	7	0-30	
Ethylbenzene	105	96	70-130	8	0-30	
Toluene	101	95	70-130	7	0-30	
p/m-Xylene	108	98	70-130	9	0-30	
o-Xylene	106	96	70-130	10	0-30	
Methyl-t-Butyl Ether (MTBE)	116	108	70-130	7	0-30	
Tert-Butyl Alcohol (TBA)	99	99	70-130	0	0-30	
Diisopropyl Ether (DIPE)	103	95	70-130	8	0-30	
Ethyl-t-Butyl Ether (ETBE)	104	95	70-130	9	0-30	
Tert-Amyl-Methyl Ether (TAME)	106	95	70-130	11	0-30	
Ethanol	93	81	70-130	14	0-30	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - Spike/Spike Duplicate



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Sonoma, CA 95476-6955

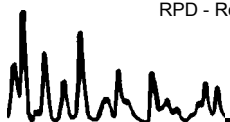
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Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

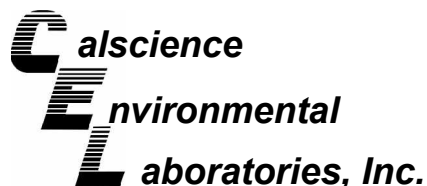
Project 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
OW-1-19.5	Solid	GC/MS W	06/13/08	06/13/08	080613S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	86	88	70-130	2	0-30	
Ethylbenzene	92	95	70-130	3	0-30	
Toluene	90	93	70-130	3	0-30	
p/m-Xylene	92	95	70-130	3	0-30	
o-Xylene	95	97	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	96	97	70-130	1	0-30	
Tert-Butyl Alcohol (TBA)	82	82	70-130	1	0-30	
Diisopropyl Ether (DIPE)	94	95	70-130	2	0-30	
Ethyl-t-Butyl Ether (ETBE)	94	96	70-130	3	0-30	
Tert-Amyl-Methyl Ether (TAME)	96	97	70-130	1	0-30	
Ethanol	79	74	70-130	6	0-30	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates  
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Sonoma, CA 95476-6955

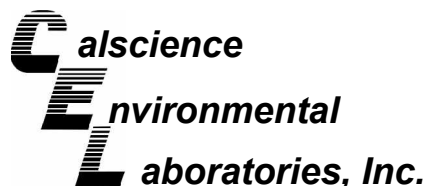
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Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-55	Solid	GC/MS WW	06/07/08	06/08/08	080607L03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	92	94	65-135	2	0-30	
Benzene	98	103	70-130	5	0-30	
Ethylbenzene	98	106	70-130	8	0-30	
Toluene	97	103	70-130	6	0-30	
p/m-Xylene	98	105	70-130	7	0-30	
o-Xylene	101	105	70-130	4	0-30	
Methyl-t-Butyl Ether (MTBE)	113	112	70-130	1	0-30	
Tert-Butyl Alcohol (TBA)	88	117	70-130	28	0-30	
Diisopropyl Ether (DIPE)	106	111	70-130	5	0-30	
Ethyl-t-Butyl Ether (ETBE)	102	102	70-130	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	97	95	70-130	2	0-30	
Ethanol	95	123	70-130	25	0-30	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates  
19449 Riverside Drive, Suite 230  
Sonoma, CA 95476-6955

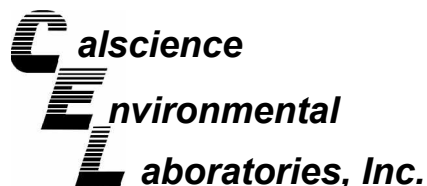
Date Received: N/A  
Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-56	Solid	GC/MS R	06/10/08	06/11/08	080610L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	97	93	65-135	5	0-30	
Benzene	105	107	70-130	2	0-30	
Ethylbenzene	111	111	70-130	0	0-30	
Toluene	110	111	70-130	1	0-30	
p/m-Xylene	111	112	70-130	1	0-30	
o-Xylene	111	112	70-130	0	0-30	
Methyl-t-Butyl Ether (MTBE)	117	112	70-130	5	0-30	
Tert-Butyl Alcohol (TBA)	105	107	70-130	2	0-30	
Diisopropyl Ether (DIPE)	109	107	70-130	2	0-30	
Ethyl-t-Butyl Ether (ETBE)	117	108	70-130	7	0-30	
Tert-Amyl-Methyl Ether (TAME)	117	112	70-130	4	0-30	
Ethanol	100	100	70-130	1	0-30	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates  
19449 Riverside Drive, Suite 230  
Sonoma, CA 95476-6955

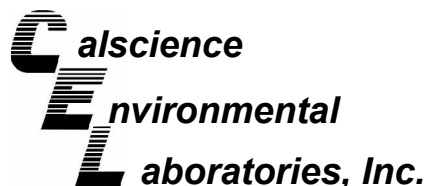
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Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-57	Solid	GC/MS R	06/10/08	06/11/08	080610L03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	97	93	65-135	5	0-30	
Benzene	105	107	70-130	2	0-30	
Ethylbenzene	111	111	70-130	0	0-30	
Toluene	110	111	70-130	1	0-30	
p/m-Xylene	111	112	70-130	1	0-30	
o-Xylene	111	112	70-130	0	0-30	
Methyl-t-Butyl Ether (MTBE)	117	112	70-130	5	0-30	
Tert-Butyl Alcohol (TBA)	105	107	70-130	2	0-30	
Diisopropyl Ether (DIPE)	109	107	70-130	2	0-30	
Ethyl-t-Butyl Ether (ETBE)	117	108	70-130	7	0-30	
Tert-Amyl-Methyl Ether (TAME)	117	112	70-130	4	0-30	
Ethanol	100	100	70-130	1	0-30	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates  
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Sonoma, CA 95476-6955

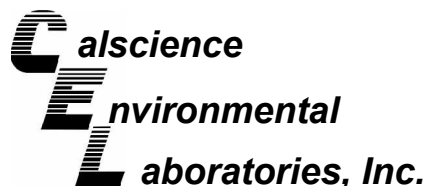
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Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-59	Solid	GC/MS W	06/12/08	06/12/08	080612L02

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
TPPH	89	92	65-135	3	0-30	
Benzene	100	96	70-130	5	0-30	
Ethylbenzene	105	103	70-130	1	0-30	
Toluene	104	101	70-130	3	0-30	
p/m-Xylene	108	108	70-130	0	0-30	
o-Xylene	106	105	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	113	98	70-130	14	0-30	
Tert-Butyl Alcohol (TBA)	99	119	70-130	19	0-30	
Diisopropyl Ether (DIPE)	104	96	70-130	8	0-30	
Ethyl-t-Butyl Ether (ETBE)	100	95	70-130	6	0-30	
Tert-Amyl-Methyl Ether (TAME)	101	100	70-130	1	0-30	
Ethanol	101	104	70-130	3	0-30	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates  
19449 Riverside Drive, Suite 230  
Sonoma, CA 95476-6955

Date Received: N/A  
Work Order No: 08-06-0098  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-717-60	Solid	GC/MS W	06/13/08	06/13/08	080613L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPPH	122	121	65-135	0	0-30	
Benzene	91	100	70-130	9	0-30	
Ethylbenzene	105	110	70-130	5	0-30	
Toluene	103	107	70-130	5	0-30	
p/m-Xylene	104	108	70-130	4	0-30	
o-Xylene	106	111	70-130	5	0-30	
Methyl-t-Butyl Ether (MTBE)	88	105	70-130	18	0-30	
Tert-Butyl Alcohol (TBA)	101	110	70-130	9	0-30	
Diisopropyl Ether (DIPE)	98	105	70-130	7	0-30	
Ethyl-t-Butyl Ether (ETBE)	94	103	70-130	10	0-30	
Tert-Amyl-Methyl Ether (TAME)	94	107	70-130	13	0-30	
Ethanol	98	98	70-130	1	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 08-06-0098

<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.
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:  
 Denis Brown

PO # \_\_\_\_\_

INCIDENT # (ENV SERVICES)  
 9 7 0 9 3 3 9 9

SAP # \_\_\_\_\_

CHECK IF NO INCIDENT # APPLIES

DATE: 05-30-08

PAGE: 1 of 2

SAMPLING COMPANY: **Conestoga-Rovers & Associates**

LOG CODE: **CRAW**

ADDRESS: **19449 Riverside Drive, Suite 230, Sonoma, California 95476**

PROJECT CONTACT (Handcopy or PDF Report to): **Ana Friel**

TELEPHONE: **707-268-3812** FAX: **707-935-6649** EMAIL: **afriel@croworld.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 :

- SHELL CONTRACT RATE APPLIES
- STATE REIMBURSEMENT RATE APPLIES
- EDD NOT NEEDED
- RECEIPT VERIFICATION REQUESTED

SITE ADDRESS: Street and City  
 461 8th Street, Oakland

State: **CA** GLOBAL ID NO.: **T0600101263**

EDF DELIVERABLE TO (Name, Company, Office Location):  
**Felicja Ballard, CRA, Sonoma**

PHONE NO.: **707-935-4850** E-MAIL: **sonomaedf@croworld.com** CONSULTANT PROJECT NO.: **241501-2008-20**

SAMPLER NAME(S) (Print): **Jacquelyn England**

LAB USE ONLY: **06-0098**

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015M)	TEMPERATURE ON RECEIPT
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER															C°
		Container PID Readings or Laboratory Notes																						
1	S-18-6 <sup>W</sup>	5/30	923	SOIL				X		1	X	X											PID ✓	
2	S-18-11 <sup>W</sup>		935							1	X	X											PID ✓	
3	S-18-15.5		940							1	X	X											PID ✓	
4	S-18-21		944							1	X	X											PID=807	
5	S-18-26		949							1	X	X											PID=757	
6	S-18-31		955							1	X	X											PID=50	
7	S-18-34.5		1005							1	X	X											PID=7	
8	S-17-6	5/30	1133	SOIL				X		1	X	X											PID=2	
9	S-17-11		1140					X		1	X	X											PID=0	
10	S-17-16		1145					X		1	X	X											PID=66	

Relinquished by: (Signature) *[Signature]* Received by: (Signature) **Secure location - Sonoma office** Date: **5-30-08** Time: **6:30PM**

Relinquished by: (Signature) *[Signature]* Received by: (Signature) **Tom O'Malley CER** Date: **6/2/08** Time: **1416**

Relinquished by: (Signature) **Tom O'Malley TO 650 06/02/08** Received by: (Signature) *[Signature]* Date: **6/3/08** Time: **1020**

9255331684

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: Denis Brown

INCIDENT # (ENV SERVICES): 9 7 0 9 3 3 9 9

PO # \_\_\_\_\_ SAP # \_\_\_\_\_

1 2 9 4 5 3

CHECK IF NO INCIDENT # APPLIES

DATE: 5/30/08

PAGE: 2 of 2

SAMPLING COMPANY: Conestoga-Rovers & Associates

LOG CODE: CRAW

ADDRESS: 19449 Riverside Drive, Suite 230, Sonoma, California 95476

PROJECT CONTACT (Hardcopy or PDF Report to): Ana Friel

TELEPHONE: 707-268-3812 FAX: 707-935-6649 EMAIL: afriel@crawworld.com

SITE ADDRESS: Street and City: 461 8th Street, Oakland State: CA GLOBAL ID NO.: T0600101263

EDF DELIVERABLE TO (Name, Company, Office Location): Felicia Ballard, CRA, Sonoma PHONE NO.: 707-935-4850 E-MAIL: sonomaedf@craworld.com CONSULTANT PROJECT NO.: 241501-2008-20

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) (Print): Jacquelyn England

LAB USE ONLY: 06-0098

REQUESTED ANALYSIS

SPECIAL INSTRUCTIONS OR NOTES :

SHELL CONTRACT RATE APPLIES

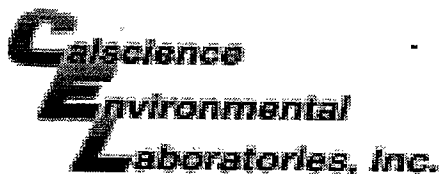
STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015M)	TEMPERATURE ON RECEIPT
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER															C°
		Container PID Readings or Laboratory Notes																						
11	S-17-21	5/30	1151	SOIL				X		1	X	X											PID = 825	
12	S-17-26	5/30	1155	SOIL				X		1	X	X											PID = 1316	
13	S-17-31	↓	1200	↓				X		1	X	X											PID = 41	
14	S-17-34.5	↓	1205	↓				X		1	X	X											PID = 464	
15	OW-1-6.5	↓	1403	↓				X		1	X	X											PID = 2	
16	OW-1-11	↓	1407	↓				X		1	X	X											PID = 0	
17	OW-1-16	↓	1411	↓				X		1	X	X											PID = 12	
18	OW-1-19.5	↓	1418	↓				X		1	X	X											PID = 42	

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) Secure location - sonoma office	Date: 5-30-08	Time: 6:30 PM
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) Tom O'Malley CRZ	Date: 6-2-08	Time: 1416
Relinquished by: (Signature) Tom O'Malley 1730 06/02/08 9255331684	Received by: (Signature) <i>[Signature]</i>	Date: 6/3/08	Time: 1020



WORK ORDER #: 08 - 06 - 0098

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: CRA

DATE: 6/3/08

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.
C Temperature blank.

LABORATORY (Other than Calscience Courier):

- 3.4 C Temperature blank.
C IR thermometer.
Ambient temperature.

Initial: JP

CUSTODY SEAL INTACT:

Sample(s): Cooler: No (Not Intact): Not Present: [checked]

Initial: JP

SAMPLE CONDITION:

Table with 4 columns: Description, 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: JP

COMMENTS:

Blank lines for handwritten comments.

**Attachment E**

**Blaine Tech Services Inc.  
Groundwater Monitoring Report**

---

**BLAINE**  
TECH SERVICES INC.

---

GROUNDWATER SAMPLING SPECIALISTS  
SINCE 1985

July 18, 2008

Denis Brown  
Shell Oil Products US  
20945 South Wilmington Avenue  
Carson, CA 90810

Second Quarter 2008 Groundwater Monitoring at  
Former Shell-branded Service Station  
461 8th Street  
Oakland, CA

Monitoring performed on June 19 and 25, 2008

---

Groundwater Monitoring Report **080608-WW-1(Special Event)**

This report covers the routine monitoring of groundwater wells at this former Shell-branded facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Mike Ninokata  
Project Manager

MN/tm

attachments: Cumulative Table of WELL CONCENTRATIONS  
Certified Analytical Report  
Field Data Sheets

cc: Ana Friel  
Conestoga-Rovers & Associates  
19449 Riverside Dr., Suite 230  
Sonoma, CA 95476

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**461 8th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	EDC (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
S-4	10/26/1988	130	3.8	13	4.0	30	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	NA	NA	NA
S-4	2/14/1989	<50	0.5	<1	<1	3.0	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	12.82	80.69	NA
S-4	5/1/1989	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	16.48	77.03	NA
S-4	7/27/1989	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	15.84	77.67	NA
S-4	10/5/1989	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	15.98	77.53	NA
S-4	1/9/1990	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	15.86	77.65	NA
S-4	4/30/1990	<50	<0.5	<0.5	<0.5	<1	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	14.48	79.03	NA
S-4	7/31/1990	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	NA	NA	NA
S-4	10/30/1990	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	NA	NA	NA
S-4	5/6/1991	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	15.23	78.28	NA
S-4	6/27/1991	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	13.54	79.97	NA
S-4	9/24/1991	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	15.85	77.66	NA
S-4	11/7/1991	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	15.60	77.91	NA
S-4	2/13/1992	<50	<0.5	<0.5	<0.5	3.0	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	14.27	79.24	NA
S-4	5/11/1992	Well dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	NA	NA	NA
S-4	12/3/1992	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	NA	NA	NA
S-4	5/13/1993	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	14.81	78.70	NA
S-4	7/22/1993	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	14.42	79.09	NA
S-4	10/20/1993	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	NA	NA	NA
S-4	1/25/1994	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	14.60	78.91	NA
S-4	4/25/1994	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	14.39	79.12	NA
S-4	7/21/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	22.29	71.22	NA
S-4	10/24/1994	<500	<0.3	<0.3	<0.3	<0.6	NA	NA	NA	NA	NA	NA	NA	NA	93.51 (TOC)	22.72	70.79	NA
S-4	12/22/1994	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	25.77*	22.25	3.52	NA
S-4	4/20/1995	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	25.77	21.16	4.61	NA
S-4	10/4/1995	<50	1.2	0.7	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	25.77	22.25	3.52	NA
S-4	1/3/1996	<50	0.6	<0.5	<0.5	1.7	NA	NA	NA	NA	NA	NA	NA	NA	25.77	23.28	2.49	NA
S-4	4/11/1996	<50	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	21.58	4.19	NA
S-4	7/11/1996	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	21.60	4.17	NA
S-4	10/2/1996	<50	<0.50	<0.50	<0.50	<0.50	2.6	NA	NA	NA	NA	NA	NA	NA	25.77	22.46	3.31	NA
S-4	1/22/1997	<50	0.73	<0.50	<0.50	0.63	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	20.06	5.71	NA
S-4	7/21/1997	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	22.10	3.67	NA
S-4	1/22/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	20.50	5.27	NA
S-4	7/8/1998	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	20.86	4.91	NA

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**461 8th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	EDC (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
S-4	10/26/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	21.41	4.36	NA
S-4	1/28/1999	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	22.34	3.43	NA
S-4	4/23/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	21.43	4.34	NA
S-4	7/29/1999	<50.0	<0.500	<0.500	<0.500	<0.500	<5.00	NA	NA	NA	NA	NA	NA	NA	25.77	21.45	4.32	NA
S-4	11/1/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	22.08	3.69	NA
S-4	1/7/2000	<50	<0.50	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	25.77	22.29	3.48	NA
S-4	4/11/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	21.11	4.66	NA
S-4	7/19/2000	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	25.77	21.19	4.58	NA
S-4	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	22.22	3.55	NA
S-4	1/9/2001	<50.0	<0.500	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	25.77	22.17	3.60	NA
S-4	4/6/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	21.50	4.27	NA
S-4	7/25/2001	<50	2.0	0.52	<0.50	1.0	NA	<5.0	NA	NA	NA	NA	NA	NA	25.77	21.50	4.27	NA
S-4	11/1/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	21.95	3.82	NA
S-4	01/17/2002 d	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	25.77	21.13	4.64	NA
S-4	5/8/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.77	21.35	4.42	NA
S-4	7/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	34.41	21.19	13.22	NA
S-4	10/15/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	21.42	12.99	NA
S-4	1/2/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	34.41	20.75	13.66	NA
S-4	4/15/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	21.08	13.33	NA
S-4	7/14/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	19.93	14.48	NA
S-4	10/20/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	19.56	14.85	NA
S-4	1/22/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	34.41	19.12	15.29	NA
S-4	4/19/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	19.15	15.26	NA
S-4	7/13/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	20.48	13.93	NA
S-4	10/28/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	21.00	13.41	NA
S-4	1/17/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	34.41	20.17	14.24	NA
S-4	4/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	19.82	14.59	NA
S-4	7/28/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	20.71	13.70	NA
S-4	10/5/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	20.85	13.56	NA
S-4	2/9/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	NA	NA	NA	NA	NA	34.41	19.47	14.94	NA
S-4	5/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	19.52	14.89	NA
S-4	8/23/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	20.75	13.66	NA
S-4	11/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	20.03	14.38	NA
S-4	1/30/2007	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	34.41	21.30	13.11	NA



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S-4	5/29/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	21.15	13.26	NA
S-4	8/15/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	21.38	13.03	NA
S-4	11/28/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	21.55	12.86	NA
S-4	2/8/2008	64 h	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	<0.50	<1.0	34.41	22.75	11.66	NA
S-4	5/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.41	22.18	12.23	NA

S-5	4/16/1987	130000	15000	16000	NA	14000 a	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	NA	NA	NA
S-5	10/26/1988	110000	20000	25000	2300	10000	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	NA	NA	NA
S-5	2/14/1989	94000	16000	21000	1800	10000	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	19.87	79.49	NA
S-5	5/1/1989	120000	29000	35000	3100	15000	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.23	78.13	NA
S-5	7/27/1989	110000	20000	29000	2400	14000	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	20.41	78.95	NA
S-5	10/5/1989	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	20.43	78.94	0.01
S-5	1/9/1990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.16	78.21	0.01
S-5	4/30/1990	100000	13000	22000	2100	11000	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	20.96	78.40	NA
S-5	7/31/1990	53000	8300	14000	1200	7400	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	20.88	78.48	NA
S-5	10/30/1990	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.96	77.42	0.03
S-5	5/6/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	23.00	76.46	0.13
S-5	6/27/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	20.53	78.85	0.03
S-5	9/24/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.40	78.01	0.06
S-5	11/7/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.33	78.23	0.25
S-5	2/13/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	22.52	77.09	0.31
S-5	5/11/1992	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	22.46	77.36	0.58
S-5	12/3/1992	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	NA	NA	NA
S-5	5/13/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	22.22	77.36	0.27
S-5	7/22/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.68	77.88	0.25
S-5	10/20/1993	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	20.51	79.03	0.23
S-5	1/25/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.93	77.57	0.18
S-5	4/25/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.97	77.67	0.35
S-5	5/26/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	20.84	78.80	0.35
S-5	6/10/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	21.01	78.61	0.32
S-5	7/21/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	22.18	77.56	0.47
S-5	8/25/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	22.01	77.70	0.44
S-5	9/22/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	22.00	77.48	0.15
S-5	10/24/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.36 (TOC)	22.28	77.53	0.56

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S-5	12/22/1994	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94*	22.88	0.85	0.99
S-5	4/20/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	21.66	1.54	0.33
S-5	10/4/1995	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	22.18	0.76	NA
S-5	1/3/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	22.80	0.80	0.83
S-5	4/11/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	21.15	2.33	0.67
S-5	7/11/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	22.62	1.04	0.90
S-5	10/2/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	23.07	0.38	0.64
S-5	1/22/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	20.83	2.24	0.16
S-5	7/21/1997	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	21.16	1.82	0.05
S-5	1/22/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	20.04	2.93	0.04
S-5	7/8/1998	220	14	40	5.8	34	3.3	NA	NA	NA	NA	NA	NA	NA	22.94	18.61	4.33	NA
S-5	10/26/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	17.31	5.63	NA
S-5	1/28/1999	51000	13000	1200	1200	2400	2400	NA	NA	NA	NA	NA	NA	NA	22.94	20.11	2.83	NA
S-5	4/23/1999	65600	2540	7300	1790	9840	<1000	NA	NA	NA	NA	NA	NA	NA	22.94	19.21	3.73	NA
S-5	7/29/1999	61400	3320	6980	1520	7700	<1000	NA	NA	NA	NA	NA	NA	NA	22.94	14.77	8.17	NA
S-5	11/1/1999	48200	2700	5740	1290	7850	<500	<40.0	NA	NA	NA	NA	NA	NA	22.94	15.56	7.38	NA
S-5	1/7/2000	39000	3900	8500	790	8300	1500	NA	NA	NA	NA	NA	NA	NA	22.94	15.82	7.12	NA
S-5	4/11/2000	29300	1680	5060	1130	6220	<250	NA	NA	NA	NA	NA	NA	NA	22.94	18.19	4.75	NA
S-5	7/19/2000	6420	2110	207	252	681	355	253 b	NA	NA	NA	NA	NA	NA	22.94	19.01	3.93	NA
S-5	10/12/2000	41500	2940	4940	1520	7770	<250	<66.7	NA	NA	NA	NA	NA	NA	22.94	19.62	3.32	NA
S-5	1/9/2001	142000	7030	9550	2340	12600	779	NA	NA	NA	NA	NA	NA	NA	22.94	19.94	3.00	NA
S-5	4/6/2001	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	NA	NA	NA
S-5	4/13/2001	59800	4810	10800	1950	10100	842	<10.0	NA	NA	NA	NA	NA	NA	22.94	14.72	8.22	NA
S-5	7/25/2001	71000	2900	6800	1700	9100	NA	<250	NA	NA	NA	NA	NA	NA	22.94	14.91	8.03	NA
S-5	8/13/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	19.43	3.51	NA
S-5	11/1/2001	Unable to locate		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.94	NA	NA	NA
S-5	01/17/2002 d	58000	460	3300	1900	8400	NA	<200	NA	NA	NA	NA	NA	NA	c	14.27	NA	NA
S-5	05/08/2002 d	60000	650	2700	1800	8800	NA	<100	NA	NA	NA	NA	NA	NA	22.94	18.40	4.54	NA
S-5	7/18/2002	53000	240	1200	1500	6400	NA	<100	NA	NA	NA	NA	NA	NA	27.36	14.25	13.11	NA
S-5	10/15/2002	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.36	NA	NA	NA
S-5	10/17/2002	42000	420	1100	1200	5500	NA	<10	NA	NA	NA	NA	NA	NA	27.36	14.90	12.46	NA
S-5	1/2/2003	26000	680	1500	780	3800	NA	<5.0	NA	NA	NA	NA	NA	NA	27.36	14.72	12.64	NA
S-5	4/15/2003	3600	29	38	65	370	NA	<5.0	NA	NA	NA	NA	NA	NA	e	14.45	NA	NA
S-5	7/14/2003	21000	210	460	650	2900	NA	<10	NA	NA	NA	NA	NA	NA	e	14.10	NA	NA

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S-5	10/20/2003	37000	390	590	870	3500	NA	<13	NA	NA	NA	NA	NA	NA	e	14.63	NA	NA
S-5	1/22/2004	29000	200	210	710	2400	NA	<13	NA	NA	NA	NA	NA	NA	e	14.08	NA	NA
S-5	4/19/2004	25000	490	460	750	2400	NA	19	NA	NA	NA	NA	NA	NA	e	13.43	NA	NA
S-5	7/13/2004	28000	300	280	690	2400	NA	<13	NA	NA	NA	NA	NA	NA	e	14.88	NA	NA

S-6	4/16/1987	81000	16000	9000	NA	6400 a	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	NA	NA	NA
S-6	10/26/1988	110000	29000	18000	2500	8200	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	NA	NA	NA
S-6	2/14/1989	54000	18000	4500	1400	4000	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	20.87	79.71	NA
S-6	5/1/1989	93000	43000	9900	3000	8000	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	20.49	80.09	NA
S-6	7/27/1989	52000	20000	3200	1700	5500	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.01	79.57	NA
S-6	10/5/1989	55000	20000	2900	1600	5500	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.24	79.34	NA
S-6	1/9/1990	76000	35000	9100	2300	8600	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.62	77.96	SHEEN
S-6	4/30/1990	39000	13000	2300	900	2800	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.10	78.48	NA
S-6	7/31/1990	48000	20000	4600	1500	4900	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.00	78.58	NA
S-6	10/30/1990	27000	7400	900	600	1400	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.14	78.44	NA
S-6	5/6/1991	35000	3900	2700	2300	3500	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.40	78.18	NA
S-6	6/27/1991	51000	19000	5600	1700	6300	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.21	79.37	NA
S-6	9/24/1991	42000	14000	4300	1200	4000	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.26	78.32	NA
S-6	11/7/1991	39000	11000	2000	800	2300	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.35	78.23	NA
S-6	2/13/1992	64000	21000	6200	1600	5100	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.28	78.30	NA
S-6	5/11/1992	57000	22000	7600	2200	7700	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.10	78.48	NA
S-6	12/3/1992	110000	26000	9400	2100	8700	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.14	78.44	NA
S-6	5/13/1993	58000	21000	6800	2500	9800	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.16	78.42	NA
S-6	7/22/1993	70000	31000	14000	3000	13000	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.64	78.94	NA
S-6	10/20/1993	48000	28000	9800	3200	12000	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.62	78.96	NA
S-6	1/25/1994	70000	23000	7500	2500	8000	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.80	78.78	NA
S-6	4/25/1994	61000	16000	4000	1800	5100	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.68	78.90	NA
S-6	7/21/1994	44000	8200	3600	1400	3900	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	21.78	78.80	NA
S-6 (D)	7/21/1994	32000	7800	3400	1300	3700	NA	NA	NA	NA	NA	NA	NA	NA	22.08	NA	NA	NA
S-6	10/24/1994	2936	1184	440.6	163	648.4	NA	NA	NA	NA	NA	NA	NA	NA	100.58 (TOC)	22.06	78.52	NA
S-6 (D)	10/24/1994	2968	770.8	325.3	144	622	NA	NA	NA	NA	NA	NA	NA	NA	22.08	NA	NA	NA
S-6	12/22/1994	32000	7000	2900	790	2400	NA	NA	NA	NA	NA	NA	NA	NA	22.08*	21.91	0.17	NA
S-6 (D)	12/22/1994	32000	8000	3800	1100	3400	NA	NA	NA	NA	NA	NA	NA	NA	22.08	NA	NA	NA
S-6	4/20/1995	56000	15000	3800	1900	4900	NA	NA	NA	NA	NA	NA	NA	NA	22.08	21.38	0.70	NA

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S-6 (D)	4/20/1995	49000	13000	3500	1800	4700	NA	NA	NA	NA	NA	NA	NA	NA	22.08	NA	NA	NA
S-6	10/4/1995	49000	8400	4700	1800	4800	NA	NA	NA	NA	NA	NA	NA	NA	22.08	21.80	0.28	NA
S-6 (D)	10/4/1995	41000	8400	4100	1400	4400	NA	NA	NA	NA	NA	NA	NA	NA	22.08	NA	NA	NA
S-6	1/3/1996	52000	9100	7100	1800	5800	NA	NA	NA	NA	NA	NA	NA	NA	22.08	21.70	0.38	NA
S-6	4/11/1996	59000	11000	7100	2100	6400	<500	NA	NA	NA	NA	NA	NA	NA	22.08	21.62	0.46	NA
S-6 (D)	4/11/1996	59000	11000	6800	1900	6400	<500	NA	NA	NA	NA	NA	NA	NA	22.08	NA	NA	NA
S-6	7/11/1996	72000	18000	6600	2500	8400	<1000	NA	NA	NA	NA	NA	NA	NA	22.08	21.65	2.78	NA
S-6	10/2/1996	57000	11000	6500	1500	5100	<500	NA	NA	NA	NA	NA	NA	NA	22.08	21.80	2.63	NA
S-6	1/22/1997	67000	15000	5000	1800	5400	<1000	NA	NA	NA	NA	NA	NA	NA	22.08	19.95	2.13	NA
S-6 (D)	1/22/1997	63000	15000	4800	1800	5200	<1000	NA	NA	NA	NA	NA	NA	NA	22.08	NA	NA	NA
S-6	7/21/1997	61000	15000	2100	1100	3500	1900	NA	NA	NA	NA	NA	NA	NA	22.08	20.61	1.47	NA
S-6	1/22/1998	46000	14000	3200	1300	3400	<500	NA	NA	NA	NA	NA	NA	NA	22.08	19.82	2.26	NA
S-6	7/8/1998	74000	26000	7500	2200	6200	<1000	NA	NA	NA	NA	NA	NA	NA	22.08	18.20	3.88	NA
S-6	10/26/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.08	18.81	3.27	NA
S-6	1/28/1999	120000	9000	14000	2700	14000	3700	NA	NA	NA	NA	NA	NA	NA	22.08	19.73	2.35	NA
S-6	4/23/1999	58500	15900	1360	1640	3030	<2500	NA	NA	NA	NA	NA	NA	NA	22.08	17.58	4.50	NA
S-6	7/29/1999	36200	10300	760	930	1360	<1000	NA	NA	NA	NA	NA	NA	NA	22.08	21.35	0.73	NA
S-6	11/1/1999	36000	11700	767	865	1670	<1250	<40.0	NA	NA	NA	NA	NA	NA	22.08	19.23	2.85	NA
S-6	1/7/2000	36000	7600	4600	840	3600	<1000	NA	NA	NA	NA	NA	NA	NA	22.08	19.53	2.55	NA
S-6	4/11/2000	14600	7540	205	306	609	621	NA	NA	NA	NA	NA	NA	NA	22.08	18.16	3.92	NA
S-6	7/19/2000	2590	629	63.9	99.6	267	124	72.7 b	NA	NA	NA	NA	NA	NA	22.08	18.40	3.68	NA
S-6	10/12/2000	32900	14200	966	1060	1790	<500	<100	NA	NA	NA	NA	NA	NA	22.08	19.52	2.56	NA
S-6	1/9/2001	27600	11200	675	666	1580	1430	<10.0 b	NA	NA	NA	NA	NA	NA	22.08	19.69	2.39	NA
S-6	2/5/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.08	19.20	2.88	NA
S-6	4/6/2001	16900	7800	343	172	966	809	<20.0	NA	NA	NA	NA	NA	NA	22.08	18.25	3.83	NA
S-6	7/25/2001	29000	9800	1700	1000	1800	NA	<250	NA	NA	NA	NA	NA	NA	22.08	18.27	3.81	NA
S-6	11/1/2001	41000	15000	2400	1100	2500	NA	<500	NA	NA	NA	NA	NA	NA	22.08	19.30	2.78	NA
S-6	01/17/2002 d	38000	11000	1700	990	2200	NA	<500	NA	NA	NA	NA	NA	NA	22.08	18.51	3.57	NA
S-6	5/8/2002	72000	21000	4400	2200	5300	NA	<1000	NA	NA	NA	NA	NA	NA	22.08	18.30	3.78	NA
S-6	7/18/2002	71000	17000	4300	1700	4800	NA	<1000	NA	NA	NA	NA	NA	NA	30.56	18.19	12.37	NA
S-6	10/15/2002	55000	16000	4600	1500	4600	NA	<100	NA	NA	NA	NA	NA	NA	30.56	18.77	11.79	NA
S-6	1/2/2003	75000	21000	5000	2400	6400	NA	<50	NA	NA	NA	NA	NA	NA	30.56	18.60	11.96	NA
S-6	4/15/2003	64000	29000	6400	2700	5600	NA	<1000	NA	NA	NA	NA	NA	NA	30.56	18.27	12.29	NA
S-6	7/14/2003	47000	19000	4300	1500	4300	NA	<100	NA	NA	NA	NA	NA	NA	30.56	18.05	12.51	NA

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S-6	10/20/2003	63000	21000	5800	1900	5200	NA	<130	NA	NA	NA	NA	NA	NA	30.56	18.55	12.01	f
S-6	1/22/2004	41000	21000	4300	1800	4000	NA	<130	NA	NA	NA	NA	NA	NA	30.56	18.18	12.38	f
S-6	4/19/2004	58000	23000	4200	2200	3900	NA	<130	NA	NA	NA	NA	NA	NA	30.56	17.32	13.24	NA
S-6	5/3/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.56	17.30	13.26	NA
S-6	6/17/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.56	17.70	12.86	NA
S-6	7/13/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.56	17.85	12.71	NA
S-6	10/28/2004 g	45000	21000	3600	1700	3300	NA	<130	NA	NA	NA	NA	NA	NA	30.56	18.45	12.11	NA
S-6	1/17/2005	61000	21000	3500	1600	3200	NA	<130	NA	NA	NA	NA	NA	NA	30.56	17.52	13.04	NA
S-6	4/14/2005	36000	12000	6200	850	4800	NA	<50	NA	NA	NA	NA	NA	NA	30.56	22.49	8.07	NA
S-6	7/28/2005	54000	16000	9100	1800	5900	NA	<130	NA	NA	NA	NA	NA	NA	30.56	19.38	11.18	NA
S-6	10/5/2005	59000	14000	7500	1400	5000	NA	<50	NA	NA	NA	NA	NA	NA	30.56	18.32	12.24	NA
S-6	2/9/2006	41100	7060	3900	673	2380	NA	<0.500	NA	NA	NA	NA	NA	NA	30.56	17.11	13.45	NA
S-6	5/15/2006	188000	24800	20700	2540	12400	NA	<25.0	NA	NA	NA	NA	NA	NA	30.56	19.80	10.76	NA
S-6	8/23/2006	133000	24900	16100	2280	10500	NA	<0.500	NA	NA	NA	NA	NA	NA	30.56	20.45	10.11	NA
S-6	11/15/2006	66000	19000	8400	1900	7400	NA	<400	NA	NA	NA	NA	NA	NA	30.56	20.41	10.15	NA
S-6	1/30/2007	88000	18000	9600	1900	7200	NA	<100	NA	NA	NA	NA	NA	NA	30.56	20.47	10.09	NA
S-6	5/29/2007	56000 h	17000	6700	1700	5400	NA	<20	NA	NA	NA	NA	NA	NA	30.56	20.40	10.16	NA
S-6	8/15/2007	57000 h,i	15000	6800	1600	6100	NA	<100	NA	NA	NA	NA	NA	NA	30.56	20.49	10.07	NA
S-6	11/28/2007	42000 h	13000	5000	1300	5000	NA	<100	NA	NA	NA	NA	NA	NA	30.56	20.65	9.91	NA
S-6	2/8/2008	35000 h	12000	5000	1200	4050	NA	<100	NA	NA	NA	NA	<50	<100	30.56	20.31	10.25	NA
S-6	5/8/2008	45000 h	15000	6100	1400	5000	NA	<100	NA	NA	NA	NA	<50	<100	30.56	20.63	9.93	NA
S-8	12/22/1994	600	120	32	5.2	34	NA	NA	NA	NA	NA	NA	NA	NA	27.21	24.87	2.34	NA
S-8	4/20/1995	460	180	23	5.2	21	NA	NA	NA	NA	NA	NA	NA	NA	27.21	23.90	3.31	NA
S-8	10/4/1995	830	210	38	11	42	NA	NA	NA	NA	NA	NA	NA	NA	27.21	24.48	2.73	NA
S-8	1/3/1996	350	61	12	2.5	12	NA	NA	NA	NA	NA	NA	NA	NA	27.21	24.62	2.59	NA
S-8 (D)	1/3/1996	340	54	12	2.4	12	NA	NA	NA	NA	NA	NA	NA	NA	27.21	NA	NA	NA
S-8	4/11/1996	570	140	37	12	47	<6.2	NA	NA	NA	NA	NA	NA	NA	27.21	24.32	2.89	NA
S-8	7/11/1996	980	98	32	9.1	160	<12	NA	NA	NA	NA	NA	NA	NA	27.21	24.10	3.11	NA
S-8	10/2/1996	280	62	13	3.3	25	15	NA	NA	NA	NA	NA	NA	NA	27.21	25.38	1.83	NA
S-8 (D)	10/2/1996	490	110	24	7.0	45	22	<2.0	NA	NA	NA	NA	NA	NA	27.21	NA	NA	NA
S-8	1/22/1997	400	90	13	4.9	25	12	NA	NA	NA	NA	NA	NA	NA	27.21	23.91	3.30	NA
S-8	7/21/1997	2900	380	110	26	260	85	NA	NA	NA	NA	NA	NA	NA	27.21	23.62	3.59	NA
S-8 (D)	7/21/1997	3200	420	120	32	300	130	NA	NA	NA	NA	NA	NA	NA	27.21	NA	NA	NA

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S-8	1/22/1998	3800	790	140	42	330	160	NA	NA	NA	NA	NA	NA	NA	27.21	23.52	3.69	NA
S-8 (D)	1/22/1998	3500	780	120	33	300	160	NA	NA	NA	NA	NA	NA	NA	27.21	NA	NA	NA
S-8	7/8/1998	3600	1800	<25	<25	<25	<125	NA	NA	NA	NA	NA	NA	NA	27.21	21.52	5.69	NA
S-8 (D)	7/8/1998	4000	1800	<25	<25	31	<125	NA	NA	NA	NA	NA	NA	NA	27.21	NA	NA	NA
S-8	10/26/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.21	22.01	5.20	NA
S-8	1/28/1999	2000	630	6.2	24	51	43	NA	NA	NA	NA	NA	NA	NA	27.21	23.03	4.18	NA
S-8	4/23/1999	1050	408	<5.00	<5.00	6.65	<50.0	NA	NA	NA	NA	NA	NA	NA	27.21	22.15	5.06	NA
S-8	7/29/1999	955	344	<2.50	6.90	16.2	<25.0	NA	NA	NA	NA	NA	NA	NA	27.21	21.95	5.26	NA
S-8	11/1/1999	1800	550	6.45	15	40.4	<50.0	NA	NA	NA	NA	NA	NA	NA	27.21	22.55	4.66	NA
S-8	1/7/2000	1300	600	11	29	48	<13	NA	NA	NA	NA	NA	NA	NA	27.21	22.87	4.34	NA
S-8	4/11/2000	342	101	4.42	4.24	14.7	21.4	NA	NA	NA	NA	NA	NA	NA	27.21	21.86	5.35	NA
S-8	7/19/2000	579	228	6.37	6.45	25.0	<12.5	NA	NA	NA	NA	NA	NA	NA	27.21	21.93	5.28	NA
S-8	10/12/2000	947	340	8.64	3.26	38.3	<12.5	<2.00	NA	NA	NA	NA	NA	NA	27.21	22.92	4.29	NA
S-8	1/9/2001	1090	394	<10.0	<10.0	33.3	57.6	NA	NA	NA	NA	NA	NA	NA	27.21	23.19	4.02	NA
S-8	4/6/2001	671	182	12.5	16.4	47.1	42.5	NA	NA	NA	NA	NA	NA	NA	27.21	22.46	4.75	NA
S-8	7/25/2001	500	70	6.7	11	23	NA	<5.0	NA	NA	NA	NA	NA	NA	27.21	22.50	4.71	NA
S-8	11/1/2001	1900	250	28	39	180	NA	<5.0	NA	NA	NA	NA	NA	NA	27.21	22.44	4.77	NA
S-8	01/17/2002 d	830	140	11	12	89	NA	<5.0	NA	NA	NA	NA	NA	NA	27.21	21.82	5.39	NA
S-8	05/08/2002 d	210	34	1.7	4.1	15	NA	<5.0	NA	NA	NA	NA	NA	NA	27.21	21.35	5.86	NA
S-8	7/18/2002	650	68	2.8	9.7	42	NA	<5.0	NA	NA	NA	NA	NA	NA	35.85	21.53	14.32	NA
S-8	10/15/2002	1000	160	4.2	7.7	74	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	21.97	13.88	NA
S-8	1/2/2003	440	55	1.8	2.9	31	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	21.95	13.90	NA
S-8	4/15/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	21.73	14.12	NA
S-8	7/14/2003	60	6.8	<0.50	0.98	4.9	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	21.40	14.45	NA
S-8	10/20/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	21.94	13.91	NA
S-8	1/22/2004	210	19	0.52	3.6	17	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	21.40	14.45	NA
S-8	4/19/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	20.83	15.02	NA
S-8	7/13/2004	420	77	0.82	14	31	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	21.05	14.80	NA
S-8	10/28/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	21.77	14.08	NA
S-8	1/17/2005	490	85	0.89	13	28	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	20.92	14.93	NA
S-8	4/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	21.57	14.28	NA
S-8	7/28/2005	64	12	<0.50	1.5	1.6	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	21.62	14.23	NA
S-8	10/5/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	21.11	14.74	NA
S-8	2/9/2006	<50.0	2.79	<0.500	<0.500	<0.500	NA	<0.500	NA	NA	NA	NA	NA	NA	35.85	20.18	15.67	NA

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S-8	5/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	20.53	15.32	NA
S-8	8/23/2006	<50.0	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	NA	NA	NA	NA	NA	35.85	21.49	14.36	NA
S-8	11/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	22.05	13.80	NA
S-8	1/30/2007	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	35.85	22.41	13.44	NA
S-8	5/29/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	22.65	13.20	NA
S-8	8/15/2007	65 h,i	7.4	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	NA	NA	35.85	22.88	12.97	NA
S-8	11/28/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	23.20	12.65	NA
S-8	2/8/2008	350 h	22	<1.0	4.8	2.6	NA	1.2	NA	NA	NA	NA	<0.50	<1.0	35.85	22.72	13.13	NA
S-8	5/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.85	22.91	12.94	NA

S-9	12/22/1994	2600	400	150	42	310	NA	NA	NA	NA	NA	NA	NA	NA	26.06	24.37	1.69	NA
S-9	4/20/1995	1900	400	130	51	200	NA	NA	NA	NA	NA	NA	NA	NA	26.06	23.49	2.57	NA
S-9	10/4/1995	3200	590	260	68	280	NA	NA	NA	NA	NA	NA	NA	NA	26.06	24.01	2.05	NA
S-9	1/3/1996	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	NA	NA	NA
S-9	4/11/1996	2100	440	1500	42	210	<25	NA	NA	NA	NA	NA	NA	NA	26.06	23.61	2.45	NA
S-9	7/11/1996	5200	940	450	120	520	<50	NA	NA	NA	NA	NA	NA	NA	26.06	23.78	2.28	NA
S-9 (D)	7/11/1996	4800	890	430	110	500	<50	NA	NA	NA	NA	NA	NA	NA	26.06	NA	NA	NA
S-9	10/2/1996	3000	680	220	56	270	<62	NA	NA	NA	NA	NA	NA	NA	26.06	24.31	1.75	NA
S-9	1/22/1997	1500	230	71	36	130	<12	NA	NA	NA	NA	NA	NA	NA	26.06	23.08	2.98	NA
S-9	7/21/1997	3400	590	57	19	210	96	NA	NA	NA	NA	NA	NA	NA	26.06	22.83	3.23	NA
S-9	1/22/1998	2600	300	46	<10	270	62	NA	NA	NA	NA	NA	NA	NA	26.06	21.96	4.10	NA
S-9	7/8/1998	820	150	6.2	8	57	<10	NA	NA	NA	NA	NA	NA	NA	26.06	20.85	5.21	NA
S-9	10/26/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	21.39	4.67	NA
S-9	1/28/1999	<50	1.0	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	26.06	22.32	3.74	NA
S-9	4/23/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	21.41	4.65	NA
S-9	7/29/1999	117	7.77	0.817	0.683	5.05	<5.00	NA	NA	NA	NA	NA	NA	NA	26.06	21.25	4.81	NA
S-9	11/1/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	21.92	4.14	NA
S-9	1/7/2000	<50	1.2	<0.50	<0.50	<0.50	<2.5	NA	NA	NA	NA	NA	NA	NA	26.06	22.11	3.95	NA
S-9	4/11/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	21.14	4.92	NA
S-9	7/19/2000	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	NA	NA	NA
S-9	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	22.24	3.82	NA
S-9	1/9/2001	<50.0	1.45	<0.500	<0.500	<0.500	<2.50	NA	NA	NA	NA	NA	NA	NA	26.06	22.52	3.54	NA
S-9	4/6/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	23.61	2.45	NA
S-9	7/25/2001	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	NA	NA	NA

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S-9	8/13/2001	Well inaccessible		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	NA	NA	NA
S-9	11/1/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	21.78	4.28	NA
S-9	01/17/2002 d	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	26.06	21.15	4.91	NA
S-9	5/8/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.06	20.56	5.50	NA
S-9	7/18/2002	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	34.70	20.88	13.82	NA
S-9	10/15/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	21.41	13.29	NA
S-9	1/2/2003	<50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA	NA	NA	NA	NA	NA	34.70	21.35	13.35	NA
S-9	4/15/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	21.14	13.56	NA
S-9	7/14/2003	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	34.70	20.80	13.90	NA
S-9	10/20/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	21.33	13.37	NA
S-9	1/22/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	34.70	20.77	13.93	NA
S-9	4/19/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	20.06	14.64	NA
S-9	7/13/2004	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	34.70	20.44	14.26	NA
S-9	10/28/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	21.02	13.68	NA
S-9	1/17/2005	<50	<0.50	<0.50	<0.50	<1.0	NA	<0.50	NA	NA	NA	NA	NA	NA	34.70	20.18	14.52	NA
S-9	4/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	21.85	12.85	NA
S-9	7/28/2005	360	190	1.8	1.1	3.9	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	34.70	21.22	13.48	NA
S-9	10/5/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	20.63	14.07	NA
S-9	2/9/2006	<50.0	0.940	<0.500	<0.500	<0.500	NA	<0.500	NA	NA	NA	NA	NA	NA	34.70	19.23	15.47	NA
S-9	5/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	20.28	14.42	NA
S-9	8/23/2006	7000	1740	55.6	193	278	NA	<0.500	<0.500	<0.500	<0.500	<10.0	NA	NA	34.70	21.31	13.39	NA
S-9	11/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	21.79	12.91	NA
S-9	1/30/2007	12000	2200	250	480	980	NA	<0.50	NA	NA	NA	NA	NA	NA	34.70	22.08	12.62	NA
S-9	5/29/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	22.22	12.48	NA
S-9	8/15/2007	9800 h,i	2400	100	410	602	NA	<10	<20	<20	<20	<100	NA	NA	34.70	22.43	12.27	NA
S-9	11/28/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	22.75	11.95	NA
S-9	2/8/2008	69 h	2.2	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	<0.50	<1.0	34.70	22.31	12.39	NA
S-9	5/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.70	22.49	12.21	NA
S-10	12/22/1994	420	27	8.0	18	45	NA	NA	NA	NA	NA	NA	NA	NA	28.04	25.84	2.20	NA
S-10	4/20/1995	820	49	3.7	97	52	NA	NA	NA	NA	NA	NA	NA	NA	28.04	24.92	3.12	NA
S-10	10/4/1995	240	6.5	1.1	16	12	NA	NA	NA	NA	NA	NA	NA	NA	28.04	25.47	2.57	NA
S-10	1/3/1996	1100	27	4.9	110	70	NA	NA	NA	NA	NA	NA	NA	NA	28.04	25.60	2.44	NA
S-10	4/11/1996	530	19	1.6	82	52	<5.0	NA	NA	NA	NA	NA	NA	NA	28.04	25.27	2.77	NA



**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**461 8th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	EDC (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
S-10	7/11/1996	570	16	3.2	53	53	<2.5	NA	NA	NA	NA	NA	NA	NA	28.04	25.46	2.58	NA
S-10	10/2/1996	270	8.2	0.77	24	23	3.3	NA	NA	NA	NA	NA	NA	NA	28.04	25.81	2.23	NA
S-10	1/22/1997	160	4.8	0.73	16	11	<2.5	NA	NA	NA	NA	NA	NA	NA	28.04	24.74	3.30	NA
S-10	7/21/1997	530	5.7	0.70	29	69	<2.5	NA	NA	NA	NA	NA	NA	NA	28.04	24.50	3.54	NA
S-10	1/22/1998	1500	15	<5.0	88	130	<25	NA	NA	NA	NA	NA	NA	NA	28.04	24.44	3.60	NA
S-10	7/8/1998	530	4.8	1.1	47	51	<2.5	NA	NA	NA	NA	NA	NA	NA	28.04	22.36	5.68	NA
S-10	10/26/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	22.81	5.23	NA
S-10	1/28/1999	630	4.6	0.98	<0.50	59	<2.5	NA	NA	NA	NA	NA	NA	NA	28.04	23.82	4.22	NA
S-10	4/23/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	22.96	5.08	NA
S-10	7/29/1999	728	3.40	<1.00	41.8	38.0	<10.0	NA	NA	NA	NA	NA	NA	NA	28.04	22.63	5.41	NA
S-10	11/1/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	23.02	5.02	NA
S-10	1/7/2000	870	8.5	1.3	110	110	<2.5	NA	NA	NA	NA	NA	NA	NA	28.04	23.33	4.71	NA
S-10	4/11/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	22.64	5.40	NA
S-10	7/19/2000	612	3.75	<0.500	41.6	43.6	<2.50	NA	NA	NA	NA	NA	NA	NA	28.04	23.04	5.00	NA
S-10	10/12/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	23.92	4.12	NA
S-10	1/9/2001	647	7.62	1.01	66.2	42.4	<2.50	NA	NA	NA	NA	NA	NA	NA	28.04	24.13	3.91	NA
S-10	4/6/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	25.37	2.67	NA
S-10	7/25/2001	340	1.5	<0.50	42	19	NA	<5.0	NA	NA	NA	NA	NA	NA	28.04	25.35	2.69	NA
S-10	11/1/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	23.22	4.82	NA
S-10	01/17/2002 d	1100	3.5	<0.50	55	46	NA	<5.0	NA	NA	NA	NA	NA	NA	28.04	22.72	5.32	NA
S-10	5/8/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.04	22.35	5.69	NA
S-10	7/18/2002	750	1.8	<0.50	42	26	NA	<5.0	NA	NA	NA	NA	NA	NA	36.35	22.05	14.30	NA
S-10	10/15/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	22.51	13.84	NA
S-10	1/2/2003	440	1.8	<0.50	14	24	NA	<5.0	NA	NA	NA	NA	NA	NA	36.35	22.50	13.85	NA
S-10	4/15/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	22.32	14.03	NA
S-10	7/14/2003	210	0.86	<0.50	13	12	NA	<0.50	NA	NA	NA	NA	NA	NA	36.35	21.99	14.36	NA
S-10	10/20/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	22.53	13.82	NA
S-10	1/22/2004	280	0.88	<0.50	10	11	NA	<0.50	NA	NA	NA	NA	NA	NA	36.35	22.02	14.33	NA
S-10	4/19/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	21.43	14.92	NA
S-10	7/13/2004	770	1.5	<0.50	70	42	NA	<0.50	NA	NA	NA	NA	NA	NA	36.35	21.68	14.67	NA
S-10	10/28/2004	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	22.37	13.98	NA
S-10	1/17/2005	1100	1.5	<0.50	73	51	NA	<0.50	NA	NA	NA	NA	NA	NA	36.35	21.45	14.90	NA
S-10	4/14/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	22.18	14.17	NA
S-10	7/28/2005	260	<0.50	<0.50	19	9.7	NA	<0.50	<2.0	<2.0	<2.0	<5.0	NA	NA	36.35	22.25	14.10	NA

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**461 8th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	EDC (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
S-10	10/5/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	21.70	14.65	NA
S-10	2/9/2006	630	<0.500	<0.500	13.8	13.8	NA	<0.500	NA	NA	NA	NA	NA	NA	36.35	20.37	15.98	NA
S-10	5/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	21.31	15.04	NA
S-10	8/23/2006	<50.0	<0.500	<0.500	14.5	3.40	NA	<0.500	<0.500	<0.500	<0.500	<10.0	NA	NA	36.35	22.12	14.23	NA
S-10	11/15/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	22.68	13.67	NA
S-10	1/30/2007	120	<0.50	<0.50	7.0	3.3	NA	<0.50	NA	NA	NA	NA	NA	NA	36.35	23.09	13.26	NA
S-10	5/29/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	23.20	13.15	NA
S-10	8/15/2007	64 h,i	0.15 j	<1.0	1.4	0.72 j	NA	<1.0	<2.0	<2.0	<2.0	<10	NA	NA	36.35	23.48	12.87	NA
S-10	11/28/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	23.82	12.53	NA
S-10	2/8/2008	61 h	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	<0.50	<1.0	36.35	23.31	13.04	NA
S-10	5/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.35	23.55	12.80	NA
S-12	12/17/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.44	24.58	11.86	NA
S-12	2/8/2008	55 h	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	<0.50	<1.0	36.44	24.32	12.12	NA
S-12	5/8/2008	<50 h	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	<0.50	<1.0	36.44	24.51	11.93	NA
S-13	12/17/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.16	23.33	11.83	NA
S-13	2/8/2008	14000 h	1900	1300	280	3000	NA	<10	NA	NA	NA	NA	<5.0	<10	35.16	23.01	12.15	NA
S-13	5/8/2008	18000 h	2800	3400	550	3500	NA	<10	NA	NA	NA	NA	<5.0	<10	35.16	23.31	11.85	NA
S-14	12/17/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.94	22.68	12.26	NA
S-14	2/8/2008	5300 h	380	300	34	970	NA	<10	NA	NA	NA	NA	<5.0	<10	34.94	22.82	12.12	NA
S-14	5/8/2008	4300 h	750	270	30	520	NA	<10	NA	NA	NA	NA	<5.0	<10	34.94	22.41	12.53	NA
S-15	12/17/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.34	23.00	12.34	NA
S-15	2/8/2008	55000 h	6700	13000	1100	9800	NA	<10	NA	NA	NA	NA	<5.0	<10	35.34	22.71	12.63	NA
S-15	5/8/2008	53000 h	6300	13000	1500	7500	NA	<200	NA	NA	NA	NA	<100	<200	35.34	22.91	12.43	NA
S-16	12/17/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.08	23.88	12.20	NA
S-16	2/8/2008	6000 h	670	730	88	1290	NA	<5.0	NA	NA	NA	NA	<2.5	<5.0	36.08	23.52	12.56	NA
S-16	5/8/2008	3200 h	670	320	18	580	NA	<10	NA	NA	NA	NA	<5.0	<10	36.08	23.69	12.39	NA
S-17	6/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.49	23.30	12.19	NA
S-17	6/25/2008	21,000	1,300	1,300	160	2,850	NA	<5.0	NA	NA	NA	NA	<2.5	<5.0	35.49	23.33	12.16	NA

**WELL CONCENTRATIONS**  
**Former Shell Service Station**  
**461 8th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	EDC (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
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S-18	6/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.04	22.94	12.10	NA
S-18	6/25/2008	58,000	2,200	5,600	880	10,200	NA	<10	NA	NA	NA	NA	<5.0	<10	35.04	22.92	12.12	NA

AS-1	12/17/2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.33	22.91	12.42	NA
AS-1	2/8/2008	130 h	1.1	3.4	<1.0	5.4	NA	<1.0	NA	NA	NA	NA	<0.50	<1.0	35.33	22.62	12.71	NA
AS-1	5/8/2008	<50 h	<0.50	<1.0	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	<0.50	<1.0	35.33	27.78	7.55	NA

Abbreviations:

TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B; prior to July 25, 2001, analyzed by EPA Method 8015.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B; prior to July 25, 2001, analyzed by EPA Method 8020.

MTBE = Methyl tertiary butyl ether

ETBE = Ethyl tertiary butyl ether, analyzed by EPA Method 8260B.

DIPE = Di-isopropyl ether, analyzed by EPA Method 8260B.

TAME = Tertiary amyl methyl ether, analyzed by EPA Method 8260B.

TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B.

EDC = 1,2-Dichloroethane, analyzed by EPA Method 8260B.

EDB = 1,2-Dibromoethane, analyzed by EPA Method 8260B.

TOC = Top of Casing Elevation

TOB = Top of Wellbox Elevation

SPH = Separate-Phase Hydrocarbons

GW = Groundwater

ug/L = Parts per billion

MSL = Mean sea level

ft. = Feet

<n = Below detection limit

(D) = Duplicate sample

NA = Not applicable

**WELL CONCENTRATIONS**  
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**461 8th Street**  
**Oakland, CA**

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8020 (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	EDC (ug/L)	EDB (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)	SPH Thickness (ft.)
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Notes:

a = Ethylbenzene and xylenes combined.

b = This sample analyzed outside of EPA recommended holding time.

c = Depth to water measured from Top of Casing; elevation unknown.

d = Grab sampled.

e = Casing broken; Top of Casing elevation unknown.

f = SPH detected at <0.01 feet.

g = S-6 was purged prior to sampling.

h = Analyzed by EPA Method 8015B (M).

i = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

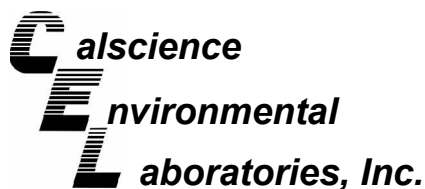
j = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

\* = Prior to December 22, 1994, well elevations taken from Top of Casing.

Beginning July 18, 2002, well elevations taken from Top of Casing.

Site surveyed March 5, 2002 by Virgil Chavez Land Surveying of Vallejo, CA.

Site surveyed December 18, 2007 by Virgil Chavez Land Surveying of Vallejo, CA.



July 07, 2008

Michael Ninokata  
Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Subject: **CalScience Work Order No.: 08-06-2507**  
**Client Reference: 461 8th Street , Oakland, CA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/27/2008 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

## Analytical Report



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Date Received: 06/27/08  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: ug/L

Project: 461 8th Street , Oakland, CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-17	08-06-2507-1-A	06/25/08 00:00	Aqueous	GC/MS PP	06/30/08	06/30/08 21:16	080630L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	1300	10	20		p/m-Xylene	1900	5.0	5	
1,2-Dibromoethane	ND	5.0	5		o-Xylene	950	5.0	5	
1,2-Dichloroethane	ND	2.5	5		Methyl-t-Butyl Ether (MTBE)	ND	5.0	5	
Ethylbenzene	160	5.0	5		TPPH	21000	1000	20	
Toluene	1300	20	20						
<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>
Dibromofluoromethane	101	74-140			1,2-Dichloroethane-d4	103	74-146		
Toluene-d8	103	88-112			Toluene-d8-TPPH	106	88-112		
1,4-Bromofluorobenzene	99	74-110							

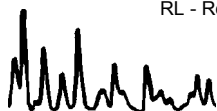
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-18	08-06-2507-2-A	06/25/08 00:00	Aqueous	GC/MS PP	06/30/08	07/01/08 03:31	080630L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	2200	25	50		p/m-Xylene	7200	50	50	
1,2-Dibromoethane	ND	10	10		o-Xylene	3000	50	50	
1,2-Dichloroethane	ND	5.0	10		Methyl-t-Butyl Ether (MTBE)	ND	10	10	
Ethylbenzene	880	10	10		TPPH	58000	2500	50	
Toluene	5600	50	50						
<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>
Dibromofluoromethane	100	74-140			1,2-Dichloroethane-d4	100	74-146		
Toluene-d8	101	88-112			Toluene-d8-TPPH	105	88-112		
1,4-Bromofluorobenzene	97	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-767-47	N/A	Aqueous	GC/MS PP	06/30/08	06/30/08 13:15	080630L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	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>
Dibromofluoromethane	107	74-140			1,2-Dichloroethane-d4	109	74-146		
Toluene-d8	99	88-112			Toluene-d8-TPPH	103	88-112		
1,4-Bromofluorobenzene	93	74-110							

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



## Analytical Report



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Date Received: 06/27/08  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B  
Units: ug/L

Project: 461 8th Street , Oakland, CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>099-12-767-48</b>	<b>N/A</b>	<b>Aqueous</b>	<b>GC/MS PP</b>	<b>06/30/08</b>	<b>07/01/08 01:26</b>	<b>080630L02</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	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>
Dibromofluoromethane	105	74-140			1,2-Dichloroethane-d4	106	74-146		
Toluene-d8	100	88-112			Toluene-d8-TPPH	104	88-112		
1,4-Bromofluorobenzene	93	74-110							

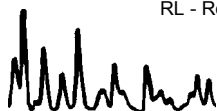
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<b>Method Blank</b>	<b>099-12-767-49</b>	<b>N/A</b>	<b>Aqueous</b>	<b>GC/MS PP</b>	<b>07/01/08</b>	<b>07/01/08 12:53</b>	<b>080701L01</b>

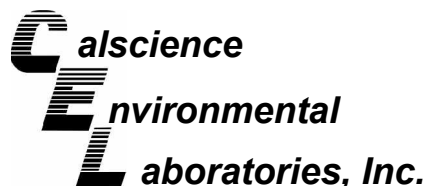
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
Dibromofluoromethane	109	74-140			1,2-Dichloroethane-d4	111	74-146		
Toluene-d8	99	88-112			Toluene-d8-TPPH	103	88-112		
1,4-Bromofluorobenzene	93	74-110							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>099-12-767-52</b>	<b>N/A</b>	<b>Aqueous</b>	<b>GC/MS PP</b>	<b>07/03/08</b>	<b>07/04/08 01:32</b>	<b>080703L01</b>

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		p/m-Xylene	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Ethylbenzene	ND	1.0	1		TPPH	ND	50	1	
Toluene	ND	1.0	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>
Dibromofluoromethane	104	74-140			1,2-Dichloroethane-d4	105	74-146		
Toluene-d8	98	88-112			Toluene-d8-TPPH	100	88-112		
1,4-Bromofluorobenzene	92	74-110							

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





## Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

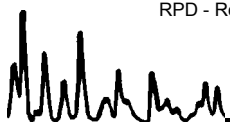
Date Received: 06/27/08  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

Project 461 8th Street , Oakland, CA

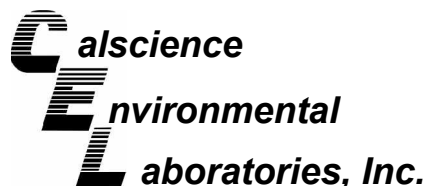
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-06-1617-11	Aqueous	GC/MS PP	06/30/08	06/30/08	080630S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	93	91	88-118	2	0-7	
Carbon Tetrachloride	92	90	67-145	2	0-11	
Chlorobenzene	93	91	88-118	3	0-7	
1,2-Dibromoethane	96	95	70-130	1	0-30	
1,2-Dichlorobenzene	92	91	86-116	1	0-8	
1,1-Dichloroethene	92	91	70-130	1	0-25	
Ethylbenzene	95	93	70-130	2	0-30	
Toluene	96	94	87-123	2	0-8	
Trichloroethene	89	89	79-127	0	0-10	
Vinyl Chloride	93	97	69-129	4	0-13	
Methyl-t-Butyl Ether (MTBE)	108	109	71-131	1	0-13	
Tert-Butyl Alcohol (TBA)	106	105	36-168	0	0-45	
Diisopropyl Ether (DIPE)	106	107	81-123	0	0-9	
Ethyl-t-Butyl Ether (ETBE)	108	109	72-126	1	0-12	
Tert-Amyl-Methyl Ether (TAME)	112	111	72-126	1	0-12	
Ethanol	100	105	53-149	5	0-31	

RPD - Relative Percent Difference , CL - Control Limit







## Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Date Received: 06/27/08  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

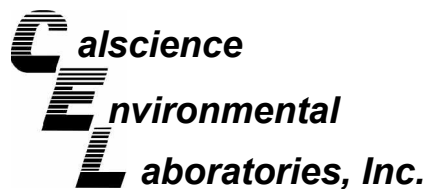
Project 461 8th Street , Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-06-2476-1	Aqueous	GC/MS PP	06/30/08	07/01/08	080630S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	67	52	88-118	6	0-7	3
Carbon Tetrachloride	85	84	67-145	1	0-11	
Chlorobenzene	86	75	88-118	13	0-7	3,4
1,2-Dibromoethane	89	76	70-130	16	0-30	
1,2-Dichlorobenzene	82	73	86-116	11	0-8	3,4
1,1-Dichloroethene	86	84	70-130	3	0-25	
Ethylbenzene	86	78	70-130	9	0-30	
Toluene	86	80	87-123	7	0-8	3
Trichloroethene	83	77	79-127	7	0-10	3
Vinyl Chloride	87	90	69-129	4	0-13	
Methyl-t-Butyl Ether (MTBE)	97	88	71-131	10	0-13	
Tert-Butyl Alcohol (TBA)	86	78	36-168	8	0-45	
Diisopropyl Ether (DIPE)	97	90	81-123	7	0-9	
Ethyl-t-Butyl Ether (ETBE)	97	90	72-126	8	0-12	
Tert-Amyl-Methyl Ether (TAME)	99	88	72-126	11	0-12	
Ethanol	92	83	53-149	10	0-31	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

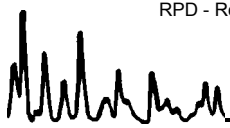
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Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

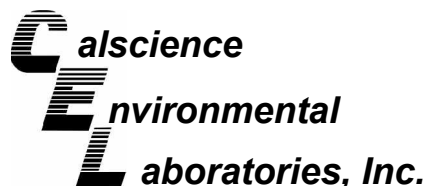
Project 461 8th Street , Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-06-2553-9	Aqueous	GC/MS PP	07/01/08	07/01/08	080701S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	92	91	88-118	2	0-7	
Carbon Tetrachloride	96	92	67-145	4	0-11	
Chlorobenzene	93	91	88-118	2	0-7	
1,2-Dibromoethane	92	94	70-130	2	0-30	
1,2-Dichlorobenzene	93	90	86-116	3	0-8	
1,1-Dichloroethene	97	92	70-130	6	0-25	
Ethylbenzene	96	93	70-130	3	0-30	
Toluene	95	94	87-123	2	0-8	
Trichloroethene	89	89	79-127	0	0-10	
Vinyl Chloride	99	98	69-129	1	0-13	
Methyl-t-Butyl Ether (MTBE)	106	105	71-131	1	0-13	
Tert-Butyl Alcohol (TBA)	88	90	36-168	3	0-45	
Diisopropyl Ether (DIPE)	106	104	81-123	2	0-9	
Ethyl-t-Butyl Ether (ETBE)	107	105	72-126	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	107	107	72-126	0	0-12	
Ethanol	101	97	53-149	4	0-31	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

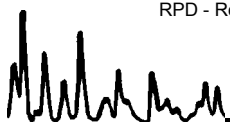
Date Received: 06/27/08  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA  
8260B

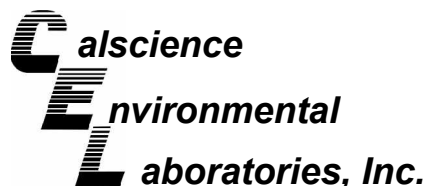
Project 461 8th Street , Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-07-0126-4	Aqueous	GC/MS PP	07/03/08	07/04/08	080703S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	89	91	88-118	2	0-7	
Carbon Tetrachloride	86	87	67-145	1	0-11	
Chlorobenzene	90	93	88-118	4	0-7	
1,2-Dibromoethane	97	98	70-130	2	0-30	
1,2-Dichlorobenzene	92	94	86-116	2	0-8	
1,1-Dichloroethene	82	83	70-130	1	0-25	
Ethylbenzene	92	93	70-130	1	0-30	
Toluene	90	90	87-123	0	0-8	
Trichloroethene	86	87	79-127	1	0-10	
Vinyl Chloride	86	91	69-129	6	0-13	
Methyl-t-Butyl Ether (MTBE)	101	105	71-131	4	0-13	
Tert-Butyl Alcohol (TBA)	90	87	36-168	3	0-45	
Diisopropyl Ether (DIPE)	100	103	81-123	3	0-9	
Ethyl-t-Butyl Ether (ETBE)	104	108	72-126	4	0-12	
Tert-Amyl-Methyl Ether (TAME)	104	106	72-126	2	0-12	
Ethanol	60	60	53-149	1	0-31	

RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

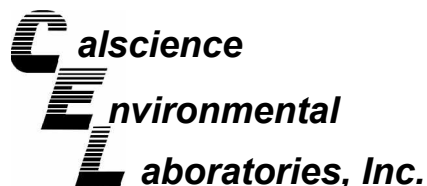
Date Received: N/A  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street , Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-47	Aqueous	GC/MS PP	06/30/08	06/30/08	080630L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	96	95	84-120	2	0-8	
Carbon Tetrachloride	101	97	63-147	4	0-10	
Chlorobenzene	97	94	89-119	4	0-7	
1,2-Dibromoethane	94	93	80-120	2	0-20	
1,2-Dichlorobenzene	94	94	89-119	1	0-9	
1,1-Dichloroethene	105	98	77-125	7	0-16	
Ethylbenzene	102	98	80-120	4	0-20	
Toluene	98	97	83-125	1	0-9	
Trichloroethene	96	93	89-119	3	0-8	
Vinyl Chloride	110	105	63-135	5	0-13	
Methyl-t-Butyl Ether (MTBE)	104	103	82-118	1	0-13	
Tert-Butyl Alcohol (TBA)	94	93	46-154	2	0-32	
Diisopropyl Ether (DIPE)	105	103	81-123	2	0-11	
Ethyl-t-Butyl Ether (ETBE)	105	103	74-122	1	0-12	
Tert-Amyl-Methyl Ether (TAME)	104	106	76-124	2	0-10	
Ethanol	95	97	60-138	2	0-32	
TPPH	98	98	65-135	0	0-30	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

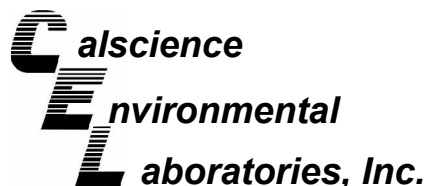
Date Received: N/A  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street , Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-48	Aqueous	GC/MS PP	06/30/08	07/01/08	080630L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	98	98	84-120	0	0-8	
Carbon Tetrachloride	102	101	63-147	1	0-10	
Chlorobenzene	97	98	89-119	1	0-7	
1,2-Dibromoethane	99	101	80-120	2	0-20	
1,2-Dichlorobenzene	96	96	89-119	1	0-9	
1,1-Dichloroethene	103	104	77-125	1	0-16	
Ethylbenzene	102	103	80-120	1	0-20	
Toluene	100	101	83-125	0	0-9	
Trichloroethene	101	102	89-119	1	0-8	
Vinyl Chloride	109	108	63-135	1	0-13	
Methyl-t-Butyl Ether (MTBE)	104	104	82-118	0	0-13	
Tert-Butyl Alcohol (TBA)	105	107	46-154	2	0-32	
Diisopropyl Ether (DIPE)	105	103	81-123	2	0-11	
Ethyl-t-Butyl Ether (ETBE)	104	103	74-122	1	0-12	
Tert-Amyl-Methyl Ether (TAME)	105	105	76-124	1	0-10	
Ethanol	101	103	60-138	1	0-32	
TPPH	103	96	65-135	8	0-30	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

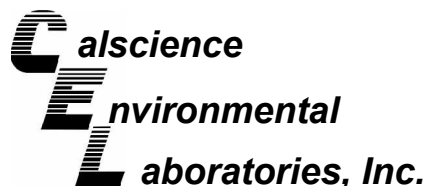
Date Received: N/A  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street , Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-49	Aqueous	GC/MS PP	07/01/08	07/01/08	080701L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	102	100	84-120	3	0-8	
Carbon Tetrachloride	108	102	63-147	6	0-10	
Chlorobenzene	101	99	89-119	2	0-7	
1,2-Dibromoethane	98	97	80-120	1	0-20	
1,2-Dichlorobenzene	96	98	89-119	2	0-9	
1,1-Dichloroethene	109	106	77-125	3	0-16	
Ethylbenzene	106	103	80-120	2	0-20	
Toluene	106	103	83-125	3	0-9	
Trichloroethene	104	98	89-119	5	0-8	
Vinyl Chloride	117	113	63-135	4	0-13	
Methyl-t-Butyl Ether (MTBE)	104	102	82-118	2	0-13	
Tert-Butyl Alcohol (TBA)	102	104	46-154	2	0-32	
Diisopropyl Ether (DIPE)	108	105	81-123	3	0-11	
Ethyl-t-Butyl Ether (ETBE)	104	102	74-122	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	108	107	76-124	1	0-10	
Ethanol	103	98	60-138	5	0-32	
TPPH	102	105	65-135	3	0-30	

RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.  
1680 Rogers Avenue  
San Jose, CA 95112-1105

Date Received: N/A  
Work Order No: 08-06-2507  
Preparation: EPA 5030B  
Method: LUFT GC/MS / EPA 8260B

Project: 461 8th Street , Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-767-52	Aqueous	GC/MS PP	07/03/08	07/04/08	080703L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	93	98	84-120	5	0-8	
Carbon Tetrachloride	90	100	63-147	11	0-10	X
Chlorobenzene	96	100	89-119	5	0-7	
1,2-Dibromoethane	104	103	80-120	0	0-20	
1,2-Dichlorobenzene	96	97	89-119	2	0-9	
1,1-Dichloroethene	88	97	77-125	9	0-16	
Ethylbenzene	99	105	80-120	6	0-20	
Toluene	94	99	83-125	6	0-9	
Trichloroethene	99	105	89-119	6	0-8	
Vinyl Chloride	92	103	63-135	11	0-13	
Methyl-t-Butyl Ether (MTBE)	105	102	82-118	3	0-13	
Tert-Butyl Alcohol (TBA)	104	119	46-154	13	0-32	
Diisopropyl Ether (DIPE)	103	103	81-123	0	0-11	
Ethyl-t-Butyl Ether (ETBE)	108	104	74-122	4	0-12	
Tert-Amyl-Methyl Ether (TAME)	108	104	76-124	4	0-10	
Ethanol	82	79	60-138	4	0-32	
TPPH	101	101	65-135	0	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 08-06-2507

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<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.
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:**  
 ENV. SERVICES  MOTIVA RETAIL  SHELL RETAIL  
 MOTIVA SD&CM  CONSULTANT  LUBES  
 SHELL PIPELINE  OTHER \_\_\_\_\_

**Print Bill To Contact Name:** Denis Brown  
**INCIDENT # (ENV SERVICES):** 9 7 0 9 3 3 9 9  
 CHECK IF NO INCIDENT # APPLIES  
 DATE: 6/25/08  
 PAGE: 1 of 1

**SAMPLING COMPANY:** Blaine Tech Services  
**LOG CODE:** BTSS  
**ADDRESS:** 1680 Rogers Ave, San Jose, CA 95112  
**EDF DELIVERABLE TO (Name, Company, Office Location):** Ana Friel, CRA, Eureka  
**PHONE NO.:** 707-268-3812  
**STATE:** CA  
**GLOBAL ID NO.:** T0600101263  
**PROJECT CONTACT (Hardcopy or PDF Reports):** Michael Ninokata  
**TELEPHONE:** (408)573-0555  
**FAX:** (408)573-7771  
**E-MAIL:** mninokata@blainetech.com  
**SAMPLER NAME(S) (Print):** IAN WILLIAMS  
**CONSULTANT PROJECT NO.:** 080625-1W-2  
**BTS #**  
**LAB USE ONLY:** 08-06-2507

**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 :**

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED

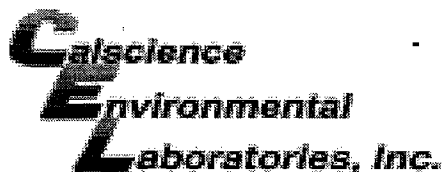
**Run TPH-d w/Silica Gel Clean Up**

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	REQUESTED ANALYSIS												TEMPERATURE ON RECEIPT C°	Container PID Readings or Laboratory Notes						
			DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER		TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)			Methanol (8015M)	EDC				
1	S-17		6/25/08		W	X							X	X	X					X		X									
2	S-18		↓		W	X							X	X	X					X		X									

**Relinquished by: (Signature)** Ian Williams  
**Received by: (Signature)** Ian Williams SAMPLE CUSTODIAN  
**Date:** 6/25/08  
**Time:** 1531

**Relinquished by: (Signature)**  
**Received by: (Signature)**  
**Date:**  
**Time:**

**Relinquished by: (Signature)** Shipped Via GSO  
**Received by: (Signature)** Webster  
**Date:** 6/26/08  
**Time:** 1700  
 509860119  
 Woburn MA  
 6-27-08 1000



WORK ORDER #: 08 - 06 - 2507

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: BTS

DATE: 6-27-08

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).

LABORATORY (Other than Calscience Courier):

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

Temperature blank.

Initial: WB

CUSTODY SEAL INTACT:

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

Initial: WB

SAMPLE CONDITION:

Table with 4 columns: Description, 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: WB

COMMENTS:

Blank lines for handwritten comments.

# SHELL WELLHEAD INSPECTION FORM

## (FOR SAMPLE TECHNICIAN)

Site Address 461 8th STREET, OAKLAND Date 6/25/08

Job Number 080625-1W-1 Technician IAN WILLIAMS Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Well Box Meets Compliance Requirements *See Below	Water Bailed From Wellbox	Cap Replaced	Lock Replaced	Well Not Inspected (explain in notes)	New Deficiency Identified	Previously Identified Deficiency Persists	Notes
S-17	X							X	NO TAG
S-18	X							X	NO TAG

\*Well box must meet all three criteria to be compliant: 1) WELL IS SECURABLE BY DESIGN (12" or less) 2) WELL IS MARKED WITH THE WORDS "MONITORING WELL" (12" or less) 3) WELL TAG IS PRESENT, SECURE, AND CORRECT

Notes: \_\_\_\_\_

# WELL GAUGING DATA

Project # 080625-1W-1 Date 6/29/08 Client SHELL

Site 461 8th STREET, OAKLAND

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
<del>MW-17</del>	iw								↓	
<del>MW-18</del>	iw									
S-17	0816	2	ODOR				23.33	34.56		
S-18	0825	2	ODOR				22.92	34.71	↓	



## SHELL WELL MONITORING DATA SHEET

BTS #: <u>080625-1W-1</u>	Site: <u>461 8<sup>th</sup> STREET, OAKLAND</u>
Sampler: <u>1W</u>	Date: <u>6/25/08</u>
Well I.D.: <u>S-18</u>	Well Diameter: <u>2</u> 3 4 6 8 _____
Total Well Depth (TD): <u>34.71</u>	Depth to Water (DTW): <u>22.92</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>      </u>	

Purge Method: <del>Bailer</del> <del>Disposable Bailer</del> <del>Positive Air Displacement</del> <del>Electric Submersible</del>	Water: <del>Peristaltic</del> <del>Extraction Pump</del> Other: _____	Sampling Method: <del>Bailer</del> <del>Extraction Port</del> <del>Dedicated Tubing</del> Other: _____
--	---	---

**NO PURGE @ 15'**

_____ (Gals.) X _____	= _____ Gals.	
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	Gals. Removed	Observations
<u>0844</u>	<u>66.4</u>	<u>7.47</u>	<u>762</u>	<u>251</u>	<u>GRAB</u>	<u>STRONG ODOR</u>

Did well dewater? ~~Yes~~ No      Gallons actually evacuated: \_\_\_\_\_

Sampling Date: 6/25/08      Sampling Time: 0844      Depth to Water: 22.92

Sample I.D.: S-18      Laboratory: STL      Other: CAL SCIENCE

Analyzed for: TPH-G BTEX MTBE TPH-D      Other: EDB, EDC

EB I.D. (if applicable): \_\_\_\_\_ @ \_\_\_\_\_ Time      Duplicate I.D. (if applicable): \_\_\_\_\_

Analyzed for: TPH-G BTEX MTBE TPH-D      Other: \_\_\_\_\_

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

# SHELL WELLHEAD INSPECTION FORM

(FOR SAMPLE TECHNICIAN)

Site Address 461 8th St OAKLAND, CA Date 06/19/08  
 Job Number 020619-WW1 Technician WW Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Well Box Meets Compliance Requirements *See Below	Water Bailed From Wellbox	Cap Replaced	Lock Replaced	Well Not Inspected (explain in notes)	New Deficiency Identified	Previously Identified Deficiency Persists	Notes
S-17					X		X		<del>DOLPHIN LOCK</del> <sup>(WW)</sup> NO TAG
S-18					X		P		NO TAG

\*Well box must meet all three criteria to be compliant: 1) WELL IS SECURABLE BY DESIGN (12" or less) 2) WELL IS MARKED WITH THE WORDS "MONITORING WELL" (12" or less) 3) WELL TAG IS PRESENT, SECURE, AND CORRECT

Notes: \_\_\_\_\_

## WELL GAUGING DATA

Project # 0806A-WWI Date 06/19/08 Client SHELL

Site 461 8th St, OAKLAND, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
S-17	0759	2					23.30	32.18	↓	
S-18	0803	2					22.94	32.92	↓	





## WELL DEVELOPMENT DATA SHEET

Project #: <u>080619-WW1</u>	Client: <u>SHELL</u>
Developer: <u>WW</u>	Date Developed: <u>06/19/08</u>
Well I.D. <u>S-18</u>	Well Diameter: (circle one) <u>2</u> 3 4 6
Total Well Depth: Before <u>32.92</u> After <u>34.89</u>	Depth to Water: Before <u>22.94</u> After <u>23.70</u>
Reason not developed:	If Free Product, thickness:
Additional Notations: <u>swab well 15 mins prior to purge/dev.</u>	

Volume Conversion Factor (VCF): $\{12 \times (d^2/4) \times \pi\} / 231$	Well dia.	VCF
where	2"	= 0.16
12 = in / foot	3"	= 0.37
d = diameter (in.)	4"	= 0.65
$\pi = 3.1416$	6"	= 1.47
231 = in <sup>3</sup> /gal	10"	= 4.08
	12"	= 6.87

<u>1.6</u>	X	<u>10</u>	=	<u>16</u>	gallons
1 Case Volume		Specified Volumes			

Purging Device:

- Bailer                       Electric Submersible  
 Suction Pump                       Positive Air Displacement

Type of Installed Pump 2" swab <sup>WW</sup>  
 Other equipment used 2" swab

TIME	TEMP (°F)	pH	Cond. (mS or µS)	TURBIDITY (NTUs)	VOLUME REMOVED:	NOTATIONS:
<u>0827</u>						<u>START PURGE / DUPT.</u>
<u>0832</u>	<u>20.2</u>	<u>5.8</u>	<u>2145</u>	<u>&gt;1000</u>	<u>1.6</u>	<u>brown, silty</u>
<u>0833</u>	<u>19.7</u>	<u>6.1</u>	<u>1850</u>	<u>&gt;1000</u>	<u>3.2</u>	<u>" "</u>
<u>0836</u>	<u>19.5</u>	<u>6.3</u>	<u>1656</u>	<u>&gt;1000</u>	<u>4.8</u>	<u>" " HARD BOTTOM</u>
<u>0838</u>	<u>19.6</u>	<u>6.5</u>	<u>1326</u>	<u>&gt;1000</u>	<u>6.4</u>	<u>" " "</u>
<u>0842</u>	<u>19.5</u>	<u>6.6</u>	<u>1210</u>	<u>&gt;1000</u>	<u>8.0</u>	<u>" " "</u>
<u>0844</u>	<u>19.6</u>	<u>6.6</u>	<u>1125</u>	<u>&gt;1000</u>	<u>9.6</u>	<u>" " "</u>
<u>0847</u>	<u>19.5</u>	<u>6.7</u>	<u>945</u>	<u>&gt;1000</u>	<u>11.2</u>	<u>" " "</u>
<u>0849</u>	<u>19.5</u>	<u>6.7</u>	<u>801</u>	<u>&gt;1000</u>	<u>12.8</u>	<u>" " "</u>
<u>0851</u>	<u>19.5</u>	<u>6.7</u>	<u>750</u>	<u>&gt;1000</u>	<u>14.4</u>	<u>" " "</u>
<u>0855</u>	<u>19.5</u>	<u>6.7</u>	<u>795</u>	<u>&gt;1000</u>	<u>16.0</u>	<u>brown, cloudy HARD BOTTOM</u>
Did Well Dewater? <u>NO</u>		If yes, note above.		Gallons Actually Evacuated: <u>16</u>		

**Attachment F**

**Virgil Chavez Land Surveying Report**

June 25, 2008  
Project No.: 1233-04

Jacquelyn England  
Conestoga-Rovers & Associates  
5900 Hollis St., Suite A  
Emeryville, CA 94608

Subject:     Monitoring Well Survey  
              Former Shell Service Station  
              461 Eighth Street  
              Oakland, CA

Dear Jacquelyn:

This is to confirm that we have proceeded at your request to survey the new monitoring wells and injection points located at the above referenced location. The survey was completed on June 20, 2008. The benchmark for this survey was a CALTRANS control station AJ-415 located at southwesterly corner of intersection of 5<sup>th</sup> and Oak Streets. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83). Benchmark Elevation = 13.49 feet (NAVD 88).

<u>Latitude</u>	<u>Longitude</u>	<u>Northing</u>	<u>Easting</u>	<u>Elev.</u>	<u>Desc.</u>
37.8000724	-122.2741493	2118644.97	6049103.28	35.74	IP1
37.8000874	-122.2741838	2118650.64	6049093.44	35.97	IP2
37.8001042	-122.2742236	2118656.97	6049082.05	36.20	IP3
				35.81	RIM S-17
37.8000443	-122.2742316	2118635.20	6049079.31	35.49	TOC S-17
				35.57	RIM S-18
37.8000172	-122.2742281	2118625.33	6049080.14	35.04	TOC S-18
				36.01	RIM OW-1
37.8000516	-122.2742478	2118637.96	6049074.69	35.60	TOC OW-1

Sincerely,

---

Virgil D. Chavez, PLS 6323