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2:01 pm, Mar 17, 2009

Alameda County Environmental Health



November 19, 2008

Barbara Jakub Alameda County Health Agency 1131 Harbor Bay parkway, Suite250 Alameda, California 94502-577

Re: Quarterly Summary Report—Fourth Quarter 2008

Former 76 Service Station # 7124 RO # 2444

10151 International Blvd.

Oakland, CA

Dear Ms. Jakub:

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 call me at (916) 558-7666.

Sincerely,

Terry L. Grayson Site Manager

Risk Management & Remediation



Stantec Consulting Corporation 3017 Kilgore Road Suite 100 Rancho Cordova CA 95670 Tel: (916) 861-0400

Fax: (916) 861-0430

# Quarterly Summary Report - Fourth Quarter 2008 Former 76 Service Station No. 7124 10151 International Boulevard Oakland, California

Stantec Project No.: 77CP.01634.41.0303

Submitted to:
Ms. Barbara Jakub
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Oakland, California 94502

(Sent Via Electronic Upload to Alameda ftp)

Submitted by:
Stantec Consulting Corporation
3017 Kilgore Road, Suite 100
Rancho Cordova, California 95670
916-861-0400

Prepared on behalf of: ConocoPhillips Company Mr. Terry Grayson Site Manager 76 Broadway Sacramento, California 95818

November 19, 2008

**Quarterly Summary Report - Fourth Quarter 2008**November 19, 2008

# INTRODUCTION

On behalf of ConocoPhillips, Stantec Consulting Corporation (Stantec), is forwarding the quarterly summary report for the former 76 Service Station No. 7124, located at 10151 International Boulevard, in Oakland, California.

# SITE DESCRIPTION

The site is currently an active Royal Gasoline Station located on the northwest corner of the intersection of International Boulevard and 102nd Avenue in Oakland, California. Site facilities include three underground storage tanks (USTs) and associated piping and fuel dispensers. A detailed site plan is included in TRC's *Quarterly Monitoring Report October through December 2008* dated October 28, 2008 (Attachment 1).

### SITE GEOLOGY AND HYDROGEOLOGY

As shown in the United States Geological Survey Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California, prepared in 2000, the site is underlain by Holocene-aged natural levee deposits, which overlay Holocene-aged alluvial fan and fluvial deposits. Based on assessment activities performed by Stantec in September 2008, the subsurface generally consists of silty sands to depths of 5 to 7 feet below ground surface (bgs), with a clay layer generally being encountered beneath the sand layer to depths of 12 to 15 feet bgs. Below this clay layer, the subsurface generally consists of interbedded silt and clay layers with occasional sand layers with thicknesses of up to three feet being observed.

As outlined in the California Department of Water Resources 2003 *California Groundwater: Bulletin 118*, the site lies within the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Subbasin is a northwest trending alluvial plain of Quaternary Age, bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, on the south by the Niles Cone Groundwater Basin. The East Bay Plain Subbasin extends beneath San Francisco Bay to the west.

# PREVIOUS ASSESSMENT

On March 22, 2000, SECOR supervised the removal and replacement of product lines and dispensers by Balch Petroleum of Milpitas, California. Soil samples collected from beneath the dispensers and product lines revealed the presence of total petroleum hydrocarbons as gasoline (TPHg) at a maximum concentration of 6,200 milligrams per kilogram (mg/kg), methyl tertiary butyl ether (MTBE) up to120 mg/kg, and benzene up to 7.4 mg/kg. Excavation and sampling activities were observed and approved by Inspector Gomez of the City of Oakland Fire Services Agency.

On March 27, 2000, SECOR observed the over-excavation of approximately 60 cubic yards of soil from the beneath those portions of the dispensers and product lines where soil samples with elevated concentrations of petroleum hydrocarbons were located. Areas measuring approximately 8-10 feet long by 8-10 feet wide were over-excavated to an approximate depth of 8 feet bgs in each of these areas. Additional over-excavation in these areas was not possible

# **Quarterly Summary Report - Fourth Quarter 2008**

November 19, 2008

due to their proximity to the footings of the service station canopy. TPHg was detected in two of the three samples at a concentration of 108 mg/kg; benzene was detected in one of the three samples at 0.162 mg/kg; and MTBE was detected in all three samples at maximum concentrations of up to 43.8 mg/kg. Lead was not detected at or above laboratory reporting limits in any samples.

During February 2002, SECOR supervised the installation of four on-site groundwater monitoring wells. Prior to well installation, all borings were advanced to 26.5 feet bgs, and subsurface soil samples were collected every five feet. Soil samples were analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, total xylenes (BTEX), and fuel oxygenates via EPA Method 8260B. The maximum reported concentrations were 42 mg/kg GRO, 0.36 mg/kg ethylbenzene, 0.26 mg/kg xylenes, and 1.2 mg/kg MTBE.

In September 2008, Stantec oversaw the advancement of two on-site and five off-site direct push soil borings. Soil and grab groundwater samples were collected and analyzed for total purgeable petroleum hydrocarbons (TPPH [aka gasoline]), BTEX, and fuel oxygenates tert-butyl alcohol (TBA), MTBE, di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), and ethanol, as well as, ethylene di-bromide (EDB) and 1,2-dichloroethane (1,2-DCA) via EPA Method 8260B. Maximum concentrations of TPPH and MTBE in groundwater were observed in off-site boring SB-4 (north of monitoring well MW-3), at concentrations of 45,000 micrograms per liter ( $\mu$ g/L), and 62  $\mu$ g/L, respectively.

# SENSITIVE RECEPTORS

During the third quarter of 2004, SECOR completed a ½-mile radius agency receptor survey and obtained an Environmental Data Resources Incorportated (EDR) radius map for the site. The agency survey identified two industrial supply wells, three cathodic protection wells, and two wells of unknown type within the search radius. The survey also identified twelve wells of unknown type that could not be located precisely because the records on file with DWR did not include this information. These wells may or may not be located within the search radius. The EDR radius map did not identify any water supply wells within the search radius, but did identify two water supply wells within one mile of the site.

During the third quarter of 2008, Stantec contacted the DWR to obtain copies of all well completion reports for wells located within 0.25-mile of the site. Stantec reviewed these well completion reports and determined that monitoring and vapor extraction wells associated with two sites are located within 0.25-mile of the site. One monitoring well is located approximately 650 feet south-southeast of the site (cross-gradient), while six monitoring wells and two vapor extraction wells are located approximately 1,150 feet north-northwest of the site (cross-gradient). No domestic or industrial supply wells or irrigation wells were located within 0.25-mile of the site.

Stantec also performed a utility survey at the site. The survey was conducted by having Underground Services Alert (USA) mark the site for utilities. Stantec staff subsequently hired a private utility locator to confirm utility locations and attempt to locate any potential utilities not marked by USA. Based on depth to groundwater (generally 15 to 20 feet bgs) and observed

# **Quarterly Summary Report - Fourth Quarter 2008**

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dissolved-phase hydrocarbon distribution, Stantec does not feel the utility trenches represent likely preferential pathways, and accordingly, did not determine the depths of the utility trenches.

# **MONITORING AND SAMPLING**

The site has been monitored and sampled since the third quarter 2002. Currently, four wells are monitored quarterly (MW-1 through MW-4). Samples are analyzed for TPPH, BTEX, and the fuel oxygenates TBA, MTBE, DIPE, ETBE, TAME, and ethanol, as well as EDB and 1,2-DCA by EPA Method 8260B.

# **DISCUSSION**

During the fourth quarter 2008, depth to groundwater ranged between 17.50 and 19.25 feet below top of casing (toc). Groundwater elevations in all four wells represent respective historical low groundwater elevations. Historical groundwater depths have previously been reported between 15.11 and 18.02 feet below toc. The direction of groundwater flow was toward the west at a gradient of 0.007 foot/foot (Attachment 1). Historically, groundwater gradient flows to the west, southwest, and south, with a westerly gradient being the predominant direction.

The highest concentrations of TPPH and MTBE continue to be detected in on-site well MW-3 (historical highs of 130,000  $\mu$ g/L and 10,000  $\mu$ g/L, respectively, observed in 2003). This quarter, the maximum concentrations of TPPH and MTBE were reported in well MW-3 at 2,100  $\mu$ g/L, and 84  $\mu$ g/L, respectively (Attachment 1). The down-gradient/cross-gradient extent of the dissolved plume remains undefined by the existing monitoring well network.

# **CHARACTERIZATION STATUS**

None of the groundwater samples collected during the fourth quarter 2008 quarterly sampling event showed detectable levels of any BTEX components. The highest concentrations of residual TPHg and/or MTBE contamination are localized in the northeastern area of the site in the vicinity of MW-3. The extent of dissolved contamination is undefined in the down-gradient (northwest) direction, but MTBE concentrations continue declining, and variable TBA levels in MW-4 may indicate active degradation of MTBE.

# **REMEDIATION STATUS**

Currently, there is no active remediation at this site.

# **CURRENT ASSESSMENT ACTIVITIES**

In September 2008, Stantec oversaw the advancement of two on-site and five off-site direct push soil borings. Results of the site assessment activities are presented in Stantec's *Additional Assessment Report*, dated October 15, 2008.

# **Quarterly Summary Report - Fourth Quarter 2008**

November 19, 2008

# RECENT SUBMITTALS/CORRESPONDENCE

Submitted – Quarterly Summary and Monitoring Report – Third Quarter 2008, dated September 9, 2008.

Submitted – Additional Assessment Report, dated October 15, 2008.

# **WASTE DISPOSAL SUMMARY**

The volume of purged groundwater generated and disposed of during the quarterly groundwater monitoring event is documented in TRC's *Quarterly Monitoring Report*, *October through December 2008*, dated October 28, 2008 (Attachment 1).

# THIS QUARTER ACTIVITIES (Fourth Quarter 2008)

- 1. TRC performed quarterly groundwater monitoring and sampling event.
- 2. Stantec prepared and submitted an Additional Assessment Report.
- 3. Stantec prepared and submitted a quarterly summary and monitoring report.

# **NEXT QUARTER ACTIVITIES (First Quarter 2009)**

- 1. TRC to perform coordinated groundwater monitoring and sampling event.
- 2. Stantec to prepare and submit quarterly summary and monitoring report.
- 3. Stantec to review response from ACEH pertaining to Stantec's *Additional Assessment Report*, dated October 15, 2008.

### LIMITATIONS

This report presents our understanding of existing conditions at the subject site located at 10151 International Boulevard, Oakland, California. Evaluations of the geologic conditions at the site for the purposes of this investigation are inherently limited due to the number of observation points. There are no representations, warranties, or guarantees that the points selected for sampling are representative of the entire site. Data from this report reflects the conditions at specific locations at a specific point in time. Stantec assumes no responsibility for work reported or performed by other consultants or contractors. Stantec makes no warranties or guarantees for the groundwater monitoring report (Attachment 1) prepared by TRC. No other interpretation, representations, warranties, guarantees, express or implied, are included or intended in the report findings.

Sincerely,

**Stantec Consulting Corporation** 

Benjamin Chevlen P.G.

Associate Geologist

USSIONAL GEOLOG BENJAMIN CHEVLEN No. 8471 Exp. 06/30/10

Ed Simonis, P.G. Senior Geologist

Attachments:

Attachment 1 - TRC's Quarterly Monitoring Report - October through December 2008 dated October 28, 2008.

cc: Mr. Terry Grayson, ConocoPhillips (via electronic upload to Livelink only)

OF CALIF

# ATTACHMENT 1 TRC'S QUARTERLY MONITORING REPORT OCTOBER THROUGH DECEMBER 2008

Quarterly Summary Report – Fourth Quarter 2008 Former 76 Station 7124 10151 International Boulevard Oakland, California





21 Technology Drive Irvine, CA 92618

949.727.9336 PHONE 949.727.7399 FAX

www.TRCsolutions.com

DATE:

October 29, 2008

TO:

ConocoPhillips Company

76 Broadway

Sacramento, CA 95818

ATTN:

MR. TERRY GRAYSON

SITE:

**76 STATION 7124** 

10151 INTERNATIONAL BOULEVARD

OAKLAND, CALIFORNIA

RE:

QUARTERLY MONITORING REPORT

OCTOBER THROUGH DECEMBER 2008

Dear Mr. Grayson:

Please find enclosed our Quarterly Monitoring Report for 76 Station 7124, located at 10151 International Boulevard, Oakland, California. If you have any questions regarding this report, please call us at (949) 727-9336.

Sincerely,

**TRC** 

Anju Farfan

Groundwater Program Operations Manager

CC: Mr. Ben Chevlen, Stantec, Inc (2 copies)

Enclosures 200400/7124R21 QMS.doc

# QUARTERLY MONITORING REPORT OCTOBER THROUGH DECEMBER 2008

76 STATION 7124 10151 International Boulevard Oakland, California

Prepared For:

Mr. Terry Grayson CONOCOPHILLIPS COMPANY 76 Broadway Sacramento, California 95818

By:

Senior Project Geologist, Irvine Operations

Date: 10/28/06



	LIST OF ATTACHMENTS
Summary Sheet	Summary of Gauging and Sampling Activities
Tables	Table Key
	Contents of Tables
	Table 1: Current Fluid Levels and Selected Analytical Results
	Table 1a: Additional Current Analytical Results
	Table 2: Historic Fluid Levels and Selected Analytical Results
	Table 2a: Additional Historic Analytical Results
Figures	Figure 1: Vicinity Map
	Figure 2: Groundwater Elevation Contour Map
	Figure 2A: Historical Groundwater Flow Direction
	Figure 3: Dissolved-Phase TPH-G (GC/MS) Concentration Map
	Figure 4: Dissolved-Phase Benzene Concentration Map
***************************************	Figure 5: Dissolved-Phase MTBE Concentration Map
Graphs	Groundwater Elevations vs. Time
	MTBE 8260B Concentrations vs. Time
Field Activities	General Field Procedures
	Field Monitoring Data Sheet – 10/02/08
	Groundwater Sampling Field Notes – 10/02/08
Laboratory	Official Laboratory Reports
Reports	Quality Control Reports
	Chain of Custody Records
Statements	Purge Water Disposal
	Limitations

# Summary of Gauging and Sampling Activities October 2008 through December 2008

# 76 Station 7124 10151 International Boulevard Oakland, CA

Project Coordinator: <b>Terry Grayson</b> Telephone: <b>916-558-7666</b>	Water Sampling Contractor: <i>TRC</i> Compiled by: <b>Christina Carrillo</b>
Date(s) of Gauging/Sampling Event: 10/02	
Sample Points	
Groundwater wells: <b>4</b> onsite, <b>0</b> offsi Purging method: <b>Submersible pump</b> Purge water disposal: <b>Veolia/Rodeo Unit</b> Other Sample Points: <b>0</b> Type:	
Liquid Phase Hydrocarbons (LPH)	
Sample Points with LPH: <b>0</b> Maximum this LPH removal frequency: Treatment or disposal of water/LPH:	ckness (feet): Method:
Hydrogeologic Parameters	
Depth to groundwater (below TOC): Min Average groundwater elevation (relative to a Average change in groundwater elevation sin Interpreted groundwater gradient and flow d Current event: 0.007 ft/ft, west Previous event: 0.01 ft/ft, west (07/0	vailable local datum): 19.36 feet ace previous event: -0.72 feet are irection:
Selected Laboratory Results	
Sample Points with detected <b>Benzene: 0</b> Maximum reported benzene concentration	
Sample Points with TPH-G by GC/MS 3 Sample Points with MTBE 8260B 3	,, ,
Notes:	

# **TABLES**

#### TABLE KEY

### STANDARD ABBREVIATIONS

-- e not analyzed, measured, or collected

LPH = liquid-phase hydrocarbons Trace = less than 0.01 foot of LPH in well

mg/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)

#### ANALYIES

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-G (GC/MS) = total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B

TPH-D = total petroleum hydrocarbons with diesel distinction

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-)

### **NOIES**

- 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: Surface Elevation Measured Depth to Water + (Dp x LPH Thickness), 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 (PQL) 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 resurvey

#### REFERENCE

TRC began groundwater monitoring and sampling for 76 Station 7124 in October 2003 Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

# Contents of Tables 1 and 2 Site: 76 Station 7124

Current Event	C	urr	ent	Eve	nt
---------------	---	-----	-----	-----	----

Table 1	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
Table 1a	Well/ Date	TBA	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME					
Historic D	ata												
Table 2	Well/ Date	Depth to Water	LPH Thickness	Ground- water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)
Table 2a	Well/ Date	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene- dibromide (EDB)	1,2-DCA (EDC)	DIPE	ЕТВЕ	TAME				

Table 1
CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
October 2, 2008
76 Station 7124

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness		Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	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)	
<b>MW-1</b> 10/02/0	8 37.37	17.50	0.00	19.87	-0.80		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
<b>MW-2</b> 10/02/0	8 37.87	18.65	0.00	19.22	-0.71		130	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.1	
<b>MW-3</b> 10/02/0	8 37.72	18.50	0.00	19,22	-0.66		2100	ND<0.50	ND<0.50	ND<0.50	ND<1.0		84	
<b>MW-4</b> 10/02/0	8 38.36	19.25	0.00	19.11	-0.70		790	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.4	



Table 1 a
ADDITIONAL CURRENT ANALYTICAL RESULTS
76 Station 7124

Date			Ethylene-							
Sampled		Ethanol	dibromide	1,2-DCA						
	TBA	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME			
	(µg/l)	$(\mu g/l)$	(µg/l)	(μg/l)	(µg/l)	$(\mu g/l)$	(µg/l)			
MW-1									:	
10/02/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50			
MW-2										
10/02/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50			
MW-3										
10/02/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50			
MW-4										
10/02/08	ND<10	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50			



Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
April 2002 Through October 2008
76 Station 7124

Date	TOC	Depth to	LPH	Ground-	Change									Comments
Sampled	Elevation	Water	Thickness	water	in Elecetron	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE	
				Elevation	Elevation	(8015M)	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	$(\mu g/l)$	(μg/l)	(μg/l)	
MW-1														
04/08/0	2 37.37	14.27	0.00	23.10		ND<50		ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	ND<2.0	
07/28/0	2 37.37	15.88	0.00	21.49	-1.61		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
11/03/0	2 37.37	16.75	0.00	20.62	-0.87		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
01/24/0	37.37	13.94	0.00	23.43	2.81		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
04/02/0	37.37	14.99	0.00	22.38	-1.05		460	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
07/01/0	37.37	15.48	0.00	21.89	-0.49		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
10/02/0	37.37	16.68	0.00	20.69	-1.20		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<2.0	
01/09/0	37.37	13.79	0.00	23.58	2.89		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1		ND<2	
04/26/0	37.37	15.21	0.00	22.16	-1.42		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
07/22/0	37.37	16.43	0.00	20.94	-1.22		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
10/29/0	4 37.37	16.14	0.00	21.23	0.29		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
01/12/0	5 37.37	12.83	0.00	24.54	3.31		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
06/20/0	5 37.37	14.38	0.00	22.99	-1.55		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
09/23/0	5 37.37	15.92	0.00	21.45	-1.54		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
12/13/0	5 37.37	16.09	0.00	21.28	-0.17		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
03/24/0	6 37.37	11.85	0.00	25.52	4.24		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
05/30/0	6 37.37	13.30	0.00	24.07	-1.45		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
08/22/0	6 37.37	15.11	0.00	22.26	-1.81		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50	
10/31/0	6 37.37	16.11	0.00	21,26	-1.00		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50	
01/12/0	7 37.37	15.55	0.00	21.82	0.56		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50	
04/04/0	7 37.37	15.31	0.00	22.06	0.24		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50	
07/05/0	7 37.37	16.21	0.00	21.16	-0.90		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50	



Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
April 2002 Through October 2008
76 Station 7124

Date	TOC	Depth to	LPH	Ground-	Change									Comments
Sampled	Elevation	Water	Thickness	water Elevation	ın Elevation	TPH-G	TPH-G	_		Ethy1-	Total	MTBE	MTBE	
	(0)	(C)	40		-	(8015M)	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(μg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(µg/l)	(μg/l)	
MW-1			0.00											
10/01/0		17.13	0.00	20.24	-0.92		ND<50		ND<0.50				ND<0.50	
01/11/0		14.48	0.00	22.89	2.65	W Le	ND<50		ND<0.50	ND<0.50	ND<1.0		ND<0.50	
04/04/0		16.17	0.00	21.20	-1.69		ND<50		ND<0.50		ND<1.0		ND<0.50	Gauged on 5-22-08
07/02/0		16,70	0.00	20.67	-0.53		ND<50		ND<0.50		ND<1.0		ND<0.50	
10/02/0	)8 37.37	17.50	0.00	19.87	-0.80		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		ND<0.50	
MW-2														
04/08/0	2 37.87	15.86	0.00	22.01		4400		ND<2.5	ND<2.5	6.4	ND<2.5	380	490	
07/28/0	2 37.87	17.28	0.00	20.59	-1.42		3200	ND<2.5	ND<2.5	ND<2.5	ND<5.0		170	
11/03/0	2 37.87	18.03	0.00	19.84	-0.75		3800	ND<5.0	ND<5.0	ND<5.0	ND<10	==	72	
01/24/0	37.87	15.59	0.00	22.28	2.44		410	ND<2.5	ND<2.5	ND<2.5	ND<5.0		490	
04/02/0	37.87	16.50	0.00	21.37	-0.91		1000	ND<5.0	ND<5.0	ND<5.0	ND<10		180	
07/01/0	37.87	16.94	0.00	20.93	-0.44		1900	ND<2.5	ND<2.5	ND<2.5	ND<5.0		120	
10/02/0	37.87	17.93	0.00	19.94	-0.99		6900	ND<0.50	ND<0.50	ND<0.50	ND<1.0		32	
01/09/0	37.87	15.42	0.00	22.45	2.51		1000	ND<2.5	ND<2.5	ND<2.5	ND<5.0	m-m	300	
04/26/0	37.87													Covered with asphalt
07/22/0	37.87													Covered with asphalt
10/29/0	37.87		0.00											Well is paved over.
01/12/0	37.87					-								Well was paved over.
06/20/0	37.87	15.94	0.00	21.93			120	ND<0.50	ND<0.50	ND<0.50	ND<1.0		46	
09/23/0	37.87	17.29	0.00	20.58	-1.35		120	ND<0.50	ND<0.50	ND<0.50	ND<1.0		10	
12/13/0	37.87	17.41	0.00	20.46	-0.12		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0		11	
03/24/0	6 37.87	13.77	0.00	24.10	3.64		190	ND<0.50	ND<0.50	ND<0.50	ND<1.0		15	
05/30/0	6 37.87	15.16	0.00	22.71	-1.39		120	ND<0.50	ND<0.50	ND<0.50	ND<1.0		6.6	
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Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
April 2002 Through October 2008
76 Station 7124

Date	TOC	Depth to	LPH	Ground-	Change									Comments
Sampled	Elevation	Water	Thickness	water Flevation	in Elevation	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE	
						(8015M)	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(μg/l)	(µg/l)	(µg/l)	(μg/l)	(µg/l)	(μg/l)	(µg/l)	(µg/l)	
	continued													
08/22/0	6 37.87	16.49	0.00	21.38	-1.33		81	ND<0.50	ND<0.50	ND<0.50	ND<0.50		3.0	
10/31/0	6 37.87	17.15	0.00	20.72	-0.66		93	ND<0.50	ND<0.50	ND<0.50	ND<0.50		2.0	
01/12/0	37.87	17.07	0.00	20.80	0.08		230	ND<0.50	ND<0.50	ND<0.50	ND<0.50		4.3	
04/04/0	37.87	17.84	0.00	20.03	-0.77		110	ND<0.50	ND<0.50	ND<0.50	ND<0.50		2.5	
07/05/0	37.87	17.51	0.00	20.36	0.33		150	ND<0.50	ND<0.50	ND<0.50	ND<0.50		2.6	
10/01/0	37.87	18.25	0.00	19.62	-0.74		160	ND<0.50	ND<0.50	ND<0.50	ND<0.50		2.0	
01/11/0	37.87	16.80	0.00	21.07	1.45		130	ND<0.50	ND<0.50	ND<0.50	ND<1.0		7.7	
05/22/0	98 37.87	17.46	0.00	20.41	-0.66		140	ND<0.50	ND<0.50	ND<0.50	ND<1.0		4.2	Gauged and sampled on 5-22- 08
07/02/0	37.87	17.94	0.00	19.93	-0.48		75	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.4	
10/02/0	37.87	18.65	0.00	19.22	-0.71		130	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.1	
MW-3														
04/08/0	37.72	15.86	0.00	21.86		8700		65	ND<25	400	ND<25	6500	8300	
07/28/0	37.72	17.22	0.00	20.50	-1.36		4500	ND<25	ND<25	ND<25	ND<50		1100	
11/03/0	37.72	17.90	0.00	19.82	-0.68	en an	25000	ND<5.0	ND<5.0	25	ND<10		470	
01/24/0	37.72	15.57	0.00	22.15	2.33		6000	ND<25	ND<25	94	ND<50		10000	
04/02/0	37.72	16.45	0.00	21.27	-0.88		130000	ND<100	ND<100	ND<100	ND<200		4400	
07/01/0	37.72	16.88	0.00	20.84	-0.43		9400	ND<10	ND<10	ND<10	ND<20		2200	
10/02/0	37.72	17.85	0.00	19.87	-0.97		73000	ND<50	ND<50	ND<50	ND<100		460	
01/09/0	37.72	15.31	0.00	22.41	2.54		8700	ND<25	ND<25	98	ND<50		3800	
04/26/0	37.72	16.62	0.00	21.10	-1.31		6700	ND<25	ND<25	ND<25	ND<50		3900	
07/22/0	37.72	17.62	0.00	20.10	-1.00		13000	ND<25	ND<25	ND<25	ND<50		980	
10/29/0	37.72	17.29	0.00	20.43	0.33		4600	ND<5.0	ND<5.0	13	ND<10		640	

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Table 2 HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS **April 2002 Through October 2008** 76 Station 7124

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground- water	Change in	ТРН-С	ТРН-G			Ethyl-	Total	MTBE	MTBE	Comments
				Elevation	Elevation	(8015M)	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	$(\mu g/l)$	(µg/l)	$(\mu g/l)$	(µg/l)	(µg/l)	$(\mu g/l)$	
MW-3	continued								·					
01/12/0		14.64	0.00	23.08	2.65		6100	0.88	0.99	30	2.2		6900	
06/20/0	5 37.72	15.91	0.00	21.81	-1.27		1900	ND<0.50	0.21J	0.52	0.46J		960	
09/23/0	5 37.72	17.20	0.00	20.52	-1.29		2400	ND<0.50	ND<0.50	ND<0.50	ND<1.0		160	
12/13/0	37.72	17.32	0.00	20.40	-0.12		2100	ND<2.5	ND<2.5	ND<2.5	ND<5.0		340	
03/24/0	6 37.72	13.86	0.00	23.86	3.46		2200	ND<5.0	ND<5.0	ND<5.0	ND<10		970	
05/30/0	6 37.72	15.69	0.00	22.03	-1.83		1500	ND<12	ND<12	ND<12	ND<25		760	
08/22/0	6 37.72	16.51	0.00	21.21	-0.82		1900	ND<0.50	ND<0.50	ND<0.50	ND<0.50		160	
10/31/0	6 37.72	17.36	0.00	20.36	-0.85		2200	ND<0.50	ND<0.50	ND<0.50	ND<0.50	~~	58	
01/12/0	7 37.72	16.85	0.00	20.87	0.51		2600	ND<0.50	ND<0.50	ND<0.50	ND<0.50		680	
04/04/0	7 37.72	16.62	0.00	21.10	0.23		1700	ND<0.50	ND<0.50	ND<0.50	ND<0.50		650	
07/05/0	7 37.72	17.42	0.00	20.30	-0.80		2400	ND<0.50	ND<0.50	ND<0.50	ND<0.50		160	
10/01/0	7 37.72	18.16	0.00	19.56	-0.74		1700	ND<1.0	ND<1.0	ND<1.0	ND<1.0		87	
01/11/0	8 37.72	15.84	0.00	21.88	2.32		2200	ND<0.50	ND<0.50	1.6	ND<1.0		1300	
04/04/0	8 37.72	17.30	0.00	20.42	-1.46		1600	ND<1.0	ND<1.0	ND<1.0	ND<2.0		470	Gauged on 5-22-08
07/02/0	8 37.72	17.84	0.00	19.88	-0.54		1200	ND<0.50	ND<0.50	ND<0.50	ND<1.0		91	
10/02/0	8 37.72	18.50	0.00	19.22	-0.66		2100	ND<0.50	ND<0.50	ND<0.50	ND<1.0		84	
MW-4														
04/08/0	38.36	16.59	0.00	21.77		13000		ND<5.0	ND<5.0	28	ND<5.0	790	980	
07/28/0	38.36	17.93	0.00	20.43	-1.34		18000	ND<2.5	ND<2.5	ND<2.5	ND<5.0	~~	170	
11/03/0	38.36	18.66	0.00	19.70	-0.73		220	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.7	
01/24/0	38.36	16.27	0.00	22.09	2.39		ND<1000	ND<10	ND<10	ND<10	ND<20		1000	
04/02/0	38.36	17.19	0.00	21.17	-0.92		130000	ND<100	ND<100	ND<100	ND<200		ND<400	
07/01/0	38.36	17.61	0.00	20.75	-0.42		15000	ND<2.5	ND<2.5	ND<2.5	ND<5.0		170	
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Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
April 2002 Through October 2008
76 Station 7124

Date	TOC	Depth to	LPH	Ground-	Change									Comments
Sampled	Elevation	Water	Thickness	water	ın	TPH-G	TPH-G			Ethyl-	Total	MTBE	MTBE	
				Elevation	Elevation	(8015M)	(GC/MS)	Benzene	Toluene	benzene	Xylenes	(8021B)	(8260B)	
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	$(\mu g/l)$	(μg/l)	(µg/l)	(µg/l)	
MW-4	continued													
10/02/0	38.36	18.58	0.00	19.78	-0.97		7100	ND<10	ND<10	ND<10	ND<20		70	
01/09/0	38.36	16.15	0.00	22.21	2.43		18000	ND<10	ND<10	ND<10	ND<20		530	
04/26/0	38.36	17.20	0.00	21.16	-1.05		6500	ND<10	ND<10	ND<10	ND<20		240	
07/22/0	38.36	18.34	0.00	20.02	-1.14		18000	ND<10	ND<10	ND<10	ND<20		48	
10/29/0	38.36	18.13	0.00	20.23	0.21		2700	ND<2.5	ND<2.5	ND<2.5	ND<5.0		76	
01/12/0	38.36	15.22	0.00	23.14	2.91		1300	ND<0.50	ND<0.50	ND<0.50	ND<1.0		620	
06/20/0	38.36	16.63	0.00	21.73	-1.41		980	ND<0.50	ND<0.50	ND<0.50	ND<1.0		110	
09/23/0	38.36	17.93	0.00	20.43	-1.30		1500	ND<0.50	ND<0.50	ND<0.50	ND<1.0		34	
12/13/0	38.36	18.04	0.00	20.32	-0.11		3900	ND<0.50	ND<0.50	ND<0.50	ND<1.0		36	
03/24/0	38.36	14.48	0.00	23.88	3.56		1500	ND<12	ND<12	ND<12	ND<25		200	
05/30/0	38.36	15.79	0.00	22.57	-1.31		1200	ND<2.5	ND<2.5	ND<2.5	ND<5.0		130	
08/22/0	6 38.36	17.26	0.00	21.10	-1.47		980	ND<0.50	ND<0.50	ND<0.50	ND<0.50		33	
10/31/0	38.36	18.08	0.00	20.28	-0.82		1300	ND<0.50	ND<0.50	ND<0.50	ND<0.50		10	
01/12/0	7 38.36	17.57	0.00	20.79	0.51		820	ND<0.50	ND<0.50	ND<0.50	ND<0.50		28	
04/04/0	7 38.36	17.40	0.00	20.96	0.17		460	ND<0.50	ND<0.50	ND<0.50	ND<0.50		41	
07/05/0	7 38.36	18.02	0.00	20.34	-0.62		920	ND<0.50	ND<0.50	ND<0.50	ND<0.50		7.0	
10/01/0	7 38.36	18.89	0.00	19.47	-0.87		560		ND<0.50				3.0	
01/11/0	8 38.36	16.56	0.00	21.80	2.33		340	ND<0.50	ND<0.50	ND<0.50	ND<1.0		21	
05/22/0	08 38.36	18.10	0.00	20.26	-1.54		520	ND<0.50	ND<0.50	ND<0.50	ND<1.0		5.6	Gauged and sampled on 5-22- 08
07/02/0	8 38.36	18.55	0.00	19.81	-0.45		340	ND<0.50	ND<0.50	ND<0.50	ND<1.0		3.3	
10/02/0	38.36	19.25	0.00	19,11	-0.70		790	ND<0.50	ND<0.50	ND<0.50	ND<1.0		2.4	



Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 7124

Date				Ethylene-				
Sampled		Ethanol	Ethanol	dibromide	1,2-DCA			
	TBA	(8015B)	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME
	(µg/l)	(mg/l)	(μg/l)	(µg/l)	(μg/l)	(μg/l)	(μg/l)	(μg/l)
MW-1								
07/28/02	ND<100	ND<500		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
11/03/02	ND<100	ND<500		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
01/24/03	ND<100	ND<500		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
04/02/03	ND<100	ND<500		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
07/01/03	ND<100	ND<500		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
10/02/03	ND<100		ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
01/09/04	ND<100		ND<500	ND<2	ND<2.0	ND<2	ND<2	ND<2
04/26/04	ND<5.0		ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
07/22/04	ND<5.0		ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
10/29/04	ND<5.0		ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
01/12/05	ND<5.0		ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
06/20/05	ND<10		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/23/05	ND<10		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/13/05	ND<10	48	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/24/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
05/30/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
08/22/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/31/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
01/12/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
04/04/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/05/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/01/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
01/11/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
04/04/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/02/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

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Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 7124

Date				Ethylene-				
Sampled		Ethanol	Ethanol	dibromide	1,2-DCA			
	TBA	(8015B)	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME
<del></del>	(μg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	$(\mu g/l)$	(µg/l)
MW-1 c	continued							
10/02/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
MW-2								
04/08/02	ND<2000	ND<10000		ND<40	ND<40	ND<40	ND<40	ND<40
07/28/02	ND<500	ND<2500		ND<10	ND<10	ND<10	ND<10	ND<10
11/03/02	ND<1000	ND<5000		ND<20	ND<20	ND<20	ND<20	ND<20
01/24/03	ND<500	ND<2500		ND<10	ND<10	ND<10	ND<10	ND<10
04/02/03	ND<1000	ND<5000		ND<20	ND<20	ND<20	ND<20	ND<20
07/01/03	ND<500	ND<2500		ND<10	ND<10	ND<10	ND<10	ND<10
10/02/03	ND<100		ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0
01/09/04	ND<500		ND<2500	ND<10	ND<10	ND<10	ND<10	ND<10
06/20/05	25		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/23/05	ND<10		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/13/05	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/24/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
05/30/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
08/22/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/31/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
01/12/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
04/04/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/05/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/01/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
01/11/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
05/22/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/02/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/02/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

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Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 7124

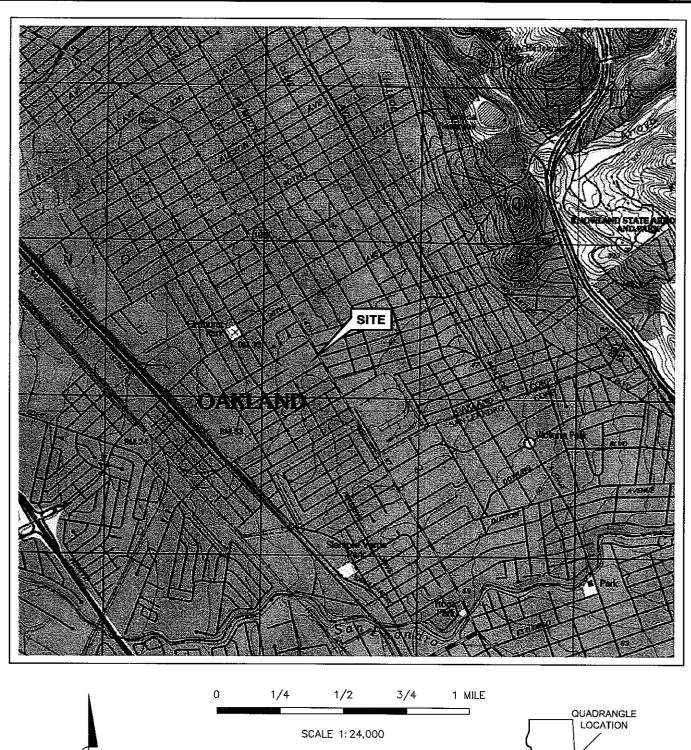
Date										
Sampled		Ethanol	Ethanol	dibromide	1,2-DCA					
	TBA	(8015B)	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME		
	(μg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(μg/l)	(µg/l)	(µg/l)		· · · · · · · · · · · · · · · · · · ·
MW-3										
10/02/03	ND<10000		ND<50000	ND<200	ND<200	ND<200	ND<200	ND<200		
01/09/04	ND<5000		ND<25000	ND<100	ND<100	ND<100	ND<100	ND<100		
04/26/04	ND<250		ND<2500	ND<25	ND<25	ND<50	ND<25	ND<25		
07/22/04	ND<250		ND<2500	ND<25	ND<25	ND<50	ND<25	ND<25		
10/29/04	ND<50		ND<500	ND<5.0	ND<5.0	ND<10	ND<5.0	ND<5.0		
01/12/05	1300		ND<2500	ND<25	ND<25	ND<50	ND<25	ND<25		
06/20/05	39		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	0.31J		
09/23/05	ND<10		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
12/13/05	ND<50		ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5		
03/24/06	ND<100		ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0		
05/30/06	ND<250		ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12		
08/22/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
10/31/06	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
01/12/07	43		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
04/04/07	130		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
07/05/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
10/01/07	ND<20	· ·	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0		
01/11/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
04/04/08	ND<20		ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0		
07/02/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0,50		
10/02/08	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50		
MW-4										
04/08/02	ND<5000	ND<25000		ND<100	ND<100	ND<100	ND<100	ND<100		
07/28/02	ND<500	ND<2500		ND<10	ND<10	ND<10	ND<10	ND<10		
11/03/02	ND<100	ND<500		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0		
7124						Page 3 of 4			<b>OTRO</b>	>

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 7124

Date				Ethylene-				
Sampled		Ethanol	Ethanol	dibromide	1,2-DCA			
	TBA	(8015B)	(8260B)	(EDB)	(EDC)	DIPE	ETBE	TAME
	(μg/l)	(mg/l)	(µg/l)	(µg/l)	(μg/l)	(µg/l)	(µg/l)	(μg/l)
MW-4 co	MW-4 continued							
01/24/03	ND<2000	ND<10000		ND<40	ND<40	ND<40	ND<40	ND<40
04/02/03	ND<20000	ND<100000		ND<400	ND<400	ND<400	ND<400	ND<400
07/01/03	ND<500	ND<2500		ND<10	ND<10	ND<10	ND<10	ND<10
10/02/03	ND<2000		ND<10000	ND<40	ND<40	ND<40	ND<40	ND<40
01/09/04	ND<2000		ND<10000	ND<40	ND<40	ND<40	ND<40	ND<40
04/26/04	430		ND<1000	ND<10	ND<10	ND<20	ND<10	ND<10
07/22/04	ND<100		ND<1000	ND<10	ND<10	ND<20	ND<10	ND<10
10/29/04	63		ND<250	ND<2.5	ND<2.5	ND<5.0	ND<2.5	ND<2.5
01/12/05	1300		ND<250	ND<10	ND<2.5	ND<5.0	ND<2.5	ND<2.5
06/20/05	580		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
09/23/05	92		ND<1000	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
12/13/05	50		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
03/24/06	1900		ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12
05/30/06	ND<50		ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
08/22/06	150		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/31/06	43		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
01/12/07	72		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
04/04/07	260		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/05/07	18		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/01/07	ND<10		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
01/11/08	140		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
05/22/08	52		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/02/08	15		ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/02/08	ND<10	44 14	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50



# **FIGURES**





SOURCE:

United States Geological Survey 7.5 Minute Topographic Map: Oakland West Quadrangle





PROJECT:

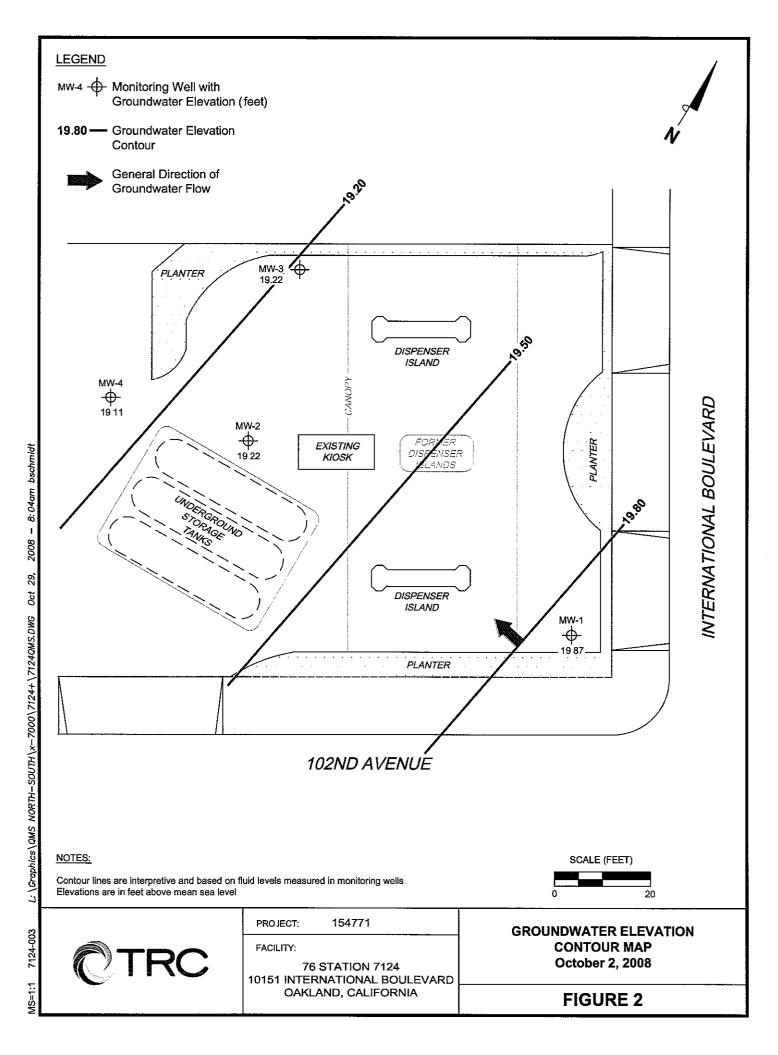
125703

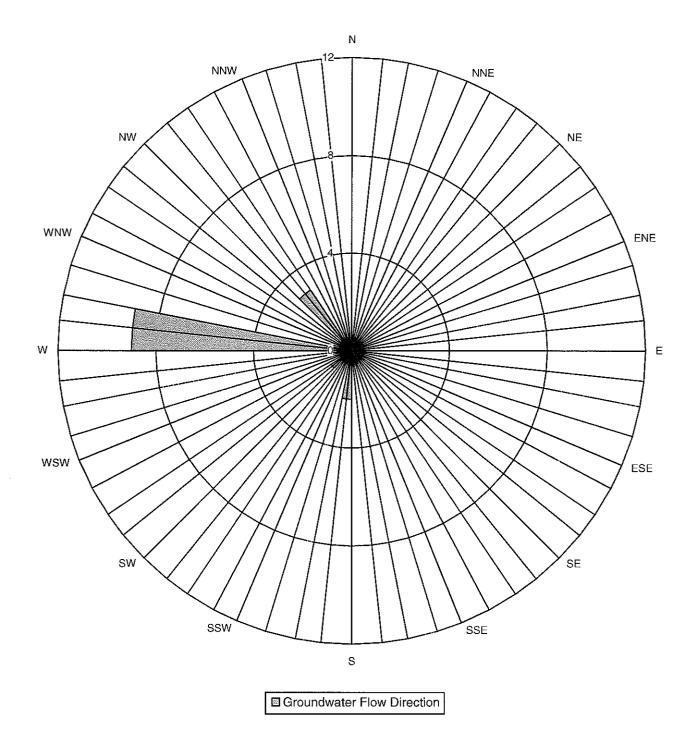
FACILITY:

**76 STATION 7124** 10151 INTERNATIONAL BOULEVARD OAKLAND, CALIFORNIA

**VICINITY MAP** 

FIGURE 1





# **LEGEND**

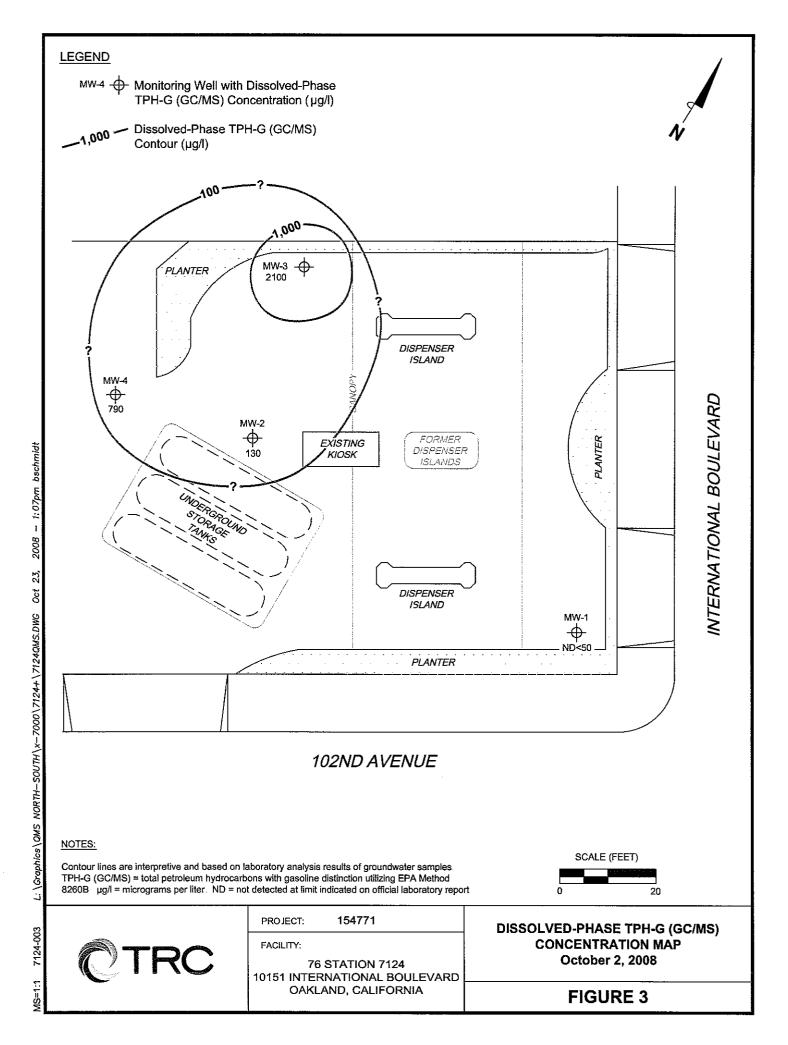
Concentric Circles Represent Quarterly Monitoring Events Conducted Since Fourth Quarter 2003. PROJECT: 154771

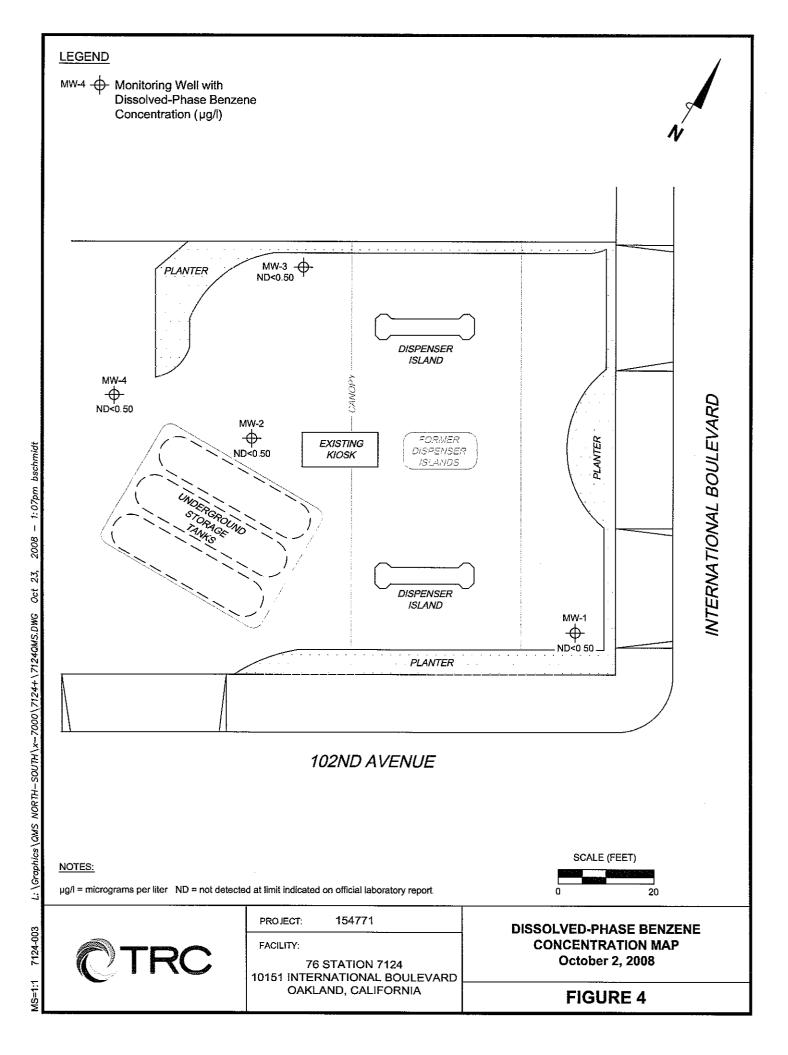
HISTORICAL GROUNDWATER FLOW DIRECTION

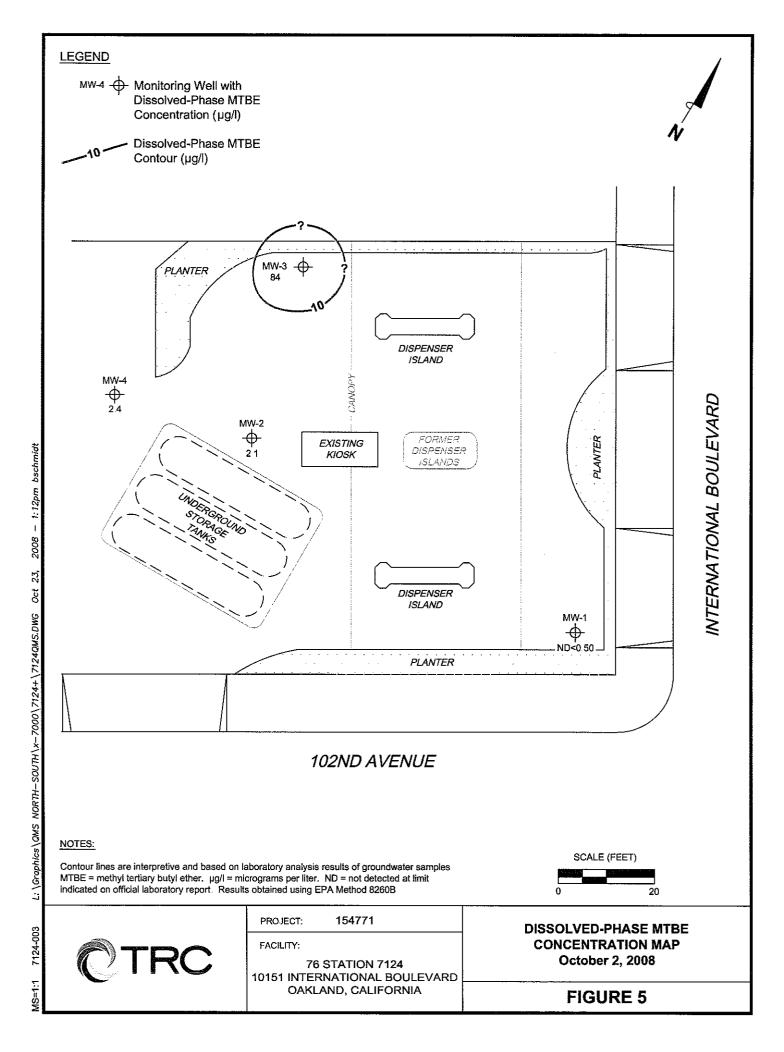


76 STATION 7124 10151 INTERNATIONAL BOULEVARD OAKLAND, CALIFORNIA

**FIGURE 2A** 

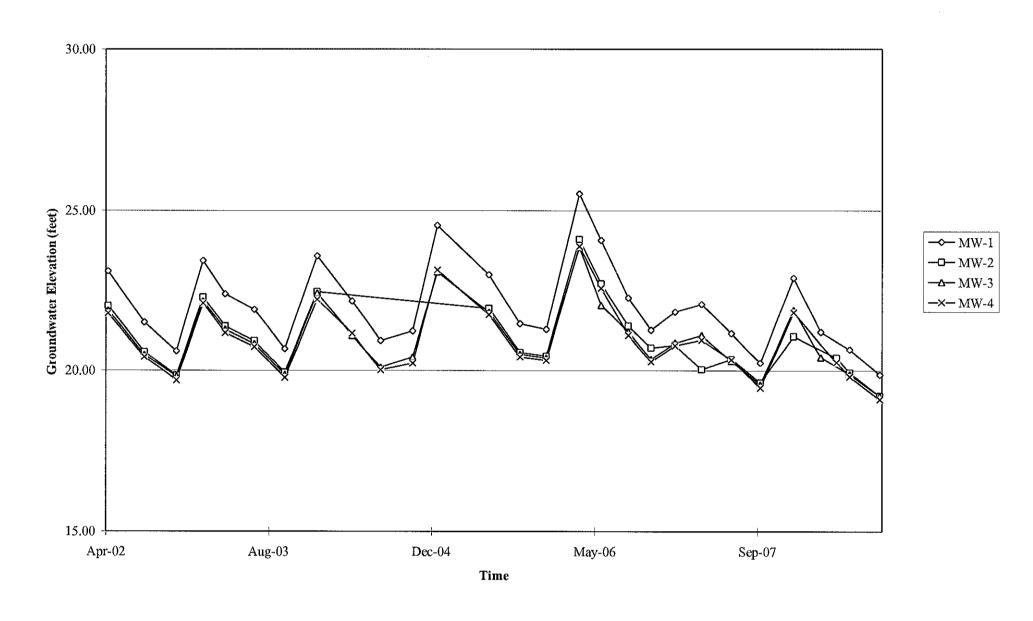






# **GRAPHS**

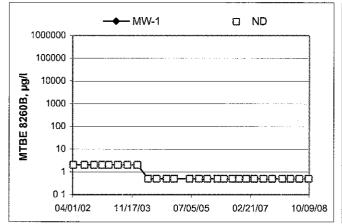
# Groundwater Elevations vs. Time 76 Station 7124

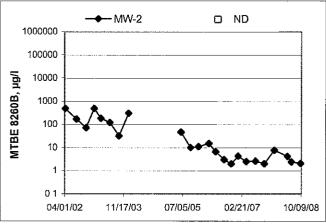


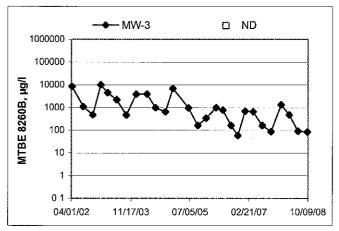
Elevations may have been corrected for apparent changes due to resurvey

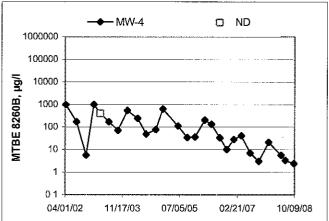
# MTBE 8260B Concentrations vs Time

76 Station 7124









### 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 (surveyors 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 car e 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 is 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 a particular well, 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

3/7/08 version

# FIELD MONITORING DATA SHEET

Technician: Rasiho	Job #/Task #: 154771 F420	Date: 82 10-2-00
Site # 71 24	Project Manager <u>A. Colling</u>	Pageof

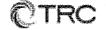
			Time	Total	Depth to	Depth to	Product Thickness	Time	
MW-2 1048 25.20 18.65 — 1200 4"  Ma24 1058 25.15 18.50 — 1222 4"  MW-3 1058 25.15 18.50 — 1245 4"	Well #	тос						Sampled	Misc. Well Notes
11W-2 / 1052 2495 19.15 — 1222 4"  11W-3 1058 25.15 18.50 — 1245 4"	144-1		1045	24.80	17.50	·		1137	i / "
May 4 / 1052 24.95 19.35 — 1222 4"  May 4 / 1058 25.15 18.50 — 1245 4"		1	1048	25.20	18.65			1200	
1058 25.15 18.50 —— 1245 4"	11		1052	24.95	1925			1222	4"
	MW-3		1058	25.15	18.50				4"
FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS		•							
FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS									
FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS									
FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS									
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FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS									
	FIELD DATA	COMPLE	ETE	QA/QC		COC	W	ELL BOX CO	ONDITION SHEETS
MANIFEST DRUM INVENTORY TRAFFIC CONTROL	MANIFEST		DRUM IN	VENTOR	<i>(</i>	TRAFFIC (	CONTROL		



### **GROUNDWATER SAMPLING FIELD NOTES**

Technician: Project No : Date: 10-2-00 Purge Method: Depth to Water (feet): Depth to Product (feet): Total Depth (feet) LPH & Water Recovered (gallons): Water Column (feet): Casing Diameter (Inches): 80% Recharge Depth(feet): 1 Well Volume (gallons): Depth to Volume Conduc-Time Time Temperature DO Water Purged tivity На ORP Turbidity (F,**©**) Start Stop (mg/L) (uS/cm) (feet) (gallons) 21.0 20.6 Static at Time Sampled Total Gallons Purged Sample Time 1137 Comments: Well No.\_\_MW Purge Method: Depth to Water (feet): Depth to Product (feet): Total Depth (feet)\_\_\_ LPH & Water Recovered (gallons) Water Column (feet): Casing Diameter (Inches): 80% Recharge Depth(feet): 1 Well Volume (gallons):

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conduc- tivity (uS/cm)	Temperature	e pH	D.O (mg/L)	ORP	Turbidity
1/47			5	515.2	21.3	6,21			
* l			70	378.4	21.5	6.07			
	1155		15	3778	21.6	6.00			
						·			
Stati	c at Time S	ampled	Tota	ıl Gallons Pur	ged		Sample	Time	
	19.00	)		15		7	200		
Comments	:		•		-				•



# GROUNDWATER SAMPLING FIELD NOTES Technician: Republication of the second of the secon

	Toornician.		2000	_			
Site: 7/24	Project No :	15477	/	,	Date:_	10-	<u> 2-08</u>
Well No. MW-4	<del></del>	Purge Metho	od:	ab		<u>.                                    </u>	
Depth to Water (feet): 19	.25	Depth to Pro	duct (feet):				
Total Depth (feet) 24. 9	75	LPH & Water	r Recovered (g	allons);		_	
Water Column (feet):	70	Casing Diam	eter (Inches):	4			
80% Recharge Depth(feet): 20	0.39	1 Well Volum	ne (gallons):	4			
Time Time Depth Start Start	and the region of the second section in		Temperature	рН	D.O	ORP	Turbidity

Time	Time	Depth to Water	Volume Purged	Conduc- tivity	Temperature (F.C)	pН	DO	ORP	Turbidity
Start	Stop	(feet)	(gallons)	(uS/cm)	(F.(C.)	Pu	(mg/L)		luiblaity
1209			4	594.6	21.4	5.85			
			8	584.8	2/-1	3,91			
	1217		12	584.3	21.3	5190			
	/			· · · · · · · · · · · · · · · · · · ·					
Static	at Time Sa	ampled	Tota	ıl Gallons Pur	ged		  Sample	Time	
	13-70	>		17	<u> </u>	12	2 て て	-	15.51.11.15.11.11.11.11.11.11.11.11.11.1
Comments:	<i>(</i>								

Well No. 10 - 3	Purge Method: 5 u 5
Depth to Water (feet): 18.50	Depth to Product (feet):
Total Depth (feet) 25./5	LPH & Water Recovered (gallons):
Water Column (feet):	Casing Diameter (Inches):
80% Recharge Depth(feet): 19, 83	1 Well Volume (gallons):

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conduc- tivity (uS/cm)	Temperature (F,©)	рН	D O. (mg/L)	ORP	Turbidity
1232			5	617.2	21.2	5,94			
	1000		10	(e2)3	20.6	5,83			
	1239		13	635.9	20-5	5.75			:
Statio	c at Time Sa	ampled	Tota	al Gallons Pur	ged		Sample	Time	
	18.90	2		15			245		
Comments:						i	/		



Date of Report: 10/10/2008

Anju Farfan

TRC 21 Technology Drive Irvine. CA 92618

RE.

7124

BC Work Order:

0813045

Invoice ID:

B051215

Enclosed are the results of analyses for samples received by the laboratory on 10/2/2008. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

Authorized Signature



TRC 21 Technology Drive Irvine, CA 92618

Project: 7124

Project Number: Inonei

Project Manager: Anju Fartan

Reported: 10/10/2008 15:26

# **Laboratory / Client Sample Cross Reference**

Laboratory	Client Sample Information	on .			
0813045-01	COC Number:		Receive Date:	10/02/2008 22:35	Delivery Work Order:
	Project Number:	7124	Sampling Date:	10/02/2008 11:37	Global ID: T0600173591
	Sampling Location:	MVV-1	Sample Depth:	****	Matrix: W
	Sampling Point:	MVV-1	Sample Matrix:	Water	Sample QC Type (SACode): CS
	Sampled By:	TRCI			Cooler ID:
0813045-02	COC Number:		Receive Date:	10/02/2008 22:35	Delivery Work Order:
	Project Number:	7124	Sampling Date:	10/02/2008 12:00	Global ID: T0600173591
	Sampling Location:	MVV-2	Sample Depth:		Matrix: W
	Sampling Point:	MW-2	Sample Matrix:	Water	Sample QC Type (SACode): CS
	Sampled By:	TRCI	·		Cooler ID:
0813045-03	COC Number:		Receive Date:	10/02/2008 22:35	Delivery Work Order:
	Project Number:	7124	Sampling Date:	10/02/2008 12:22	Global ID: T0600173591
	Sampling Location:	MVV-4	Sample Depth:		Matrix: W
	Sampling Point:	MVV-4	Sample Matrix:	Water	Sample QC Type (SACode): CS
	Sampled By:	TRCI			Cooler ID:
0813045-04	COC Number:		Receive Date:	10/02/2008 22:35	Delivery Work Order:
	Project Number:	7124	Sampling Date:	10/02/2008 12:45	Global ID: T0600173591
	Sampling Location:	MVV-3	Sample Depth:		Matrix: W
	Sampling Point:	MW-3	Sample Matrix:	Water	Sample QC Type (SACode): CS
	Sampled By:	TRCI			Cooler ID:

21 Technology Drive Irvine, CA 92618

Project: 7124

Project Number: Inonei Project Manager: Anju Farfan

Reported: 10/10/2008 15:26

BCL Sample ID: (	0813045-01	Client Sample	e Name:	7124, MW-1, M	W-1, 10/2/2008	11:37:00AM							
						Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL M	DL Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	í	BRJ0282	ND	
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	í	BRJ0282		
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	i	BRJ0282		
Ethylbenzene		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
Toluene		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
Total Xylenes		ND	ug/L	1.0	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
t-Amyl Methyl ether		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
t-Butyl alcohol		ND	ug/L	10	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
Diisopropyl ether		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	i	BRJ0282	ND	
Ethanol		ND	ug/L	250	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
Ethyl t-butvl ether		ND	ug/L	0.50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	í	BRJ0282	ND	
Total Purgeable Petroleum Hvdrocarbons		ND	ug/L	50	EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282	ND	
1,2-Dichloroethane-d4 (Sun	rogate)	96.3	%	76 - 114 (LCL - UC	L) EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282		
Toluene-d8 (Surrogate)		99.7	%	88 - 110 (LCL - UC	L) EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282		
4-Bromofluorobenzene (Sui	rrogate)	97.1	%	86 - 115 (LCL - UC	L) EPA-8260	10/08/08	10/08/08 19:36	KEA	MS-V12	1	BRJ0282		

21 Technology Drive Irvine, CA 92618

Project: 7124

Project Number: Inone) Project Manager: Anju Farfan

Reported: 10/10/2008 15:26

BCL Sample ID:	0813045-02	Client Sample	e Name:	7124, MW-2, N	/W-2,	10/2/2008 1	2:00:00PM							
							Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL N	/IDL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0,50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	i	BRJ0282	ND	
1,2-Dibromoethane		ND	ug/∟	0.50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	i	BRJ0282		
1,2-Dichloroethane		ND	ug/L	0.50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	i	BRJ0282		
Ethylbenzene		ND	ug/L	0.50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	i	BRJ0282	ND	
Methyl t-butyl ether		2.1 -	ug/L	0.50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
Toluene		ND	ug/L	0,50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
Total Xylenes		ND	ug/L	1,0		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
t-Amyl Methyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
t-Butyl alcohol		ND	ug/L	10		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
Diisopropyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
Ethanol		ND	ug/L	250		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
Ethyl t-butvl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
Total Purgeable Petroleum Hvdrocarbons		130	ug/L	50		EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282	ND	
1,2-Dichloroethane-d4 (Sur	rogate)	104	%	76 - 114 (LCL - U	CL)	EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	1	BRJ0282		
Toluene-d8 (Surrogate)		101	%	88 - 110 (LCL - UC	CL)	EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	í	BRJ0282		
4-Bromofluorobenzene (Su	rrogate)	109	%	86 - 115 (LCL - UC	ÇL)	EPA-8260	10/08/08	10/08/08 19:12	KEA	MS-V12	i	BRJ0282		



TRC 21 Technology Drive

Irvine, CA 92618

Project: 7124

Project Number: Inone! Project Manager: Anju Farfan

Reported: 10/10/2008 15:26

BCL Sample ID:	0813045-03	Client Sample	Name:	7124, MW-4, N	IW-4, 10	0/2/2008 1	2:22:00PM							
							Prep	Run		Instru-		QC	MB	L.ab
Constituent		Result	Units	PQL M	IDL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50	1	EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
1,2-Dibromoethane		ND	ug/L	0.50	ı	EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282		
1,2-Dichloroethane		ND	ug/L	0.50	I	EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282		
Ethylbenzene		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
Methyl t-butyl ether		2.4	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
Toluene		ND	ug/L	0.50	l	EPA-8260	10/08/08	10/10/08 02;52	KEA	MS-V12	1	BRJ0282	ND	
Total Xylenes		ND	ug/L	1.0		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
t-Amvl Methyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
t-Butvi alcohol		ND	ug/L	10		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
Diisopropyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
Ethanol		ND	ug/L	250		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
Ethyl t-butyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	i	BRJ0282	ND	
Total Purgeable Petroleum Hydrocarbons		790	ug/L	50	ı	EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	1	BRJ0282	ND	
1,2-Dichloroethane-d4 (Sur	rogate)	109	%	76 - 114 (LCL - UC	CL)	EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	i	BRJ0282		
Toluene-d8 (Surrogate)		98.1	%	88 - 110 (LCL - UC	CL)	EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	í	BRJ0282		
4-Bromofluorobenzene (Su	rrogate)	116	%	86 - 115 (LCL - UC	CL)	EPA-8260	10/08/08	10/10/08 02:52	KEA	MS-V12	î	BRJ0282		A19,S09



21 Technology Drive

Irvine, CA 92618

Project: 7124
Project Number: [none]

Project Manager: Anju Farfan

Reported: 10/10/2008 15:26

BCL Sample ID:	0813045-04	Client Sample	Name:	7124, MW-3, M	W-3,	10/2/2008 1	2:45:00PM							
							Prep	Run	***************************************	Instru-		QC	MB	Lab
Constituent		Result	Units	PQL M	DL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282	ND	
1,2-Dibromoethane		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282		
1,2-Dichloroethane		ND	ug/L	0,50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282		
Ethylbenzene		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	i	BRJ0282	ND	
Methyl t-butyl ether		84 .	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	i	BRJ0282	ND	
Toluene		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02;27	KEA	MS-V12	í	BRJ0282	ND	
Total Xylenes		ND	ug/L	1.0		EPA-8260	10/08/08	10/10/08 02:27	KEA	M\$-V12	i	BRJ0282	ND	
t-Amyl Methyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	i	BRJ0282	ND	
t-Butyl alcohol		ND	ug/L	10		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	í	BRJ0282	ND	
Diisopropyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282	ND	
Ethanol		ND	ug/L	250		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282	ND	
Ethyl t-butyl ether		ND	ug/L	0.50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282	ND	
Total Purgeable Petroleum Hydrocarbons		2100	ug/L	50		EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282	ND	
1,2-Dichloroethane-d4 (Sun	rogate)	109	%	76 - 114 (LCL - UC	L)	EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282		
Toluene-d8 (Surrogate)		100	%	88 - 110 (LCL - UC	L)	EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282		
4-Bromofluorobenzene (Sui	rrogate)	127	%	86 - 115 (LCL - UC	L)	EPA-8260	10/08/08	10/10/08 02:27	KEA	MS-V12	1	BRJ0282		A19,S09

21 Technology Drive Irvine, CA 92618 Project: 7124

Project Number: Inone|
Project Manager: Anju Fartan

Reported: 10/10/2008 15:26

Reported. 10/10/20

# Volatile Organic Analysis (EPA Method 8260)

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

	-								Control Limits		
			Source	Source		Spike			Percent		Percent
Constituent	Batch ID	QC Sample Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery Lab Quals
Benzene	BRJ0282	Matrix Spike	0812959-01	0	24,780	25.000	ug/L		99.1		70 - 130
		Matrix Spike Duplicate	0812959-01	0	24.410	25.000	ug/L	1.5	97.6	20	70 - 130
Toluene	BRJ0282	Matrix Spike	0812959-01	0	25.490	25.000	ug/L		102		70 - 130
		Matrix Spike Duplicate	0812959-01	0	25.200	25.000	ug/L	1.0	101	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BRJ0282	Matrix Spike	0812959-01	ND	9.8100	10.000	ug/L		98.1		76 - 114
		Matrix Spike Duplicate	0812959-01	ND	9.9200	10.000	ug/L		99.2		76 - 114
Toluene-d8 (Surrogate)	BRJ0282	Matrix Spike	0812959-01	ND	10.140	10.000	ug/L		101		88 - 110
		Matrix Spike Duplicate	0812959-01	ND	9.9500	10.000	ug/L		99.5		88 - 110
4-Bromofluorobenzene (Surrogate)	BRJ0282	Matrix Spike	0812959-01	ND	10,010	10.000	ug/L		100		86 - 115
		Matrix Spike Duplicate	0812959-01	ND	10.280	10.000	ug/L		103		86 - 115



21 Technology Drive Irvine, CA 92618

Project: 7124

Reported: 10/10/2008 15:26

Project Number: Inonei Project Manager: Anju Farfan

# Volatile Organic Analysis (EPA Method 8260)

# **Quality Control Report - Laboratory Control Sample**

										Control	Limits	
Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab Quals
Benzene	BRJ0282	BRJ0282-BS1	LCS	27.380	25.000	0.50	ug/L	110		70 - 130		
Toluene	BRJ0282	BRJ0282-B\$1	LCS	28.390	25.000	0.50	ug/L	114		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BRJ0282	BRJ0282-BS1	LCS	9.5400	10.000		ug/L	95.4		76 - 114		
Toluene-d8 (Surrogate)	BRJ0282	BRJ0282-BS1	LCS	9.9300	10,000		ug/L	99.3		88 - 110		
4-Bromofluorobenzene (Surrogate)	BRJ0282	BRJ0282-BS1	LCS	10.130	10.000		ug/L	101		86 - 115		



TRC Project: 7124 Reported: 10/10/2008 15:26

21 Technology Drive Project Number: Inonei Irvine, CA 92618 Project Manager: Anju Farfan

# 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	BRJ0282	BRJ0282-BLK1	ND	ug/L	0.50		
Ethylbenzene	BRJ0282	BRJ0282-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BRJ0282	BRJ0282-BLK1	ND	ug/L	0.50		
Toluene	BRJ0282	BRJ0282-BLK1	ND	ug/L	0.50		
Total Xvlenes	BRJ0282	BRJ0282-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BRJ0282	BRJ0282-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BRJ0282	BRJ0282-BLK1	ND	ug/L	10		
Diisopropyl ether	BRJ0282	BRJ0282-BLK1	ND	ug/L	0.50		
Ethanol	BRJ0282	BRJ0282-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BRJ0282	BRJ0282-BLK1	ND	ug/L	0.50		
Total Purgeable Petroleum Hydrocarbons	BRJ0282	BRJ0282-BLK1	ND	ug/L	50		•
1,2-Dichloroethane-d4 (Surrogate)	BRJ0282	BRJ0282-BLK1	97.1	%	76 - 114 (LC	L - UCL)	
Toluene-d8 (Surrogate)	BRJ0282	BRJ0282-BLK1	99.0	%	88 - 110 (LC	L - UCL)	
4-Bromofluorobenzene (Surrogate)	BRJ0282	BRJ0282-BLK1	101	%	86 - 115 (LC	CL - UCL)	



TRC Project: 7124 Reported: 10/10/2008 15:26

21 Technology Drive Project Number: Inone Invine, CA 92618 Project Manager: Anju Farfan

#### **Notes And Definitions**

MDL Method Detection Limit

ND Analyte Not Detected at or above the reporting limit

PQL Practical Quantitation Limit

RPD Relative Percent Difference

A19 Surrogate is high due to matrix interference. Interferences verified through second extraction/analysis.

S09 The surrogate recovery on the sample for this compound was not within the control limits.

BC LABORATORIES INC.		SAMPLE	RECEIF	TFORM	Rev	v. No. 12	06/24/08	Page _	Of			
Submission #: XXXX	5											
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comments:
cample Numbering Completed By
L= Actual / C = Corrected

BC LABORATORIES, INC.

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

**CHAIN OF CUSTODY** 

1/4/2016				A	VallValle			4.5	Ċ		
Bill to: Conoco Phillips/ TRC	Consultant Firm: TR	C	MATRIX	rU.							, and the party of
Address: 10151 International BIVIS	21 Technology Drive Irvine, CA 92618-230 Attn: Anju Farfan	(GW) Ground- water (S) Soil	, Gas by 8015	ates	8260B			36013		Turnaround Time Requested	
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Conoco Phillips Mgr. Jong Flather	· · · · · · · · · · · · · · · · · · ·		Sludge	MTE	IL II	MTE.	NOL	-G by	10		E E
Lab# Sample Description	Field Point Name	Date & Time Sampled		BTEX/MTBE by 802	TPH DIESEL by 8015 8260 full list w/ oxygenates	BTEX/MTBE/OXYS	ETHANOL by 8260B	TPH	COB,		Turna
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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 a licensed carrier, to the ConocoPhillips 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 suspected of containing potentially hazardous material, such as liquid-phase hydrocarbons, was accumulated separately in a drum for transportation and disposal by others.

#### 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 accordance 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.