

### **RECEIVED**

By lopprojectop at 10:06 am, Nov 07, 2005

October 28, 2005

Mr. Don Hwang Alameda County Health Agency 1131 Harbor Bay Parkway Alameda, California 94502

Re: Report Transmittal
Quarterly Report
Third Quarter – 2005
76 Service Station #0018
6201 Claremont Avenue
Oakland, CA

Dear Mr. Hwang:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact

Shelby S. Lathrop (Contractor) ConocoPhillips Risk Management & Remediation 76 Broadway Sacramento, CA 95818 Phone: 916-558-7609

Fax: 916-558-7639

Sincerely,

Thomas Kosel

Risk Management & Remediation

Attachment

October 28, 2005

TRC Project No. 42016505

Mr. Don Hwang Alameda County Health Services 1131 Harbor Bay Parkway Alameda, California 94502-6577

RE: Quarterly Status Report – Third Quarter 2005

76 Service Station #0018, 6201 Claremont Avenue, Oakland, California

Customer-Focused Solutions

**Alameda County** 

Dear Mr. Hwang:

On behalf of ConocoPhillips Company (ConocoPhillips), TRC is submitting the Third Quarter 2005 Status Report for the subject site.

#### PREVIOUS ASSESSMENTS

The subject site is an active service station located on the northern corner of the intersection of Claremont and College Avenues in Oakland, California. The nearest surface water is Claremont Creek, approximately 0.1 mile northeast of the site.

March 1997: Kaprealian Engineering Inc. (KEI) collected soil and grab groundwater samples during underground storage tank (UST) and product line replacement activities. A groundwater sample collected from the former gasoline UST excavation contained 6,100 parts per billion (ppb) total petroleum hydrocarbons as gasoline and 54 ppb benzene.

March 1998: Tosco was issued a Notice of Responsibility by the Alameda County Health Care Services Agency.

December 2000: Gettler-Ryan Inc. installed three groundwater-monitoring wells to depths of 30 to 30.5 feet below ground surface (bgs). Groundwater samples contained low concentrations of total petroleum hydrocarbons as gasoline (TPH-g), benzene, and methyl tertiary butyl ether (MTBE).

October 2003: Site environmental consulting responsibilities were transferred to TRC.

#### SENSITIVE RECEPTORS

Claremont Creek is located 0.1 miles northeast of the site. A sensitive receptor survey has not been completed for this site.

QSR – Third Quarter 2005 76 Service Station #0018, Oakland, California October 28, 2005 Page 2

#### MONITORING AND SAMPLING

Three onsite wells are currently monitored quarterly. The groundwater gradient flow direction is toward the southwest at a calculated hydraulic gradient of 0.01 feet per foot, consistent with historical trends.

#### **CHARACTERIZATION STATUS**

Total purgeable petroleum hydrocarbons (TPPH) were detected in one of three wells, with a maximum concentration of 300 micrograms per liter ( $\mu$ g/l) in well MW-1. Benzene was not detected above laboratory reporting limits in the three wells sampled. MTBE was detected in one of three wells sampled, at a concentration of 19  $\mu$ g/l in well MW-1.

#### **REMEDIATION STATUS**

Remediation is not currently being conducted at the site.

#### RECENT CORRESPONDENCE

No correspondence this quarter.

#### **CURRENT QUARTER ACTIVITIES**

September 27 and 30, 2005: TRC performed groundwater monitoring and sampling. Wastewater generated from well purging and equipment cleaning was stored at TRC's groundwater monitoring facility in Concord, California, and transported by Onyx to the ConocoPhillips Refinery in Rodeo, California, for treatment and disposal.

#### CONCULSIONS AND RECOMMENDATIONS

Historical and current monitoring data indicate groundwater impacts are limited to the vicinity of monitoring well MW-1. With the exception of an anomalous TPPH concentration of  $5,700~\mu g/l$  reported for MW-1 during the first quarter 2005, TPPH concentrations in MW-1 have been low and stable for several years. In addition, MTBE concentrations have been low and benzene concentrations have been below laboratory reporting limits in MW-1 for several years.

Based on the low residual TPPH and MTBE concentrations in groundwater in MW-1 and on the non-detect concentrations reported in site wells MW-2 and MW-3 over the past several years, TRC recommends no further action and requests the site be referred for closure.



QSR – Third Quarter 2005 76 Service Station #0018, Oakland, California October 28, 2005 Page 3

If you have any questions regarding this report, please call me at (925) 688-2488.

Sincerely, *TRC* 

Keith Woodburne, P.G. Senior Project Geologist METTH L. WOODBURNE

NO. 7607

STATE OF CALIFORNIA

Attachment:

Quarterly Monitoring Report, July through September 2005 (TRC, October 25, 2005)

cc: Shelby Lathrop, ConocoPhillips (electronic upload only)



October 25, 2005

ConocoPhillips Company 76 Broadway Sacramento, CA 95818

ATTN:

MS. SHELBY LATHROP

SITE:

**76 STATION 0018** 

6201 CLAREMONT AVENUE OAKLAND, CALIFORNIA

RE:

QUARTERLY MONITORING REPORT JULY THROUGH SEPTEMBER 2005

Dear Ms. Lathrop:

Please find enclosed our Quarterly Monitoring Report for 76 Station 0018, located at 6201 Claremont Avenue, Oakland, California. If you have any questions regarding this report, please call us at (949) 753-0101.

Sincerely,

TRC

Anju Farfan

QMS Operations Manager

CC: Mr. Keith Woodburne, TRC (4 copies)



#### QUARTERLY MONITORING REPORT JULY THROUGH SEPTEMBER 2005

76 Station 0018 6201 Claremont Avenue Oakland, California

Prepared For:

Ms. Shelby Lathrop CONOCOPHILLIPS COMPANY 76 Broadway Sacramento, California 95818

By:

Senior Project Geologist, Irvine Operations October 24, 2005

	LIST OF ATTACHMENTS
Summary Sheet	Summary of Gauging and Sampling Activities
Tables	Table Key Table 1: Current Fluid Levels and Selected Analytical Results Table 2: Historic Fluid Levels and Selected Analytical Results Table 3: Additional Analytical Results
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPPH Concentration Map Figure 4: Dissolved-Phase Benzene Concentration Map Figure 5: Dissolved-Phase MTBE Concentration Map
Graphs	Groundwater Elevations vs. Time Benzene Concentrations vs. Time
Field Activities	General Field Procedures Groundwater Sampling Field Notes
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

### **Summary of Gauging and Sampling Activities** July 2005 through September 2005 76 Station 0018 6201 Claremont Boulevard Oakland, CA

Project Coordinator: Shelby Lathrop

Water Sampling Contractor: TRC

Telephone: **916-558-7609** 

Compiled by: Christina Carrillo

Date(s) of Gauging/Sampling Event: 09/27/05, 09/30/05

Sample Points

Groundwater wells:

3 onsite.

O offsite.

Wells gauged: 3

Wells sampled: 3

Purging method: **Diaphragm pump** 

Purge water disposal: Onyx/Rodeo Unit 100 Other Sample Points: 0

Type: n/a

**Liquid Phase Hydrocarbons (LPH)** 

Wells with LPH: 0

Maximum thickness (feet): n/a

LPH removal frequency: n/a

Method: n/a

Treatment or disposal of water/LPH:

**Hydrogeologic Parameters** 

Depth to groundwater (below TOC):

Minimum: 19.15 feet

Maximum: 20.41 feet

Average groundwater elevation (relative to available local datum): 189.46 feet Average change in groundwater elevation since previous event: -3.59 feet

Interpreted groundwater gradient and flow direction:

Current event: 0.01 ft/ft, southwest

Previous event: 0.015 ft/ft, southwest (06/16/05)

**Selected Laboratory Results** 

Wells with detected **Benzene**:

0

Wells above MCL (1.0 µg/l): n/a

Maximum reported benzene concentration: n/a

Wells with TPPH 8260B

1

Maximum: 300 μg/l (MW-1)

Wells with MTBE

1

Maximum: 19 μg/l (MW-1)

Notes:

MW-3=9/27/05 samples broke during shipment...

# **TABLES**

#### TABLE KEY

#### STANDARD ABREVIATIONS

-- e not analyzed, measured, or collected

LPH = liquid-phase hydrocarbons

Trace = less than 0.01 foot of LPH in well

μg/l = micrograms per liter (approx. equivalent to parts per billion, ppb)
mg/l = milligrams per liter (approx. equivalent to parts per million, ppm)

ND < = not detected at or above laboratory detection limit
TOC = top of casing (surveyed reference elevation)

#### **ANALYTES**

BTEX = benzene, toluene, ethylbenzene, and (total) xylenes

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

MTBE = methyl tertiary butyl ether

PCB = polychlorinated biphenyls

PCE = tetrachloroethene
TBA = tertiary butyl alcohol
TCA = trichloroethane
TCE = trichloroethene

TPH-G = total petroleum hydrocarbons with gasoline distinction TPH-D = total petroleum hydrocarbons with diesel distinction

TPPH = total purgeable petroleum hydrocarbons
TRPH = total recoverable petroleum hydrocarbons

TAME = tertiary amyl methyl ether

1,1-DCA = 1,1-dichloroethane

1,2-DCA = 1,2-dichloroethane (same as EDC, ethylene dichloride)

1,1-DCE = 1,1-dichloroethene

1,2-DCE = 1,2-dichloroethene (cis- and trans-)

#### **NOTES**

- 1. Elevations are in feet above mean sea level. Depths are in feet below surveyed top-of-casing.
- 2. Groundwater elevations for wells with LPH are calculated as: <u>Surface Elevation Measured Depth to Water + (Dp x LPH Thickness)</u>, where Dp is the density of the LPH, if known. A value of 0.75 is used for gasoline and when the density is not known. A value of 0.83 is used for diesel.
- 3. Wells with LPH are generally not sampled for laboratory analysis (see General Field Procedures).
- 4. Comments shown on tables are general. Additional explanations may be included in field notes and laboratory reports, both of which are included as part of this report.
- 5. A "J" flag indicates that a reported analytical result is an estimated concentration value between the method detection limit (MDL) and the practical quantification limit (POL) specified by the laboratory.
- 6. Other laboratory flags (qualifiers) may have been reported. See the official laboratory report (attached) for a complete list of laboratory flags.
- 7. Concentration graphs based on tables (presented following Figures) show non-detect results prior to the Second Quarter 2000 plotted at fixed values for graphical display. Non-detect results reported since that time are plotted at reporting limits stated in the official laboratory report.
- 8. Groundwater vs. Time graphs may be corrected for apparent level changes due to re-survey.

#### REFERENCE

TRC began groundwater monitoring and sampling for 76 Station 0018 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

Table 1
CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
September 27, 2005
76 Station 0018

Date	TOC	Depth to	LPH	Ground-	Change in	TPH-G	TPPH	Benzene	Toluene	Ethyl-	Total	MTBE	MTBE	Comments
Sampled	Elevation	Water	Thickness	water	Elevation		8260B			benzene	Xylenes	8021B	8260B	
				Elevation							•			
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(µg/l)	(µg/l)	
MW-1		(Screen I	nterval in fe	et: 10.0-3	0.0)									
09/27/0	5 208.15	19.15	0.00	189.00	-3.30		300	ND<0.50	ND<0.50	ND<0.50	ND<1.0		19	
MW-2		(Screen I	nterval in fe	et: 10.0-30	0.0)									
09/27/0	5 210.27	20.41	0.00	189.86	-3.68		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-3		(Screen I	nterval in fe	et: 10.0-3	0.0)									
09/30/0	5 208.98	19.47	0.00	189.51	-3.80		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	9/27/05 samples broke during shipment.

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through September 2005
76 Station 0018

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G	TPPH 8260B	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE 8021B	MTBE 8260B	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(μg/l)	
MW-1	(9	Screen Inte	erval in fee	t: 10.0-30.0	))				•					
08/24/0	00 208.15	18.55	0.00	189.60		120		0.67	ND	0.86	1.4	54	54	
11/16/	00 208.15	20.30	0.00	187.85	-1.75	169		ND	1.20	1.74	0.629	68.6	97.7	
02/09/	208.15	20.16	0,00	187.99	0.14	330		1.3	ND	1.0	4.6	140	150	
05/11/0	208.15	17.68	0.00	190.47	2.48	1250		ND	ND	ND	ND	145	122	
08/10/0	208.15	20.38	0.00	187.77	-2.70	580		ND<0.50	ND<0.50	ND<0.50	ND<0.50	110	150	
11/07/0	208.15	22.68	0.00	185.47	-2.30	250		ND<0.50	1.5	ND<0.50	ND<0.50	120	100	
02/06/0	208.15	16.20	0.00	191.95	6.48	790		ND<2.5	12	8.8	ND<2.5	90	72	
05/08/0	208.15	17.54	0.00	190.61	-1.34	890		ND<2.5	ND<2.5	ND<2.5	ND<2.5	78	81	
08/09/	208.15	20.21	0.00	187.94	-2.67		450	ND<0.50	ND<0.50	ND<0.50	ND<1.0		100	
11/29/0	208.15	22.33	0.00	185.82	-2.12		110	ND<0.50	ND<0.50	ND<0.50	ND<1.0		72	
02/03/0	3 208.15	16.41	0.00	191.74	5.92		540	ND<0.50	ND<0.50	ND<0.50	ND<1.0		40	
05/05/0	3 208.15	16.09	0.00	192.06	0.32		670	ND<2.5	ND<2.5	ND<2.5	ND<5.0		57	
09/04/0	208.15	21.46	0.00	186.69	-5.37									No analysis; past holding time
11/13/0	3 208.15	21.52	0.00	186.63	-0.06		97	ND<0.50	5.0	0.82	3.5		29	
01/29/0	208.15	17.51	0.00	190.64	4.01		520	ND<0.50	ND<0.50	ND<0.50	ND<1.0		44	
05/07/0	208.15	16.74	0.00	191.41	0.77		180	ND<0.50	ND<0.50	ND<0.50	ND<1.0		25	
08/27/0	04 208.15	19.40	0.00	188.75	-2.66		100	ND<0.50	ND<0.50	ND<0.50	ND<1.0		21	·
. 11/23/0	208.15	19.82	0.00	188.33	-0.42		410	ND<0.50	ND<0.50	ND<0.50	ND<1.0		45	
02/09/0	05 208.15	15.81	0.00	192.34	4.01		5700	ND<0.50	ND<0.50	ND<0.50	ND<1.0		40	
06/16/0	05 208.15	15.85	0.00	192.30	-0.04		200	ND<0.50	ND<0.50	ND<0.50	ND<1.0		24	
09/27/0	05 208.15	19.15	0.00	189.00	-3.30		300	ND<0.50	ND<0.50	ND<0.50	ND<1.0		19	
MW-2	(5	Screen Inte	erval in fee	t: 10.0-30.0	))						•			
08/24/0	00 210.27	19.69	0.00	190.58		ND		ND	ND	ND	ND	ND	ND	
11/16/0	00 210.27	21.61	0.00	188.66	-1.92	ND		ND	ND	ND	ND	ND	ND	
			*			•								•

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Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through September 2005
76 Station 0018

	Date Sampled		Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	ТРН-G	TPPH 8260B	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE 8021B	MTBE 8260B	Comments
		(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(μg/l)	(µg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	
		continued													
	02/09/0	1 210.27	21.52	0.00	188.75	0.09	ND		ND	ND	ND	ND	ND	ND	
	05/11/0	1 210.27	18.76	0.00	191.51	2.76	ND		ND	ND	ND	ND	ND	ND	
	08/10/0	1 210.27	21.65	0.00	188.62	-2.89	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<2.0	
	11/07/0	1 210.27	24.25	0.00	186.02	-2.60	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	
	02/06/0	2 210.27	18.22	0.00	192.05	6.03	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		
	05/08/0	2 210.27	18.63	0.00	191.64	-0.41	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0		•
•	08/09/0	2 210.27	21.53	0.00	188.74	-2.90		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	11/29/0	2 210.27	23.73	0.00	186.54	-2.20		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
٠.	02/03/0	3 210.27	17.43	0.00	192.84	6.30		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	05/05/0	3 210.27	17.15	0.00	193.12	0.28		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	09/04/0	3 210.27	22.75	0.00	187.52	-5.60									No analysis; past holding time
	11/13/0	3 210.27	23.02	0.00	187.25	-0.27		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	01/29/0	4 210.27	18.73	0.00	191.54	4.29		ND<50	0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	05/07/0	4 210.27	17.79	0.00	192.48	0.94		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
	08/27/0	4 210.27	19.66	0.00	190.61	-1.87		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
	11/23/0	4 210.27	21.20	0.00	189.07	-1.54		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
	02/09/0	5 210.27	16.72	0.00	193.55	4.48		ND<50	0.69	1.5	ND<0.50	1.4		ND<0.50	
	06/16/0	5 210.27	16.73	0.00	193.54	-0.01		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	•
	09/27/0	5 210.27	20.41	0.00	189.86	-3.68		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
	MW-3	(S	Screen Inte	erval in feet	: 10.0-30.0	))								•	
	08/24/0		18.68	0.00	190.30		ND		ND	ND	ND	ND	4.7	2.3	
	11/16/0	0 208.98	20.56	0.00	188.42	-1.88	ND		ND	ND	ND	ND	ND	ND	
	02/09/0	1 208.98	20.45	0.00	188.53	0.11	ND		ND	ND	ND	ND	ND	ND	
	05/11/0	1 208.98	17.75	0.00	191.23	2.70	ND		ND	ND	ND	ND	ND	ND	

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Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
August 2000 Through September 2005
76 Station 0018

	Pate npled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	ТРН-G	ТРРН 8260В	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE 8021B	MTBE 8260B	Comments
		(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(µg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	$(\mu g/l)$	
N	∕W-3	continued													
(	08/10/0	1 208.98	20.70	0.00	188.28	-2.95	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<2.0	
	11/07/0	1 208.98	23.02	0.00	185.96	-2.32	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	1.5	
(	02/06/02	208.98	17.19	0.00	191.79	5.83	ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5		
	05/08/02	208.98	17.59	0.00	191.39	-0.40	ND<50	<b></b> '	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0		
	08/ <b>09</b> /02	2 208.98	20.48	0.00	188.50	-2.89		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
	11/29/02	2 208.98	22.64	0.00	186.34	-2.16		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
(	02/03/0:	3 208.98	16.46	0.00	192.52	6.18		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
. (	05/05/0:	3 208.98	16.16	0.00	192.82	0.30		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	<del></del>	2.6	
(	09/04/0:	3 208.98	21.71	0.00	187.27	-5.55	<del></del> .								No analysis; past holding time
	11/13/0:	3 208.98	21.93	0.00	187.05	-0.22		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
(	01/29/04	4 208.98	17.79	0.00	191.19	4.14	•	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
. (	05/07/04	4 208.98	16.79	0.00	192.19	1.00		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		0.55	
. (	08/27/04	4 208.98	19.70	0.00	189.28	-2.91		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
	11/23/04	4 208.98	20.30	0.00	188.68	-0.60	·	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
. (	02/09/0:	5 208.98	15.72	0.00	193.26	4.58		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		1.6	
. (	06/16/0:	208.98	15.67	0.00	193.31	0.05		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	<u></u>	ND<0.50	
. (	09/30/0:	5 208.98	19.47	0.00	189.51	-3.80		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	9/27/05 samples broke during shipment.

Table 3
ADDITIONAL ANALYTICAL RESULTS
76 Station 0018

Date Sampled	EDC	EDB	TAME 8260B	TBA 8260B	DIPE 8260B	ETBE 8260B	Ethanol 8260B
	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)
MW-1							
08/24/00			ND	ND	ND	ND	ND
11/16/00			ND	ND	ND	ND	ND
02/09/01	ND	ND	ND	ND	ND	ND	ND
05/11/01	ND	ND	ND	ND	ND	ND	ND
08/10/01	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<1000
11/07/01	ND<1.0	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<500
02/06/02	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
05/08/02	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
08/09/02	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
11/29/02	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
02/03/03	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
05/05/03	ND<10	ND<10	ND<10	ND<500	ND<10	ND<10	ND<2500
11/13/03	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
01/29/04	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<500
05/07/04	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	ND<0.50	ND<50
08/27/04	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<1.0	ND<0.50	ND<50
11/23/04	ND<0.50	ND<0.50	ND<0.50	7.5	ND<1.0	ND<0.50	ND<50
02/09/05	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<50
06/16/05	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<50
09/27/05	ND<0.50	ND<0.50	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<250
MW-2							
08/24/00			ND	ND	ND	ND	ND
11/16/00			ND	ND	ND	ND	ND
02/09/01	ND	ND	ND	ND	ND	ND	ND
05/11/01	ND	ND	ND	ND	ND	ND	ND
08/10/01	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<1000

0018

Page 1 of 3

Table 3
ADDITIONAL ANALYTICAL RESULTS
76 Station 0018

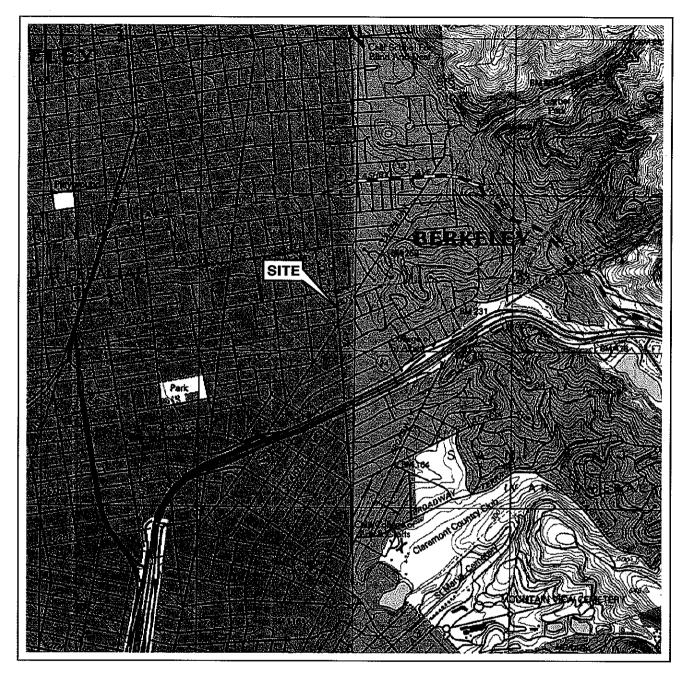
Date Sampled	EDC	EDB	TAME 8260B	TBA 8260B	DIPE 8260B	ETBE 8260B	Ethanol 8260B
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-2 c	ontinued						
11/07/01	ND<1.0	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<500
11/13/03					'		ND<500
01/29/04							ND<500
05/07/04		·			, <b></b>		ND<50
08/27/04							ND<50
11/23/04						<b></b> ,	ND<50
02/09/05							ND<50
06/16/05							ND<50
09/27/05							ND<250
MW-3							
08/24/00			ND	ND	ND	ND	ND
11/16/00			ND	ND	ND	ND	ND
02/09/01	ND	ND	ND	ND	ND	ND	ND
05/11/01	ND	ND	ND	ND	ND	ND	ND
08/10/01	ND<2.0	ND<2.0	ND<2.0	ND<100	ND<2.0	ND<2.0	ND<1000000
11/07/01	ND<1.0	ND<1.0	ND<1.0	ND<20	ND<1.0	ND<1.0	ND<500000
08/09/02	ND	ND					
11/29/02	ND	ND				·	
02/03/03	ND<2.0	ND<2.0		<u>-</u>			
05/05/03	ND<1.0	ND<1.0					
11/13/03							ND<500
01/29/04							ND<500
05/07/04							ND<50
08/27/04			· <del></del>	_ ·			ND<50
11/23/04							ND<50
02/09/05							ND<50

Page 2 of 3

Table 3
ADDITIONAL ANALYTICAL RESULTS
76 Station 0018

Date EDC Sampled	EDB	TAME 8260B	TBA 8260B	DIPE 8260B	ETBE 8260B	Ethanol 8260B	
(μg/l)	(μg/l)	(μg/l)	(µg/l)	(µg/l)	(µg/l)	(μg/l)	
MW-3 continued 06/16/05						ND<50	
09/30/05						ND<250	

# **FIGURES**





0 1/4 1/2 3/4 1 MILE

SCALE 1:24,000

#### SOURCE:

United States Geological Survey 7.5 Minute Topographic Map: Oakland East & Oakland West Quadrangles

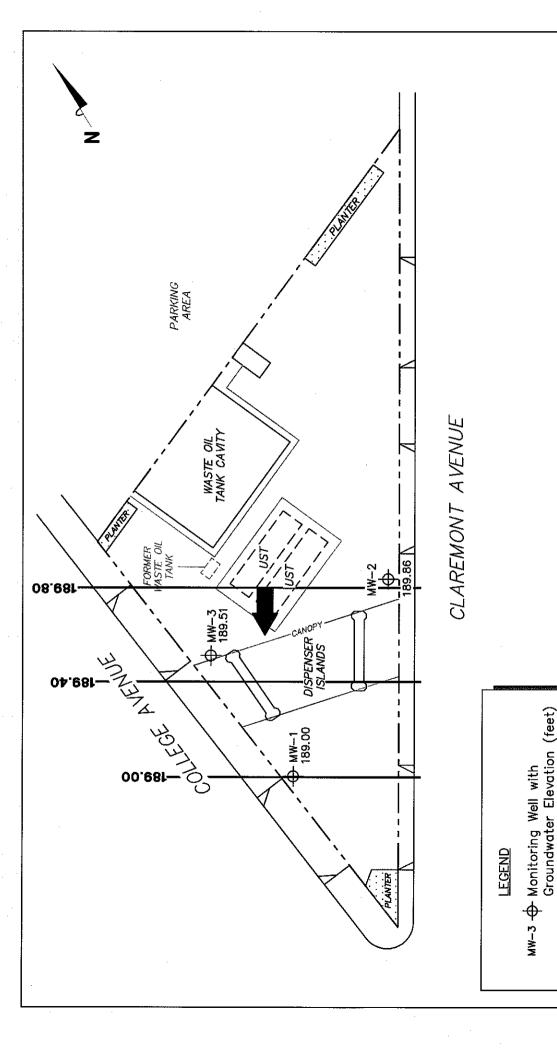




#### VICINITY MAP

76 Station 0018 6201 Claremont Avenue Oakland, California

### FIGURE 1



GROUNDWATER ELEVATION CONTOUR MAP September 27, 2005

76 Station 0018 6201 Claremont Avenue Oakland, California

Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank.

NOTES:

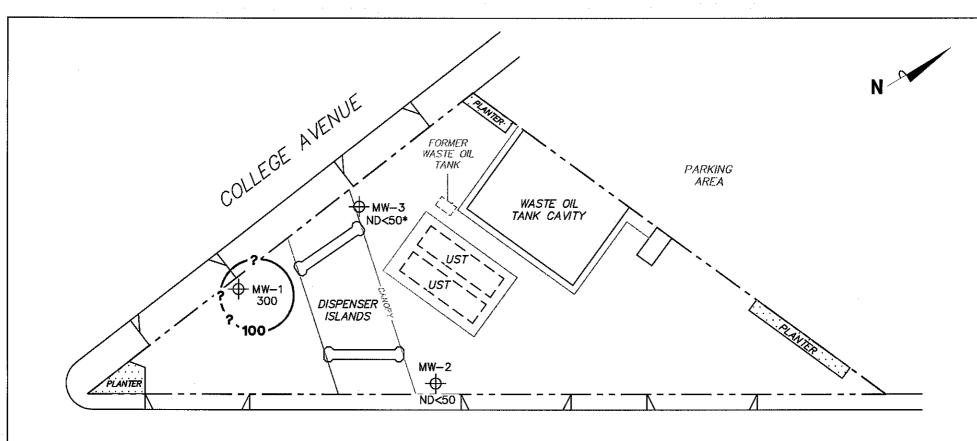
Groundwater Elevation

189.80 -

Contour

General Direction of Groundwater Flow FIGURE 2

SCALE (FEET)



#### CLARFMONT AVENUE

## 

#### NOTES:

Contour lines are interpretive and based on laboratory analysis results of groundwater samples. TPPH = total purgeable petroleum hydrocarbons.  $\mu g/l = micrograms$  per liter. ND = not detected at limit indicated on official laboratory report. UST = underground storage tank. \* = sampled on 9/30/05. Results obtained using EPA Method 8260B.

SCALE (FEET)

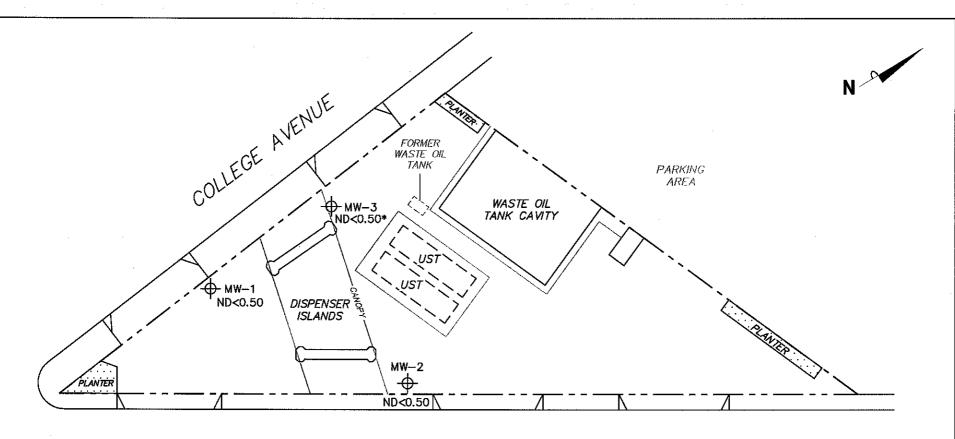
DISSOLVED-PHASE TPPH CONCENTRATIONS MAP September 29 and 30, 2005

76 Station 0018 6201 Claremont Avenue Oakland, California

FIGURE 3

TRC

PS=1:1 0018-003



#### CLAREMONT AVENUE

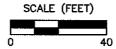
#### **LEGEND**

TRC

PS=1:1 0018-003

#### NOTES:

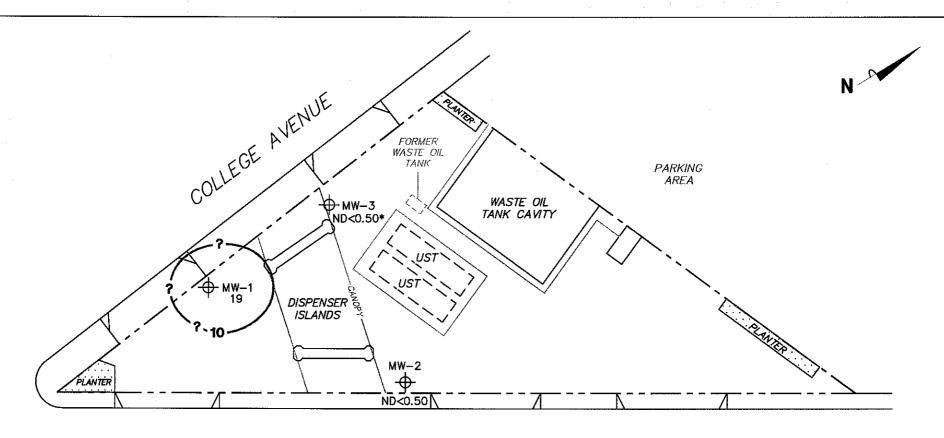
µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. UST = underground storage tank. \* = sampled 9/30/05. Results obtained using EPA Method 8260B.



# DISSOLVED-PHASE BENZENE CONCENTRATIONS MAP September 29 and 30, 2005

76 Station 0018 6201 Claremont Avenue Oakland, California

FIGURE 4



#### CLAREMONT AVENUE

#### **LEGEND**

Dissolved—Phase MTBE Contour (µg/l)

TRC

PS=1:1 0018-003

#### NOTES:

Contour lines are interpretive and based on laboratory analysis results of groundwater samples. MTBE = methyl tertiary butyl ether.  $\mu g/i$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report. UST = underground storage tank. \* = sampled on 9/30/05. Results obtained using EPA Method 8260B.

SCALE (FEET)

0 40

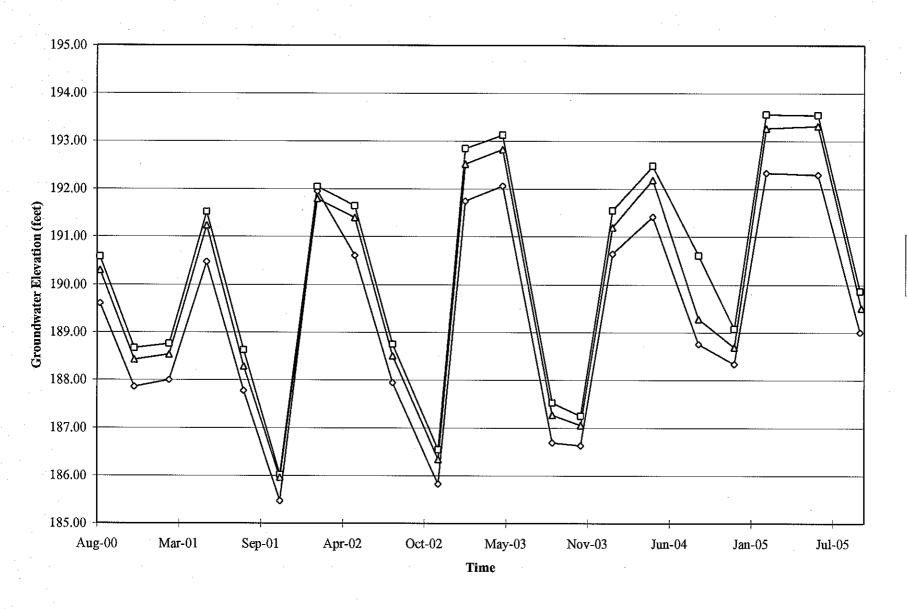
DISSOLVED-PHASE MTBE CONCENTRATIONS MAP September 29 and 30, 2005

76 Station 0018 6201 Claremont Avenue Oakland, California

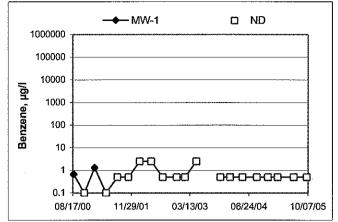
FIGURE 5

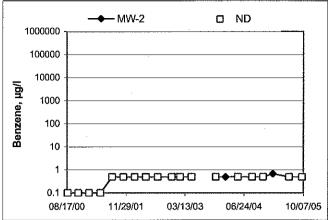
# GRAPHS

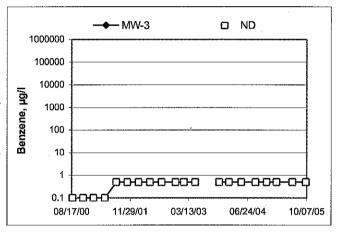
# Groundwater Elevations vs. Time 76 Station 0018



#### Benzene Concentrations vs Time 76 Station 0018







#### GENERAL FIELD PROCEDURES

#### **Groundwater Monitoring and Sampling Assignments**

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater monitoring and sampling assignment for the site. TSRs are based on client directives, instructions from the primary environmental consultant for the site, regulatory requirements, and TRC's previous experience with the site.

#### Fluid Level Measurements

Initial site activities include determination of well locations based on a site map provided with the TSR. Well boxes are opened and caps are removed. Indications of well or well box damage or of pressure buildup in the well are noted.

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (surveyo rs mark or notch if present) to the nearest 0.01 foot. Unless otherwise instructed, a well with less than 0.67 foot between the measured top of water and the measured bottom of the well casing is considered dry, and is not sampled. If the well contains 0.67 foot or more of water, an attempt is made to bail and/or sample as specified on the TSR.

Wells that are found to contain LPH are not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed. Bailed fluids are placed in a container separate from normal purge water, and properly disposed.

#### **Purging and Groundwater Parameter Measurement**

TSR instructions may specify that a well not be purged (no-purge sampling), be purged using low-flow methods, or be purged using conventional pump and/or bail methods. Conventional purging generally consists of pumping or bailing until a minimum of three casing volumes of water have been removed or until the well has been pumped dry. Pumping is generally accomplished using submersible electric or pneumatic diaphragm pumps.

During conventional purging, three groundwater parameters (temperature, pH, and conductivity) are measured after removal of each casing volume. Stabilization of these parameters, to within 10 percent, confirm that sufficient purging has been completed. In some cases, the TSR indicates that other parameters are also to be measured during purging. TRC commonly measures dissolved oxygen (DO), oxidation-reduction potential (ORP), and/or turbidity. Instruments used for groundwater parameter measurements are calibrated daily according to manufacturer's instructions.

Low-flow purging utilizes a bladder or peristaltic pump to remove water from the well at a low rate. Groundwater parameters specified by the TSR are measured continuously until they become stable in general accordance with EPA guidelines.

Purge water is generally collected in labeled drums for disposal. Drums may be left on site for disposal by others, or transported to a collection location for eventual transfer to a licensed treatment or recycling facility. In some cases, purge water may be collected directly from the site by a licensed vacuum truck company, or may be treated on site by an active remediation system, if so directed.

#### **Groundwater Sample Collection**

After wells are purged, or not purged, according to TSR instructions, samples are collected for laboratory analysis. For wells that have been purged using conventional pump or bail methods, sampling is conducted after the well has recovered to 80 percent of its original volume or after two hours if the well does not recover to at least 80 percent. If there is insufficient recharge of water in the well after two hours, the well is not sampled.

Samples are collected by lowering a new, disposable, ½-inch to 4-inch polyethylene bottom-fill bailer to just below the water level in the well. The bailer is retrieved and the water sample is carefully transferred to containers specified for the laboratory analytical methods indicated by the TSR. Particular care is given to containers for volatile organic analysis (VOAs) which require filling to zero headspace and fitting with Teflon-sealed caps.

After filling, all containers are labeled with project number (or site number), well designation, sample date, sample time, and the sampler's initials, and placed in an insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container descriptions and requested analyses are entered onto a chain-of-custody form in order to provide instructions to the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form.

For wells that have been purged using low-flow methods, sample containers are filled from the effluent stream of the bladder or peristaltic pump. In some cases, if so specified by the TSR, samples are taken from the sample ports of actively pumping remediation wells.

#### Sequence of Gauging, Purging and Sampling

The sequence in which monitoring activities are conducted are specified on the TSR. In general, wells are gauged beginning with the least affected well and ending with the well that has the highest concentration based on previous analytic results. After all gauging for the site is completed, wells are purged and/or sampled from the least-affected to the most-affected well.

#### Decontamination

In order to reduce the possibility of cross contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that could come in contact with fluids are either dedicated to a particular wells, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liqui-nox and water and rinsing twice. The final rinse is in deionized water.

#### **Exceptions**

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, and noted on the site TSR, are documented in field notes on the following pages.

1/5/04 version

# FIELD MONITORING DATA SHEET

Technician:	AVEX	Job #/Task #:	Job #/Task #: 4/05000/ FAZO					
Site#_	0018	Project Manager	POLIET	R BATRA		Page _		
		Depth Total to	Depth to	Product Thickness	Time			

11.11.11	Time	тос	Total Depth	Depth to Water	Depth to Product	Product Thickness (feet)	Time Sampled	Misc. Well Notes
Well#	Gauged /2.3/	100	30.75	19.47	6	6	1311	Z.*
Mu-3	1227		29.51	20.41	6-	5-	1258	2"
m4-2			29,70	19.15	6	6	1332	24
mw-)	1235		- 7,70					
				· · · · · · · · · · · · · · · · · · ·		·		
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	1 000	<u>                                       </u>	D (C)	<u> </u>	cog	14.	I BOX	ONDITION SHEETS
FIELD DATA	4 COIVIRE	<u> </u>	QA/QC	<u>,                                      </u>	COU	<u> v</u>	LLL DOMO	OHDITION GILLIO
MITT OFF		<u> </u>	NAANUEE	OT.	DDI IM IM	ENTORY	TOA	FFIC CONTROL
WTT CERT	IFICATE		MANIFE	31	DHOM IN	VENTORY_	INA	FFIO GUNTINUL
				·			···	

## GROUNDWATER SAMPLING FIELD NOTES

-		7	echnician:	Aux						
te:	·		Project No.:	11/2 2.4	>/	Date: 69-27 -05				
ell No.:	Pau - 2   20   29.5   (feet): 9   9   10   10   10   10   10   10   1	·41 · · · · · · · · · · · · · · · · · ·		Depth to Produ LPH & Water F Casing Diamet	Dia act (feet): Recovered (gallo ter (inches):					
% Recharge	Depth (feet):_			1 Well Volume	(gallons):					
Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc- tivity (uS/cm)	Temperature	рH	Turbidity	D.O.		
1246			/	764	22.6	7.57				
			2	589	20.8	715	,			
	1249		2	583	20.4	6.96				
·										
Stati	ic at Time Sam	ıpled	τ	otal Gallons Pu	rged		Time Sample			
	2.5/			ت	3		/2	22		
Vell No.:	か <i>w ~</i> er (feel): <u></u> eel):	3 - 47			d:	. 6	6			
otal Depth (f	eet):の	.15	-	LPH & Water	Recovered (gal	lons):		÷		
later Column	n (feet):/(	8 . 6	-	Casing Diam	eter (Inches):	·	<del></del>			
0% Recharg	e Depth (feet):	24.60		1 Well Volum	ie (gallons):	2	<del></del>			
Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc- livity (uS/cm)	Temperature	рН	Turbidity	D.O.		
/3/3		1	2	615	20.4	G76				
	<u> </u>		4	661	19.8	6.72		ļ — ·		
	1307		C	672	19.7	4.40		1		
<del></del>		1			¥					
	itic at Time Sa	mpled		Total Gallons F	urged		Time Samp	led		
Sta	anc at time oa					175 to		311		
		mpieu -		Total Gallons I	aigeu			×		

### GROUNDWATER SAMPLING FIELD NOTES

AVEX Technician: Date:\_\_\_\_\_ 41050001 0018 Project No.: Site:\_ DIA MW -1 Purge Method:\_ Well No.: \_ 19.15 Depth to Product (feet):\_ Depth to Water (feet):\_ 29.76 LPH & Water Recovered (gallons):\_ Total Depth (feet): 211 10.55 Casing Diameter (Inches): Water Column (feet): 21.24 1 Well Volume (gallons):\_ 80% Recharge Depth (feet):\_

Time	Time	Depth	Volume	Conduc-	Temperature			
Start	Stop .	To Water	Purged	tivity	(-6)	рH	Turbidity	D.O.
	·:	(feet)	(gallons)	(uS/cm)	(F,C)		·	
1219			2	834	21.0	6.73		
			4	806	21.0	6.84		
	1323		G	819	21.7	6.98		
							* *	
Stat	ic at Time Sar	noled	To	otal Gallons Po	urged		Time Samp	led
	/. Zo		·	6				33 2
Comments:								

Purge Method:
Depth to Product (feet):
LPH & Water Recovered (gallons):
Casing Diameter (Inches):
1 Well Volume (gallons):

:				<u> </u>			<u> </u>	
Time	Time	-Depth	Volume	Conduc-	Temperature			5.0
Start	Stop	To Water	Purged	tivity		Нq	Turbidity	D.O.
		(feet)	(gallons)	(uS/cm)	{F,C}			
								· .
						<del></del> -		
				ļ		<del></del>		
							İ -	
	<u> </u>			<u> </u>	1			
_Sta	tic at Time San	npled	T	otal Gallons Pe	urged	<u> </u>	Time Samp	led.
								· · · · · · · · · · · · · · · · · · ·
Comments:					44.			· ·
~					•			

## FIELD MONITORING DATA SHEET

Technician: Meliose	Job #Mask #: 4105000 1 /FA20	Date: <u>09-30-05</u>
Site # <u>00 (8</u>	Project Manager A. Collins	Page/_of/

	516 4	30.16	(প.5৫	Product	(feet)	Sampled	Misc. Well Notes
		30:16	[1.96			0821	<i>J</i>
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		/					
FIELD DATA CO	MPLETE	01/00	)	cợc	Wi	ELL BOX C	NDITION SHEETS
WTT CERTIFICA	ATE	MANIFE	ST	DRUM INY	ENTORY	TRAF	FIC CONTROL

### GROUNDWATER SAMPLING FIELD NOTES

Technician: Melisso Date: 09-30-05 Site:\_\_\_\_\_\_00\$ Project No.: 41050001 Well No.: MW-3 Purge Method: Dia Depth to Product (feet): Depth to Water (feet): 19.56 LPH & Water Recovered (gallons): Total Depth (feet): 30 (6 Casing Diameter (Inches) 3" Water Column (feet): 10.00 1 Well Volume (gallons): 2 80% Recharge Depth (feet): 21 (26 Conduc-Temperature Depth Volume Time Time D.O. рΗ **Turbidity** tivity Purged Stop To Water Start (F/C) (galions) (uS/cm) (feet) 498 18.0 0822 16.2 501 18.1 6.78 502 0824 Time Sampled Total Gallons Purged Static at Time Sampled 0827 20,44 Comments: Purge Method:\_\_\_\_\_ Well No.: Depth to Product (feet): Depth to Water (feet):\_\_\_\_\_ LPH & Water Recovered (gallons):\_\_\_\_\_ Total Depth (feet): \_\_\_\_\_\_ Casing Diameter (Inches):\_\_\_\_\_ Water Column (feet):\_\_\_\_\_ 1 Well Volume (gallons): 80% Recharge Depth (feet):\_\_\_\_\_ -Depth Volume Conduc-Temperature : Time Time D.O. Turbidity Start Purged рΗ Stop : To Water tivity (F,C) 3. <sub>2. 2</sub>. 3, . (gallons) (uS/cm) (feet) Time Sampled - Total Gallons Purged -Static at Time Sampled . Comments:



Date of Report: 10/11/2005

Anju Farfan

TRC Alton Geoscience

21 Technology Drive Irvine, CA 92618-2302

RE: 0018

BC Lab Number: 0509590

Enclosed are the results of analyses for samples received by the laboratory on 09/27/05 19:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Surratt<sup>v</sup>

Client Service Rep

**Authorized Signature** 

TRC Alton Geoscience 21 Technology Drive

Irvine CA, 92618-2302

Project: 0018

Project Number: [none]

Project Manager: Anju Farfan

Reported: 10/11/05 14:31

### **Laboratory / Client Sample Cross Reference**

Laboratory	Client Sample Information										
0509590-02	COC Number:		***************************************	7/05 19:30	Delivery Work Order (LabW:						
	Project Number:	0018	Sampling Date: 09/27/	7/05 12:55	Global ID: T0600102231						
	Sampling Location:	MW-2 MW-2	Sample Depth:		Matrix: W Samle QC Type (SACode): CS						
	Sampling Point:		Sample Matrix: Water	er	Cooler ID:						
	Sampled By:	Alex of TRCI			Occidents.						
0509590-03	COC Number:		Receive Date: 09/27/	7/05 19:30	Delivery Work Order (LabW:						
	Project Number:	0018	Sampling Date: 09/27/	7/05 13:32	Global ID: T0600102231						
	Sampling Location:	MW-1	Sample Depth:		Matrix: W						
	Sampling Point:	MW-1	Sample Matrix: Water	er	Samle QC Type (SACode): CS						
	Sampled By:	Alex of TRCI	·		Cooler ID:						

TRC Alton Geoscience 21 Technology Drive Irvine CA, 92618-2302 Project: 0018

Project Number: [none]
Project Manager: Anju Farfan

Reported: 10/11/05 14:31

## **Volatile Organic Analysis (EPA Method 8260)**

BCL Sample ID: 0509590-02	Client Sam	ple Nam	e: 0018, MW-2,	0018, MW-2, MW-2, 9/27/2005 12:55:00PM, Alex								
				· · · · · ·	Prep	Run		Instru-		QC	MB	Lab
Constituent	Result	Units	PQL MDL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene	ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850	ND	
Ethylbenzene	ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850	ND	
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850	ND	
Toluene	ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850	ND	
Total Xylenes	ND	ug/L	1.0	EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850	ND	
Ethanol	ND	ug/L	250	EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850	ND	
1,2-Dichloroethane-d4 (Surrogate)	110	%	76 - 114 (LCL - UCL	.) EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850		
Toluene-d8 (Surrogate)	93.9	%	88 - 110 (LCL - UCL	.) EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850		
4-Bromofluorobenzene (Surrogate)	93.2	%	86 - 115 (LCL - UCL	.) EPA-8260	09/29/05	09/30/05 10:32	MWB	MS-V9	1	BOI0850		

Project: 0018

Project Number: [none]

Project Manager: Anju Farfan

Reported: 10/11/05 14:31

# **Volatile Organic Analysis (EPA Method 8260)**

BCL Sample ID:	0509590-03	Client Sam	ple Name	e: 0018, MW-1	1, MW-1, 9/27	/2005 1	:32:00PM, Ale	x					
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL ME	DL Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BO10850		
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
Ethylbenzene		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
Methyl t-butyl ether		19	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
Toluene		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
Total Xylenes		ND	ug/L	1.0	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
t-Amyl Methyl ether		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850	·	
t-Butyl alcohol		ND	ug/L	10	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BO10850		
Diisopropyl ether		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BO10850	••	
Ethanol		ND	ug/L	250	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
Ethyl t-butyl ether		ND	ug/L	0.50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
Total Purgeable Petrole Hydrocarbons	um	300	ug/L	50	EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BO10850		
1,2-Dichloroethane-d4 (	Surrogate)	98.6	%	76 - 114 (LCL - U	CL) EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BO10850		
Toluene-d8 (Surrogate)	,	96.7	%	88 - 110 (LCL - U	CL) EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		
4-Bromofluorobenzene	(Surrogate)	106	%	86 - 115 (LCL - U	CL) EPA-8260	09/29/05	09/30/05 06:52	MWB	MS-V9	1	BOI0850		<del>.</del>

Project: 0018

Project Number: [none]

Project Manager: Anju Farfan

Reported: 10/11/05 14:31

# **Volatile Organic Analysis (EPA Method 8260)**

## **Quality Control Report - Precision & Accuracy**

										<u>Contr</u>	ol Limits
Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery Lab Quals
Benzene	BO10850	BOI0850-MS1	Matrix Spike	ND	22.520	25.000	ug/L		90.1	•	70 - 130
		BOI0850-MSD1	Matrix Spike Duplicate	ND	22.510	25.000	ug/L	0.111	90.0	20	70 - 130
Toluene	BO10850	BO10850-MS1	Matrix Spike	ND	22.920	25.000	ug/L		91.7		70 - 130
		BOI0850-MSD1	Matrix Spike Duplicate	ND	23.370	25.000	ug/L	1.94	93.5	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BOI0850	BOI0850-M\$1	Matrix Spike	ND	9.4700	10.000	ug/L		94.7		76 - 114
		BOI0850-MSD1	Matrix Spike Duplicate	ND	9.6200	10.000	ug/L		96.2		76 - 114
Toluene-d8 (Surrogate)	BO10850	BOI0850-MS1	Matrix Spike	ND	9.9700	10.000	ug/L		99.7		88 - 110
		BOI0850-MSD1	Matrix Spike Duplicate	ND	9.8700	10.000	ug/L		98.7		88 - 110
4-Bromofluorobenzene (Surrogate)	BO10850	BOI0850-MS1	Matrix Spike	ND	9.1100	10.000	ug/L		91.1		86 - 115
		BOI0850-MSD1	Matrix Spike Duplicate	ND	9.6900	10.000	ug/L		96.9		86 - 1 <b>1</b> 5



Project: 0018

Project Number: [none]
Project Manager: Anju Farfan

Reported: 10/11/05 14:31

# **Volatile Organic Analysis (EPA Method 8260)**

**Quality Control Report - Laboratory Control Sample** 

									<u>Control</u>	<u>Limits</u>	
Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	Percent RPD Recovery	RPD	Lab Quals
Benzene	BOI0850	BOI0850-BS1	LCS	22.060	25.000	0.50	ug/L	88.2	70 - 130		
Toluene	BOI0850	BOI0850-BS1	LCS	22.740	25.000	0.50	ug/L	91.0	70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BOI0850	BOI0850-BS1	LCS	9.7800	10.000		ug/L	97.8	76 - 114		
Toluene-d8 (Surrogate)	BOI0850	BOI0850-BS1	LCS	9.8000	10.000		ug/L	98.0	88 - 110		
4-Bromofluorobenzene (Surrogate)	BOI0850	BOI0850-BS1	LCS	9.2800	10.000		ug/L	92.8	86 - 115	, ,	

Project: 0018

Project Number: [none]
Project Manager: Anju Farfan

Reported: 10/11/05 14:31

# **Volatile Organic Analysis (EPA Method 8260)**

## **Quality Control Report - Method Blank Analysis**

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BOI0850	BO10850-BLK1	ND	ug/L	0.50	0.12	
1,2-Dibromoethane	BOI0850	BO10850-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BOI0850	BOI0850-BLK1	ND	ug/L	0.50	0.25	
Ethylbenzene	BOI0850	BOI0850-BLK1	ND	ug/L	0.50	0.13	
Methyl t-butyl ether	BOI0850	BOI0850-BLK1	ND	ug/L	0.50	0.15	
Toluene	BOI0850	BOI0850-BLK1	ND	ug/L	0.50	0.15	
Total Xylenes	BOI0850	BOI0850-BLK1	ND	ug/L	1.0	0.40	
t-Amyl Methyl ether	BOI0850	BO10850-BLK1	ND	ug/L	0.50	0.31	
t-Butyl alcohol	BOI0850	BO10850-BLK1	ND	ug/L	10	10	
Diisopropyl ether	BOI0850	BOI0850-BLK1	ND	ug/L	0.50	0.25	
Ethanol	BOI0850	BOI0850-BLK1	ND	ug/L.	1000	110	
Ethyl t-butyl ether	BOI0850	BOI0850-BLK1	ND	ug/L	0.50	0.27	
Total Purgeable Petroleum Hydrocarbons	BOI0850	BOI0850-BLK1	ND	ug/L	50	23	
1,2-Dichloroethane-d4 (Surrogate)	BOI0850	BOI0850-BLK1	97.8	%	76 - 114 (l	CL - UCL)	
Toluene-d8 (Surrogate)	BOI0850	BO10850-BLK1	97.5	%	88 - 110 (L	-CL - UCL)	
4-Bromofluorobenzene (Surrogate)	BOI0850	BOI0850-BLK1	87.3	%	86 - 115 (l	CL - UCL)	



TRC Alton Geoscience

Project: 0018

21 Technology Drive

Project Number: [none]

Irvine CA, 92618-2302

Project Manager: Anju Farfan

#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

**Reported:** 10/11/05 14:31

BC LABORATORIES INC.	·	SAN	IPLE REC	EIPT FO	RM	Rev. No.	10 01/2	1/04	Page	Of
Submission #: 05-959	() F	Project C	ode:			ТВ	Batch #			
SHIPPING INFOR						SHIPP	ING CONT	TAINER		
Federal Express D UPS D	Hand De	livery 🗆			Ice Ches			ne 🛘		
BC Lab Field Service & Other C	3 (Specif	yl			Box	0	Oth	er 🖸 (Sp	ecify)	
Refrigerant: Ice D Blue Ice 🛘	Non	e 🛭 C	ther 🗆	Comm	ents:					
Custody Seals: Ice Chest □	Containe	rs 🗆	None 🔎	Comm	ents:					
1 1		s O No O								
All samples received? Yes 💋 No 🛘	All sample	s containe	s intact? Y	es ∕Ö No	0	Descrip	tion(s) matc	h COC?	Yes CA' No	0
COC Received	ł	ice C	hest ID rature:	1W	Emis	sivity	1	Date/	Time <u>9/27</u>	
D∕YES □ NO		Tempe	rature:	. <u>Z</u> •c	Cont	ainer 6	+CC	ł	st Init AKA	
	<u> </u>	Inermome	ter ID; 4	<u> </u>				1 Analy	30 mil (6/7)	
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BC LABORATORIES, INC.

4100 Atlas Court ☐ Bakersfield, CA 93308 (661) 327-4911 ☐ FAX (661) 327-1918

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Circle or	ne: Phillips 65 / Unocal	Consultant Firm: 1		MATRIX (GW)	8015		S				Szca		
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Date of Report: 10/14/2005

Anju Farfan

TRC Alton Geoscience 21 Technology Drive Irvine, CA 92618-2302

RE: 0018

BC Lab Number: 0509755

Enclosed are the results of analyses for samples received by the laboratory on 09/30/05 20:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Surratt

Client Service Rep

**Authorized Signature** 

TRC Alton Geoscience 21 Technology Drive

Irvine CA, 92618-2302

Project: 0018

Project Number: [none]

Project Manager: Anju Farfan

Reported: 10/14/05 14:17

### **Laboratory / Client Sample Cross Reference**

Laboratory

**Client Sample Information** 

0509755-01

COC Number:

---

Project Number:

0018 MW-3

Sampling Location: Sampling Point:

MW-3

Sampled By:

Melissa of TRCI

Receive Date:

09/30/05 20:30

Sampling Date: 09/30/05 08:27

Sample Depth: ---

Sample Matrix: Water

Delivery Work Order (LabW:

Global ID: T0600102231

Matrix: W

Samle QC Type (SACode): CS

Cooler ID:

Project: 0018

Project Number: [none]
Project Manager: Anju Farfan

Reported: 10/14/05 14:17

# **Volatile Organic Analysis (EPA Method 8260)**

BCL Sample ID: 0509	9755-01	Client Sam	ole Name	: 0018, MW-3, I	VIVV-3, 9/30	/2005 8:	:27:00AM, Mel	issa					
						Ргер	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL MDL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373	ND	
Ethylbenzene		ND	ug/L	0.50	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373	ND	
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373	ND	
Toluene		ND	ug/L	0.50	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373	ND	
Total Xylenes		ND	ug/L	1.0	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373	ND	
Ethanol	•	ND	ug/L	250	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373	ND	
Total Purgeable Petroleum Hydrocarbons		ND	ug/L	50	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373	ND	
1,2-Dichloroethane-d4 (Surro	gate)	106	%	76 - 114 (LCL - UCL	) EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373		
Toluene-d8 (Surrogate)		99.4	%	88 - 110 (LCL - UCL	) EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373		
4-Bromofluorobenzene (Surre	ogate)	97.8	%	86 - 115 (LCL - UCL	EPA-8260	10/10/05	10/11/05 14:49	MCF	MS-V10	1	BOJ0373		



Project: 0018

Project Number: [none]

Project Manager: Anju Farfan

Reported: 10/14/05 14:17

# **Volatile Organic Analysis (EPA Method 8260)**

## **Quality Control Report - Precision & Accuracy**

										Contro	ol Limits
Constituent	Batch ID	QC Sample ID	QC Sample Type	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery Lab Quals
Benzene	BOJ0373	BOJ0373-MS1	Matrix Spike	ND	25.660	25.000	ug/L		103		70 - 130
		BOJ0373-MSD1	Matrix Spike Duplicate	ND	24.920	25.000	ug/L	3.26	99.7	20	70 - 130
Toluene	BOJ0373	BOJ0373-MS1	Matrix Spike	ND	25.430	25.000	ug/L		102		70 - 130
		BOJ0373-MSD1	Matrix Spike Duplicate	ND	25.150	25.000	ug/L	0.985	101	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BOJ0373	BOJ0373-MS1	Matrix Spike	ND	9.9700	10.000	ug/L		99.7		76 - 114
		BOJ0373-MSD1	Matrix Spike Duplicate	ND	10.010	10.000	ug/L		100		76 - 114
Toluene-d8 (Surrogate)	BOJ0373	BOJ0373-MS1	Matrix Spike	ND	9.6400	10.000	ug/L		96.4		88 - 110
		BOJ0373-MSD1	Matrix Spike Duplicate	ND	10.010	10.000	ug/L		100		88 - 110
4-Bromofluorobenzene (Surrogate)	BOJ0373	BOJ0373-MS1	Matrix Spike	ND	10.410	10.000	ug/L		104		86 - 115
		BOJ0373-MSD1	Matrix Spike Duplicate	ND	10.380	10.000	ug/L		104		86 - 1 <b>1</b> 5



Project: 0018

Project Number: [none]

Project Manager: Anju Farfan

**Reported:** 10/14/05 14:17

# **Volatile Organic Analysis (EPA Method 8260)**

**Quality Control Report - Laboratory Control Sample** 

•									<u>Contro</u>	Limits	
Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	Percent RPD Recovery	RPD	Lab Quals
Benzene	BOJ0373	BOJ0373-BS1	LCS	24.900	25.000	0.50	ug/L	99.6	70 - 130		
Toluene	BOJ0373	BOJ0373-BS1	LCS	24.950	25.000	0.50	ug/L	99.8	70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BOJ0373	BOJ0373-BS1	LCS	9.7400	10.000		ug/L	97.4	76 - 114		
Toluene-d8 (Surrogate)	BOJ0373	BOJ0373-BS1	LCS	10.050	10.000	***	ug/L	100	88 - 110		
4-Bromofluorobenzene (Surrogate)	BOJ0373	BOJ0373-BS1	LCS	10.240	10.000		ug/L	102	86 - 115		

Project: 0018

Project Number: [none]

Project Manager: Anju Farfan Reported: 10/14/05 14:17

# **Volatile Organic Analysis (EPA Method 8260)**

### **Quality Control Report - Method Blank Analysis**

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BOJ0373	BOJ0373-BLK1	ND	ug/L	0.50	0.12	
Ethylbenzene	BOJ0373	BOJ0373-BLK1	ND	ug/L	0.50	0.13	
Methyl t-butyl ether	BOJ0373	BOJ0373-BLK1	ND	ug/L	0.50	0.15	
Toluene	BOJ0373	BOJ0373-BLK1	ND	ug/L	0.50	0.15	
Total Xylenes	BOJ0373	BOJ0373-BLK1	ND	ug/L	1.0	0.40	, , , , , ,
Ethanol	BOJ0373	BOJ0373-BLK1	ND	ug/L	250	110	
Total Purgeable Petroleum Hydrocarbons	BOJ0373	BOJ0373-BLK1	ND	ug/L	50	23	
1,2-Dichloroethane-d4 (Surrogate)	BOJ0373	BOJ0373-BLK1	97.9	%	76 - <b>1</b> 14 (l	.CL - UCL)	
Toluene-d8 (Surrogate)	BOJ0373	BOJ0373-BLK1	102	%	88 - <b>1</b> 10 (l	.CL - UCL)	
4-Bromofluorobenzene (Surrogate)	BOJ0373	BOJ0373-BLK1	97.1	%	86 - 115 (l	CL - UCL)	*

Project: 0018

Project Number: [none]

Project Manager: Anju Farfan Reported: 10/14/05 14:17

### **Notes and Definitions**

J Estimated value

ND Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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BC LABORATORIES INC.		SAN	APLE REC	EIPT FO	RM	Rev. No.	10 01/2	1/04 F	Page	Of
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Refrigerant: Ice Blue Ice			Other 🗆	Comme						
Custody Seals: Ice Chest □	Containe	rs 🛚	None 2	Comme	ents:					
Intact? Yes 🗆 No 🔘	Intact? Ye	s 🛭 No 🖸								
All samples received? Yes ₽ No □	All sample	s containe	rs intact?	Yes Æ∕ No	.a	Descrio	tion(s) mate	ት ርዐርን .X	as of Na	<u></u>
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COC Received	1	Ice C	hest ID <u>#</u> erature:	-/W			<b>.9</b> 7	Date/T	ime <i>9/30</i>	<u> </u>
✓ YES □ NO	- 1	Thermom	eter ID:	48	Cont	ainer	04	Analys	t Init AR	N
	<u> </u>								711	/
SAMPLE CONTAINERS	,	2	] ,	<del>T : -</del>	SAMPLE	1	T		1	<del></del>
OT GENERAL MINERAL/ GENERAL PHYSICAL	<del>                                     </del>	1	<del>                                     </del>	1 - 4	<u>  s</u>	<u> </u>	7	В	9	10
PT PE UNPRESERVED			<del> </del>	<del>                                     </del>	<del> </del>			<del></del>		1
OT INORGANIC CHEMICAL METALS			1	1		<b> </b>	1			<del> </del>
PT INORGANIC CHEMICAL METALS			<del>                                     </del>	1		<b></b>	<del>                                     </del>	<del></del>		
PT CYANIDE		<u> </u>	<u> </u>	<b></b>	<del> </del>	<del> </del>	<del>                                     </del>			
PT NITROGEN FORMS						<b>!</b>	<del>                                     </del>		<del> </del>	<del>                                     </del>
PT TOTAL SULFIDE					<b> </b>	<b>—</b>			<del></del>	
202 NITRATE / NITRITE						<del>                                     </del>			<del></del>	<del>                                     </del>
100ml TOTAL ORGANIC CARBON				<del> </del>	<b> </b>					
QT TOX			1		<u> </u>	<b></b>				
PT CHEMICAL OXYGEN DEMAND				<del>                                     </del>		<del>                                     </del>				
PIA PHENOLICS			<u> </u>							
40mi VOA VIAL TRAVEL BLANK							<del>                                     </del>			
40mi VOA VIAL	1.3.	1	,	,	, ,		, ,	1 1	1	1 1
QT EPA 413.1, 413.2, 418.1										
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40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA SIS					-					
QT EPA 525 TRAVEL BLANK										
100mi EPA 547										
100ml EPA 531.1										
QT EPA 548										
OT EPA 549										
QT EPA 632										
QT EPA BOISM							1			
OT QA/OC										
QT AMBER			1					,		
8 OZ. JAR		-								-
32 OZ. JAR			1							
SOIL SLEEVE				<del>                                     </del>			<del>  </del>			-
PCB VIAL					<del></del>		1 1	•		
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Sample Numbering Completed By: Mr Date/Time: 4/30 1850

BC LABORATORIES, INC.

4100 Atlas Court ☐ Bakersfield, CA 93308 (661) 327-4911 ☐ FAX (661) 327-1918

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#### **STATEMENTS**

### **Purge Water Disposal**

Non-hazardous groundwater produced during purging and sampling of monitoring was accumulated at TRC's groundwater monitoring facility at Concord, California, for transportation by Onyx Transportation, Inc., to the ConocoPhill ips Refinery at Rodeo, California. Disposal at the Rodeo facility was authorized by ConocoPhillips in accordance with "ESD Standard Operating Procedures – Water Quality and Compliance", as revised on February 7, 2003. Documentation of compliance with ConocoPhillips requirements is provided by an ESD Form R -149, which is on file at TRC's Concord Office. Purge water containing a significant amount of liquid -phase hydrocarbons was accumulated separately in drums for transportation and disposal by Filter Recycl ing, Inc.

#### Limitations

The fluid level monitoring and groundwater sampling activities summarized in this report have been performed under the responsible charge of a California Registered Geologist or Registered Civil Engineer and have been conducted in a ccordance with current practice and the standard of care exercised by geologists and engineers performing similar tasks in this area. No warranty, express or implied, is made regarding the conclusions and professional opinions presented in this report. The conclusions are based solely upon an analysis of the observed conditions. If actual conditions differ from those described in this report, our office should be notified.