



April 6, 2012

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**Alameda County  
Environmental Health**

Roya C. Kambin  
Project Manager  
Marketing Business Unit

**Chevron Environmental  
Management Company**  
6101 Bollinger Canyon Road  
San Ramon, CA 94583  
Tel (925) 790-6270  
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Mr. Jerry Wickham  
Senior Hazardous Materials Specials  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

**RE: First Quarter 2012 Semi-Annual Groundwater Monitoring Report**

800, 726, and 706 Harrison Street, Oakland, California  
Fuel Leak Case No.: RO000231. RO0000321, RO0000484

Dear Mr. Wickham,

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 me at (925) 790-6270.

Sincerely,

Roya Kambin  
Union Oil of California – Project Manager

Attachment  
First Quarter 2012 Semi-Annual Groundwater Monitoring Report

Mr. Jerry Wickham  
Senior Hazardous Materials Specialist  
Alameda County Environmental Health (ACEH)  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

ENVIRONMENT

Subject:  
First Quarter 2012 Semi-Annually Groundwater Monitoring Report Submittal

Dear Mr. Wickham:

Date:  
April 6, 2012

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), ARCADIS is submitting the enclosed Semi-Annual Groundwater Monitoring Report for the following facility:

Contact:  
Katherine Brandt

<u>Facility No.</u>	<u>Case No.</u>	<u>Location</u>
0752/YEE/GIN Comingled Plume	RO0000231	706/726/800 Harrison St Oakland, California

Phone:  
510.596.9675

Email:  
Katherine.Brandt@  
arcadis-us.com

If you have any questions, please contact Katherine Brandt at 510.596.9675.

Our ref:  
B0047339.2012

Sincerely,

ARCADIS



Katherine Brandt  
Certified Project Manager



Micheal Fleischner  
Principal Engineer



Copies:

Ms. Cherie McCaulou, CRWQCB – San Francisco Bay Region, 1515 Clay Street, Suite  
1400, Oakland, California 94612 (CD)

Ms. Roya Kambin, Union Oil of California (electronic copy only)

Mr. Muhammad Usman and Mr. Mahmood M. Ali, Property Owners - 800 Harrison Street, Oakland, California  
Mr. Peter Yee and Mr. Kin Chan, 726 Harrison Street Property Owners  
Mr. Bo Gin, 726 Harrison Street Property Owner – 342 Lester Avenue, Oakland, California 94606

**UNION OIL OF CALIFORNIA  
SEMI-ANNUALLY MONITORING REPORT  
FIRST QUARTER 2012  
April 6, 2012**

Facility No.: 0752/Yee/Gin Address: 706/726/800 Harrison Street, Oakland, California  
Comingled Plume

Consulting Company/Contact Person/Phone No.: ARCADIS / Katherine Brandt / 510.596.9675  
Primary Agency/Contact Person/Regulatory ID No.: Alameda County Environmental Health (ACEH) / Mr. Jerry Wickham / Case No. RO0000231

**WORK PERFORMED DURING THIS REPORTING PERIOD (First Quarter – 2012) :**

1. TRC Solutions (TRC) and AquaScience Engineers conducted groundwater monitoring and sampling on February 7, 2012. Field data sheets and general procedures are included as **Attachment A**. Eight (8) groundwater monitoring wells associated with the former Unocal station no. 0752, seven (7) groundwater monitoring wells associated with 706 Harrison Street (YEE), and six (6) groundwater monitoring wells associated with 726 Harrison Street (GIN) were gauged and sampled during this monitoring event.

Groundwater samples were analyzed for total purgeable petroleum hydrocarbons (TPPH) by Environmental Protection Agency (EPA) Method 8015B-GC/MS; benzene, toluene, ethylbenzene, and total xylenes (BTEX, collectively), methyl tert-butyl ether (MTBE), 1,2-dibromoethane (EDB), and 1,2-dichloroethane (EDC) by EPA Method 8260B. The groundwater samples collected from MW-1 (800 Harrison Street) were sampled for additional analytes that include the full volatile organic compound (VOC) suite and dissolved metals (cadmium, chromium, lead, nickel, and zinc).

The site location map, the site plan, and the groundwater contour map are presented on **Figures 1** through **3**. Concentration maps for TPPH, benzene, and MTBE are on **Figures 4** through **6**. Current Groundwater Gauging and Analytical Results are summarized in **Table 1**, Additional Groundwater Analytical Results are summarized in **Tables 2** and **3**, and Historical Groundwater Results from TRC are included as **Attachment B**. A copy of the laboratory analytical report and chain-of-custody documentation is included as **Attachment C**.

**WORK PROPOSED FOR THE NEXT REPORTING PERIOD (Third Quarter – 2012):**

1. Perform groundwater monitoring and related reporting during third quarter 2012.

Current Phase of Project:	<u>Groundwater Monitoring</u>
Site Use:	<u>Active 76 branded service station/parking lots(YEE/GIN)</u>
Frequency of Sampling:	<u>Groundwater – Semi-Annually</u>
Frequency of Monitoring:	<u>Groundwater – Semi-Annually</u>
Are Separate-Phase Hydrocarbons (SPH) Present On-Site:	<u>No</u>
Cumulative SPH Recovered to Date:	<u>None</u>
SPH Recovered This Quarter:	<u>None</u>
Bulk Soil Removed to Date:	<u>Unknown</u>
Bulk Soil Removed this Quarter:	<u>None</u>
Water Wells or Surface Waters within a 2000' Radius and Their Respective Directions:	<u>San Francisco Bay (approximately 300 ft west)</u>
Groundwater Use Designation:	<u>Potential Drinking Water Source</u>
Current Remediation Techniques:	<u>None at this time</u>
Permits for Discharge (No.):	<u>None</u>
Approximate Depth to Groundwater:	<u>18.02 (MW-6) – 20.00 (MW-1) feet below top of casing</u>

**UNION OIL OF CALIFORNIA  
SEMI-ANNUALLY MONITORING REPORT  
FIRST QUARTER 2012  
April 6, 2012**

Facility No.: 0752/Yee/Gin Address: 706/726/800 Harrison Street, Oakland, California  
Comingled Plume

Groundwater Gradient: 0.007 ft/ft (Magnitude) Measured  Estimated   
Southwest (Direction)

**DISCUSSION:**

Groundwater conditions during the first quarter 2012 remained generally consistent with previous quarters.

706 Harrison Street:

The maximum dissolved concentrations of TPPH (36,000 micrograms per liter [ $\mu\text{g/L}$ ]) and MTBE (1,600  $\mu\text{g/L}$ ) were detected in the samples collected from MW-2. The maximum dissolved concentrations of benzene (1,100  $\mu\text{g/L}$ ), toluene (3,600  $\mu\text{g/L}$ ), ethylbenzene (990  $\mu\text{g/L}$ ), and total xylenes (4,200  $\mu\text{g/L}$ ) were also detected in the samples collected from MW-2. EDB and EDC were not detected above the laboratory reporting limits for all wells sampled.

726 Harrison Street:

The maximum dissolved concentrations of TPPH (19,000  $\mu\text{g/L}$ ) and MTBE (17,000  $\mu\text{g/L}$ ) were detected in the samples collected from MW-5. The maximum dissolved concentrations of benzene (890  $\mu\text{g/L}$ ), toluene (410  $\mu\text{g/L}$ ), ethylbenzene (360  $\mu\text{g/L}$ ), and total xylenes (990  $\mu\text{g/L}$ ) were also detected in the samples collected from MW-5. EDB and EDC were not detected above the laboratory reporting limits for all wells sampled with the exception MW-6, EDC was detected at 0.79  $\mu\text{g/L}$ .

800 Harrison Street:

The maximum dissolved concentrations of TPPH (1,800  $\mu\text{g/L}$ ) and MTBE (1,600  $\mu\text{g/L}$ ) were detected in the samples collected from MW-3. The maximum dissolved concentrations of benzene (58  $\mu\text{g/L}$ ), toluene (11  $\mu\text{g/L}$ ), ethylbenzene (3.0  $\mu\text{g/L}$ ), and total xylenes (25  $\mu\text{g/L}$ ) were detected in the samples collected from MW-5. EDB and EDC were not detected above the laboratory reporting limits for all wells sampled. No additional VOCs or dissolved metals were detected this sampling event.

Groundwater elevations at the site vary by approximately three feet, creating a relatively gentle hydraulic gradient of 0.007 foot per foot in the southwest direction.

**CONCLUSIONS AND RECOMMENDATIONS:**

Dissolved constituents of concern concentrations have remained relatively consistent with previous quarters. ARCADIS recommends continued groundwater monitoring. ARCADIS completed the additional site assessment addendum field work on March 28, 2012. The associated report will be submitted to ACEH by the approved due date of May 11, 2012.

**ATTACHMENTS:**

- Figure 1: Site Location Map
- Figure 2: Site Plan
- Figure 3: Groundwater Contour Map
- Figure 4: TPPH Concentration Map
- Figure 5: Benzene Concentration Map
- Figure 6: MTBE Concentration Map

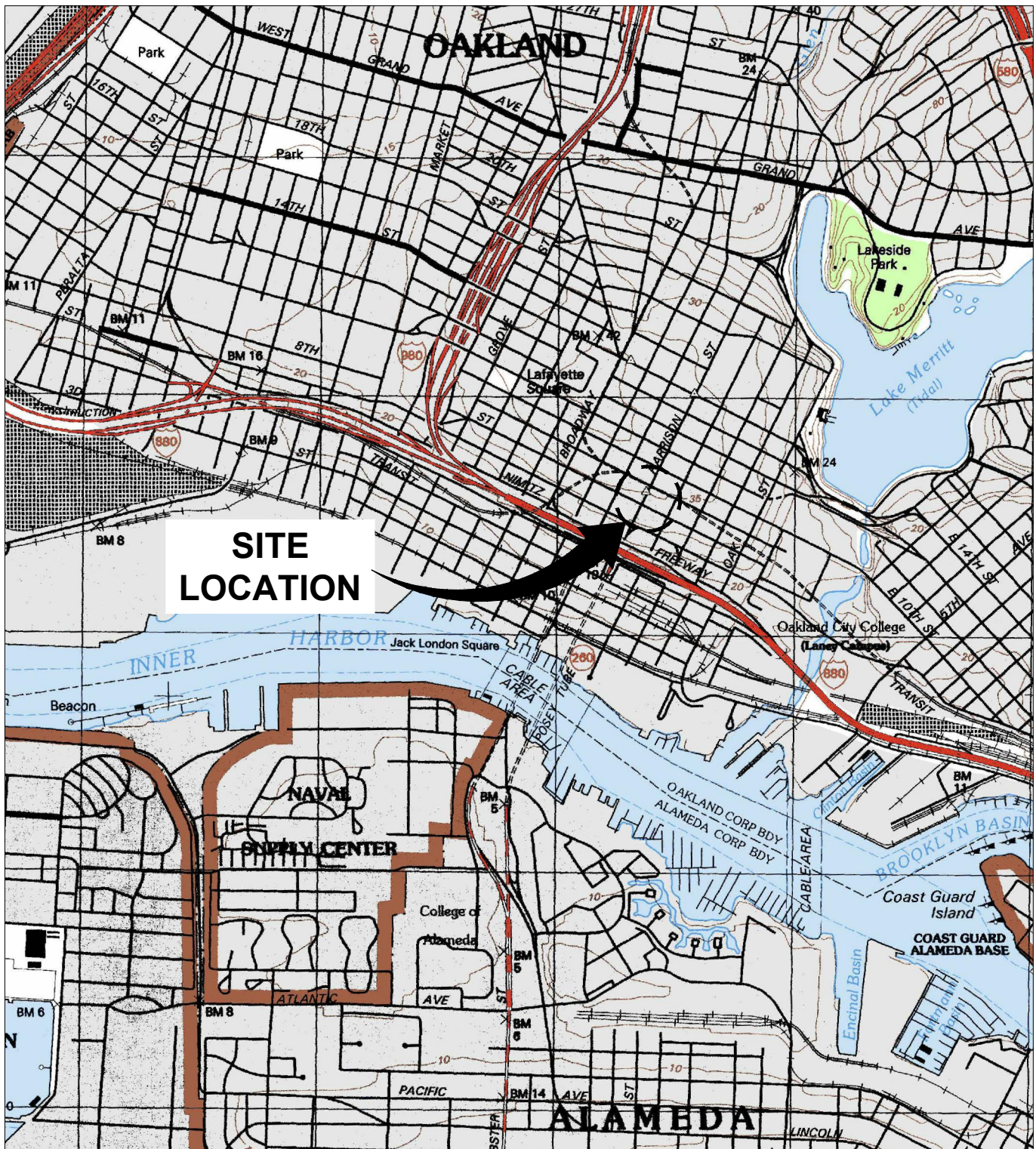
- Table 1: Current Groundwater Gauging and Analytical Results
- Table 2: Additional Groundwater Analytical Results - VOCs
- Table 3: Additional Groundwater Analytical Results - Metals

- Attachment A: Field Data Sheets and General Procedures
- Attachment B: Historical Groundwater Results from TRC
- Attachment C: Laboratory Reports and Chain-of-Custody Documentation





CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS  
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 XREFS: IMAGES: PROJECTNAME: ---  
 Oakland West.jpg



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., OAKLAND WEST, CALIFORNIA, 1993.



UNION OIL OF CALIFORNIA  
 STATION NO. 0752/YEE/GIN COMMINGLED  
 706/726/800 HARRISON STREET  
 OAKLAND, CALIFORNIA

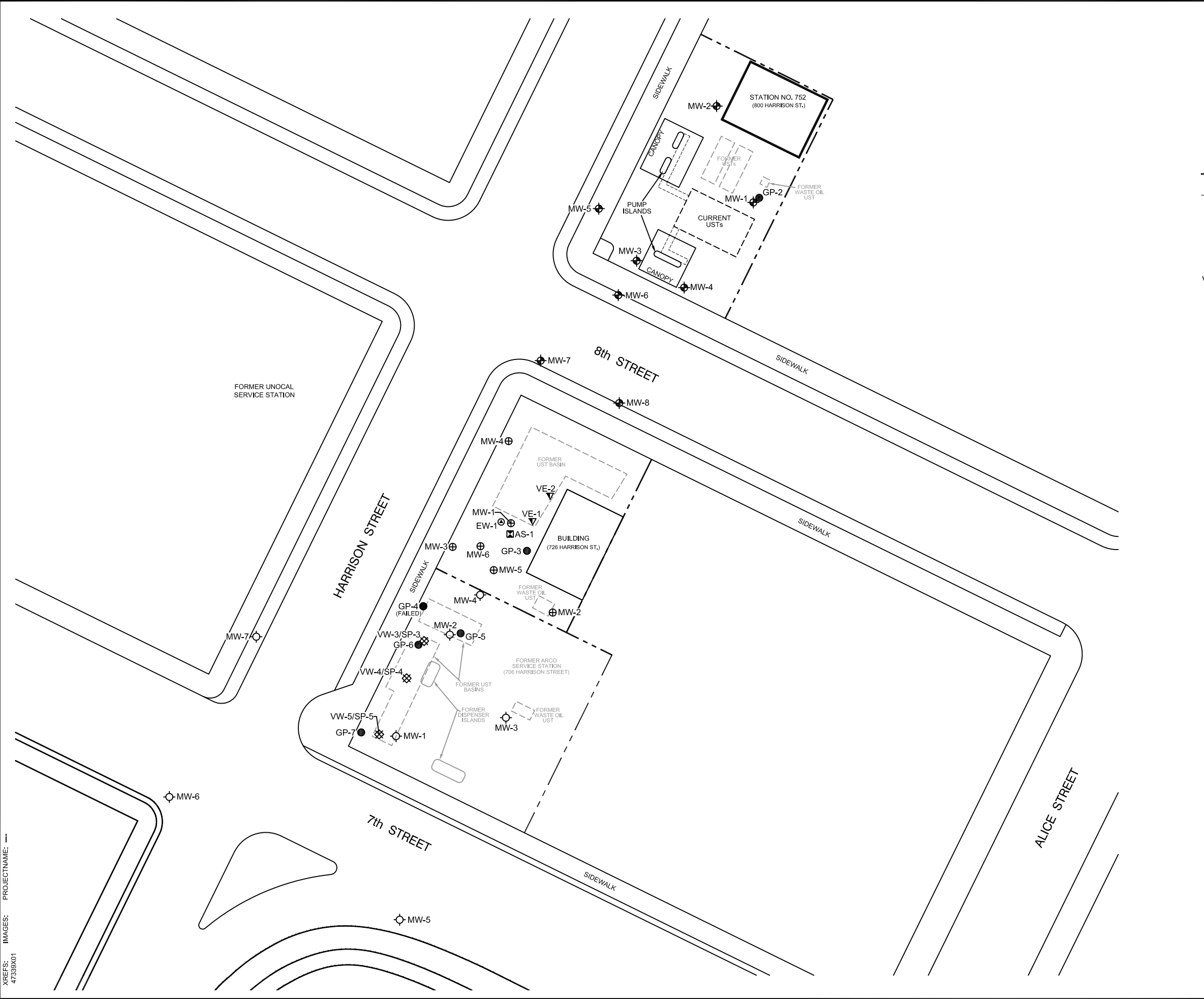
**SITE LOCATION MAP**



FIGURE  
**1**



CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS  
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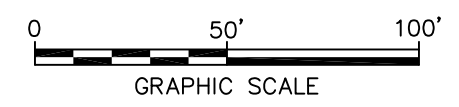


LEGEND

- PROPERTY BOUNDARY
- - - - - PRODUCT PIPING
- MW-1 ⊕ GROUNDWATER MONITORING WELL (UNOCAL)
- MW-1 ⊙ GROUNDWATER MONITORING WELL (GIN)
- VW-3/SP-3 ⊗ SOIL VAPOR/SPARGE WELL (UNABLE TO LOCATE) (GIN)
- MW-1 ⊕ GROUNDWATER MONITORING WELL (YEE)
- AS-1 ⊠ AIR SPARGE WELL (YEE)
- EW-1 ⊕ EXTRACTION WELL (YEE)
- VE-1 ▽ DESTROYED WELL (YEE)
- GP-2 ● GEOPROBE™ (JUNE 2011)

NOTE:

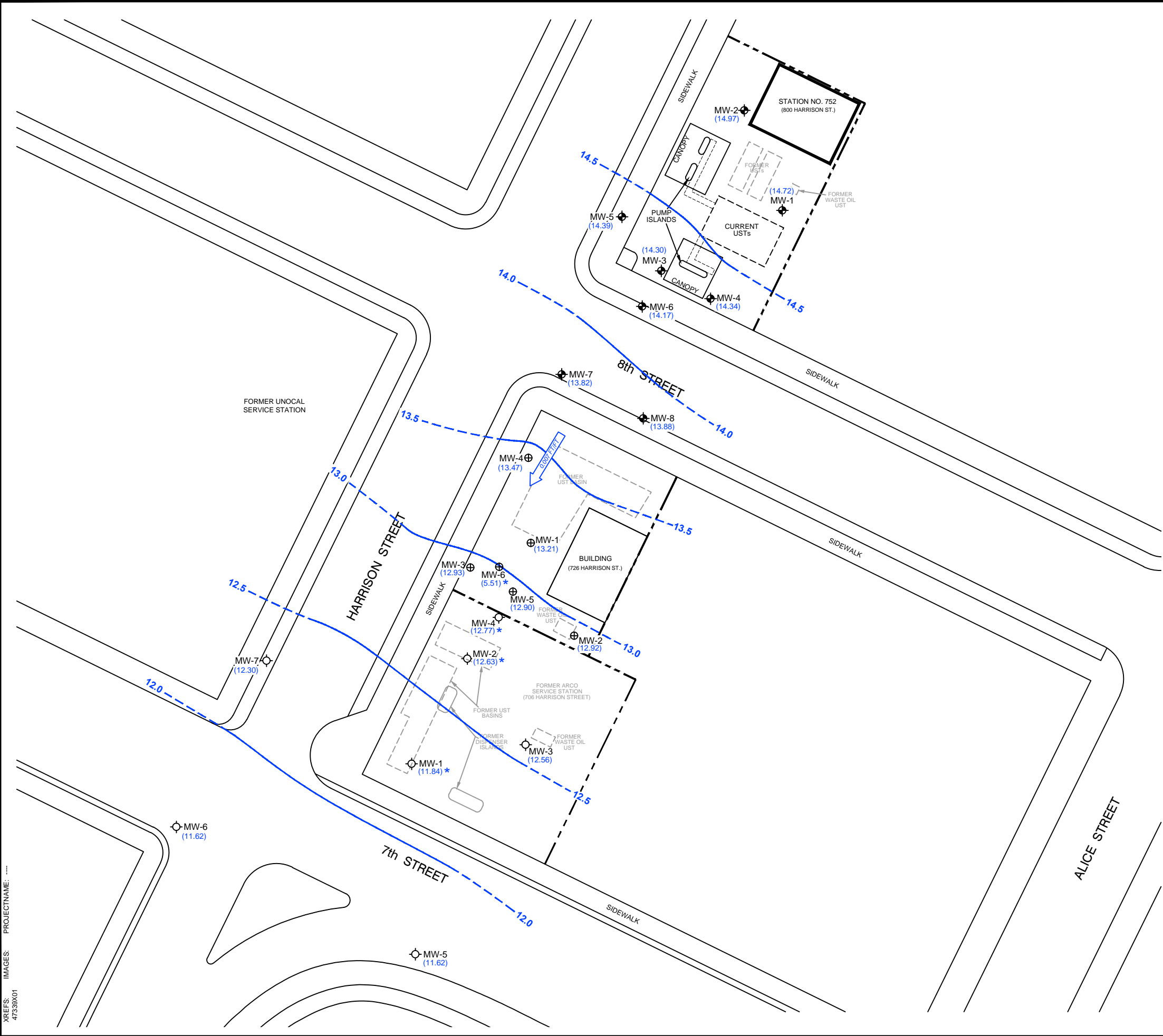
1. BASE MAP PROVIDED BY MID COAST ENGINEERS, DATED 06/29/11, AT A SCALE OF 1"=50'. ADDITIONAL SITE FEATURES PROVIDED BY STANTEC, INC., DATED 03/05/10, AT A SCALE OF 1"=50'.
2. COORDINATES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE III, NAD 83.



UNION OIL OF CALIFORNIA STATION NO. 0752/YEE/GIN COMMINGLED 706/726/800 HARRISON STREET OAKLAND, CALIFORNIA	
<b>SITE PLAN</b>	
	FIGURE <b>2</b>

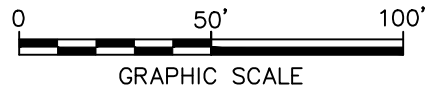


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- LEGEND**
- PROPERTY BOUNDARY
  - PRODUCT PIPING
  - MW-1 ⊕ GROUNDWATER MONITORING WELL (UNOCAL SITE)
  - MW-1 ⊕ GROUNDWATER MONITORING WELL (YEE SITE)
  - MW-1 ⊙ GROUNDWATER MONITORING WELL (GIN SITE)
  - (14.17) GROUNDWATER ELEVATION CONTOUR IN FEET RELATIVE TO MEAN SEA LEVEL (FT MSL)
  - 14.0 — GROUNDWATER ELEVATION CONTOUR (FT MSL; DASHED WHERE INFERRED)
  - ← 0.007 FT/FT APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT (FOOT PER FOOT)
  - \* NOT USED IN GROUNDWATER CONTOURING AND GRADIENT CALCULATION

- NOTES:**
1. BASE MAP PROVIDED BY MID COAST ENGINEERS, DATED 06/29/11, AT A SCALE OF 1"=50'. ADDITIONAL SITE FEATURES PROVIDED BY STANTEC, INC., DATED 03/05/10, AT A SCALE OF 1"=50'.
  2. COORDINATES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE III, NAD 83.
  3. MW-1, MW-2 AND MW-4 ON THE GIN SITE ARE NOT USED IN THE GROUNDWATER CONTOURS DUE TO EXCAVATION WORK IN THE AREA.
  4. MW-6 IS NOT USED IN THE GROUNDWATER CONTOURS BECAUSE IT IS LOCATED IN A LOWER WATER BEARING ZONE.



UNION OIL OF CALIFORNIA  
 STATION NO. 0752/YEE/GIN COMMINGLED  
 706/726/800 HARRISON STREET  
 OAKLAND, CALIFORNIA

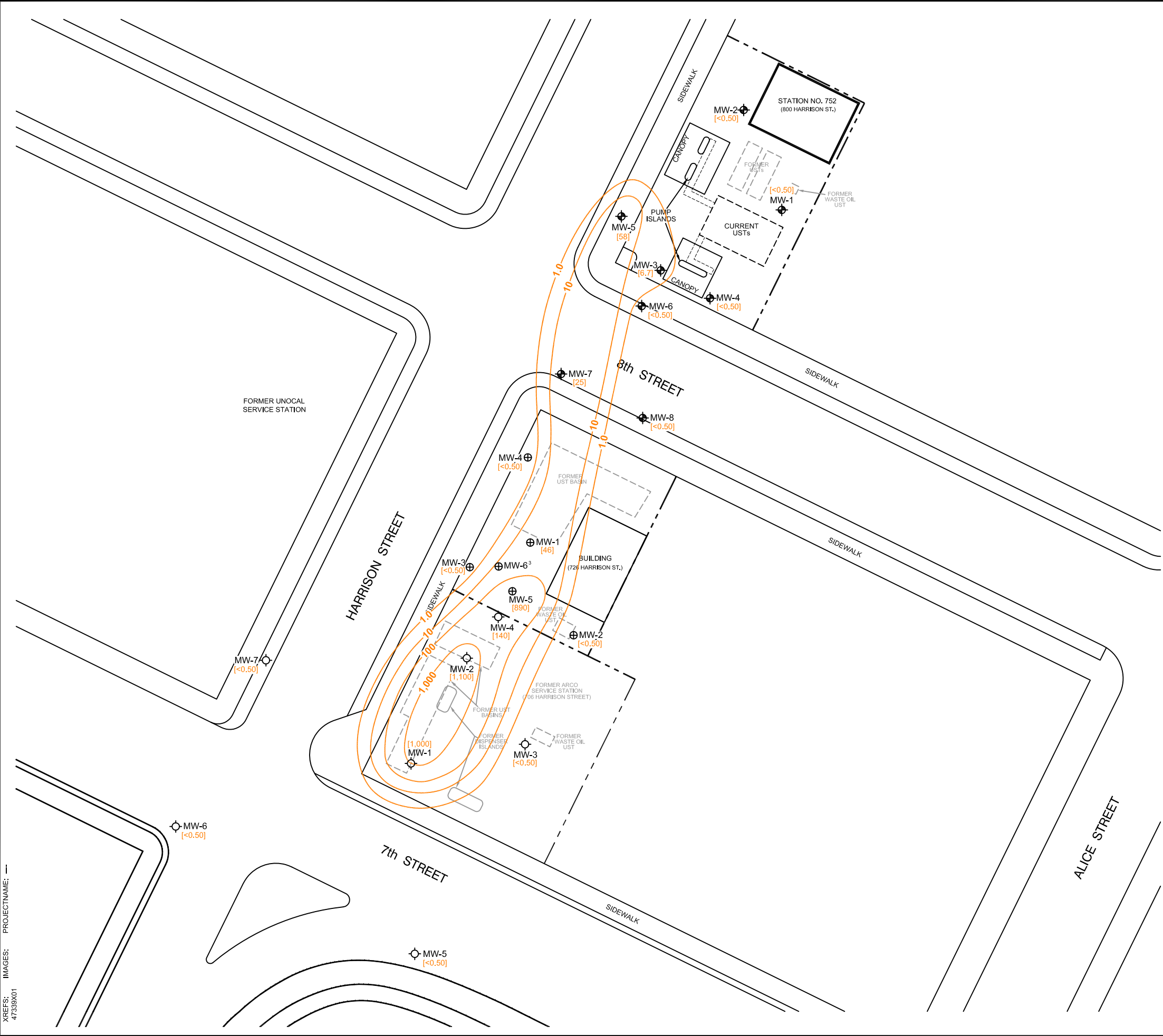
**GROUNDWATER ELEVATION  
 CONTOUR MAP**

**ARCADIS**

FIGURE  
**3**



CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS  
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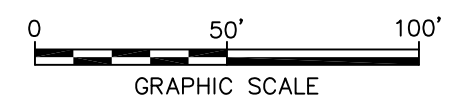


**LEGEND**

- PROPERTY BOUNDARY
- - - - - PRODUCT PIPING
- MW-1 ⊕ GROUNDWATER MONITORING WELL (UNOCAL SITE)
- MW-1 ⊕ GROUNDWATER MONITORING WELL (YEE SITE)
- MW-1 ⊙ GROUNDWATER MONITORING WELL (GIN SITE)
- [BENZ] BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- 100 — BENZENE ISOCONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
- < DENOTES LESS THAN LABORATORY REPORTING LIMIT

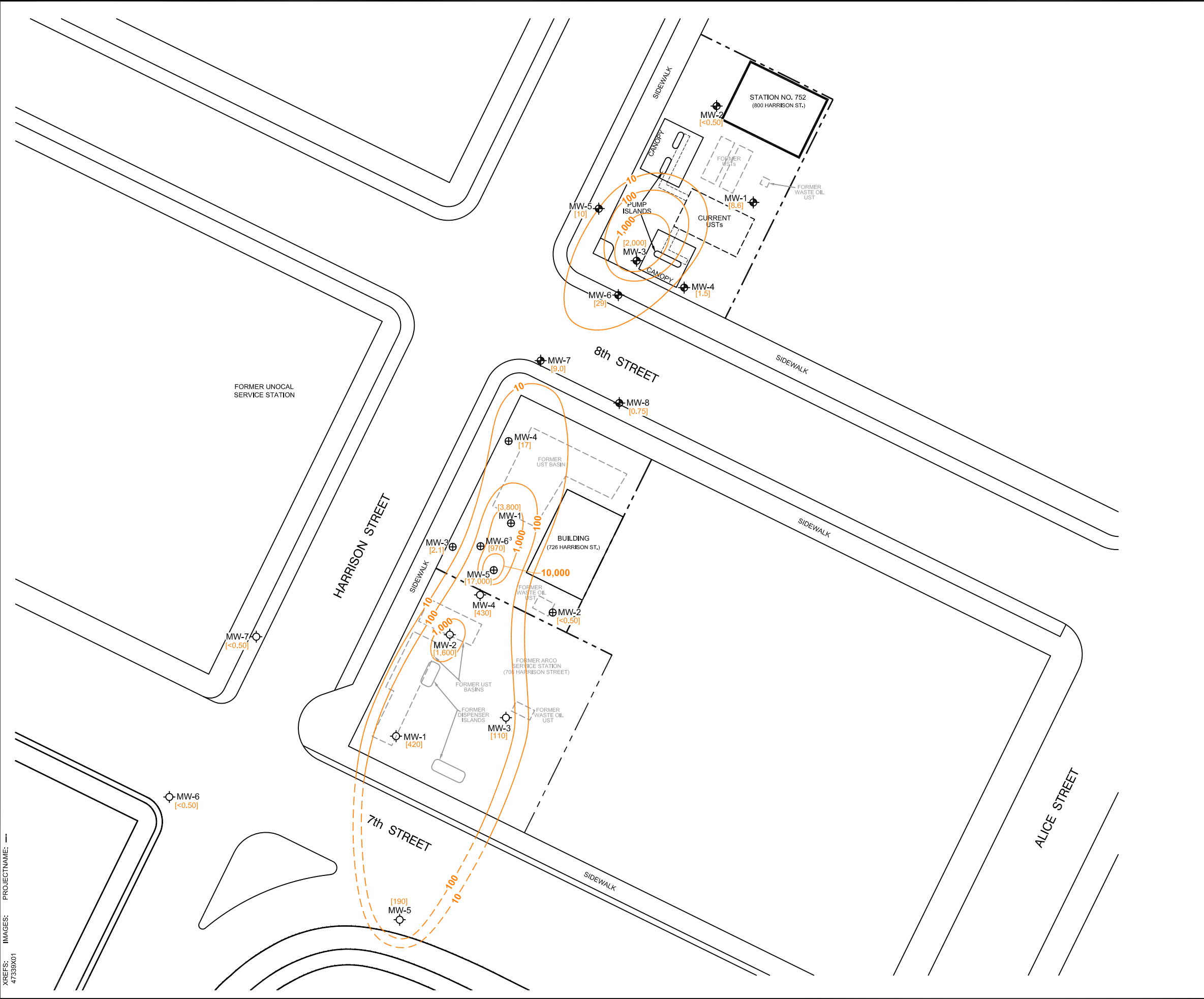
**NOTES:**

1. BASE MAP PROVIDED BY MID COAST ENGINEERS, DATED 06/29/11, AT A SCALE OF 1"=50'. ADDITIONAL SITE FEATURES PROVIDED BY STANTEC, INC., DATED 03/05/10, AT A SCALE OF 1"=50'.
2. COORDINATES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE III, NAD 83.
3. MW-6 IS NOT USED IN CONTOURING BECAUSE IT IS LOCATED IN A LOWER WATER BEARING ZONE.



UNION OIL OF CALIFORNIA STATION NO. 0752/YEE/GIN COMMINGLED 706/726/800 HARRISON STREET OAKLAND, CALIFORNIA	
<b>BENZENE ISOCONCENTRATION          CONTOUR MAP</b>	
	FIGURE <b>5</b>

CITY: PETALUMA, CA DIV/GROUP: ENV DB: J. HARRIS  
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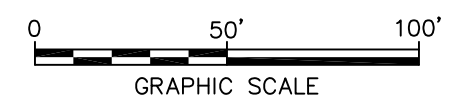


LEGEND

- PROPERTY BOUNDARY
- - - - - PRODUCT PIPING
- MW-1 ⊕ GROUNDWATER MONITORING WELL (UNOCAL SITE)
- MW-1 ⊕ GROUNDWATER MONITORING WELL (YEE SITE)
- MW-1 ⊙ GROUNDWATER MONITORING WELL (GIN SITE)
- [MTBE] METHYL TERTIARY BUTYL ETHER CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- 100 ——— MTBE ISOCONCENTRATION CONTOUR (µg/L; DASHED WHERE INFERRED)
- < DENOTES LESS THAN LABORATORY REPORTING LIMIT

NOTES:

1. BASE MAP PROVIDED BY MID COAST ENGINEERS, DATED 06/29/11, AT A SCALE OF 1"=50'. ADDITIONAL SITE FEATURES PROVIDED BY STANTEC, INC., DATED 03/05/10, AT A SCALE OF 1"=50'.
2. COORDINATES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE III, NAD 83.
3. MW-6 IS NOT USED IN CONTOURING BECAUSE IT IS LOCATED IN A LOWER WATER BEARING ZONE.



UNION OIL OF CALIFORNIA STATION NO. 0752/YEE/GIN COMMINGLED 706/726/800 HARRISON STREET OAKLAND, CALIFORNIA	
<b>MTBE CONCENTRATION MAP</b>	
	FIGURE <b>6</b>

ARCADIS

**Tables**



**Table 1**  
**Current Groundwater Gauging and Analytical Results**  
**76 Station 0752/YEE/GIN Commingled Plume**  
**706/726/800 Harrison Street Oakland, California**

Well ID	Date Sampled	TOC		LPH Thickness (feet)	GW Elevation (feet)	TPPH (8015B-GC/MC)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDB	EDC	Comments
		Elevation (feet AMSL)	DTW (feet bgs)											
<b>800 Harrison Street</b>														
MW-1	2/7/2012	34.72	20.00	0.00	14.72	97	<0.50	<0.50	<0.50	<1.0	8.6	<0.50	<0.50	
MW-2	2/7/2012	34.74	19.77	0.00	14.97	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	
MW-3	2/7/2012	33.18	18.88	0.00	14.30	1,800	6.7	<1.0	1.9	<2.0	1,600	<0.50	<0.50	A01
MW-4	2/7/2012	32.72	18.38	0.00	14.34	<50	<0.50	<0.50	<0.50	<1.0	1.5	<0.50	<0.50	
MW-5	2/7/2012	32.98	18.59	0.00	14.39	1,600	58	11	3.0	25	10	<0.50	<0.50	A01
MW-6	2/7/2012	32.19	18.02	0.00	14.17	450	<0.50	<0.50	<0.50	<1.0	29	<0.50	<0.50	
MW-7	2/7/2012	32.22	18.40	0.00	13.82	310	25	2	<0.50	3.2	9.0	<0.50	<0.50	
MW-8	2/7/2012	32.03	18.15	0.00	13.88	<50	<0.50	<0.50	<0.50	<1.0	0.75	<0.50	<0.50	
<b>706 Harrison Street</b>														
MW-1	2/7/2012	29.17	17.33	0.00	11.84	8,900	1,000	260	230	610	420	<0.50	<0.50	A01
MW-2	2/7/2012	30.53	17.90	0.00	12.63	36,000	1,100	3,600	990	4,200	1,600	<5.0	<5.0	A01
MW-3	2/7/2012	29.79	17.23	0.00	12.56	<50	<0.50	<0.50	<0.50	<1.0	110	<0.50	<0.50	A01
MW-4	2/7/2012	31.20	18.43	0.00	12.77	1,800	140	15	21	32	430	<0.50	<0.50	A01
MW-5	2/7/2012	28.07	16.45	0.00	11.62	<50	<0.50	<0.50	<0.50	1.6	190	<0.50	<0.50	A01
MW-6	2/7/2012	29.13	17.51	0.00	11.62	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	
MW-7	2/7/2012	29.70	17.40	0.00	12.30	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	
<b>726 Harrison Street</b>														
MW-1	2/7/2012	31.98	18.77	0.00	13.21	370	46	1.7	4.2	4.5	3,800	<0.50	<0.50	A01
MW-2	2/7/2012	32.44	19.52	0.00	12.92	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	
MW-3	2/7/2012	31.64	18.71	0.00	12.93	25	<0.50	<0.50	<0.50	<1.0	2.1	<0.50	<0.50	J
MW-4	2/7/2012	32.56	19.09	0.00	13.47	210	<0.50	<0.50	<0.50	<1.0	17	<0.50	<0.50	
MW-5	2/7/2012	32.06	19.16	0.00	12.90	19,000	890	410	360	990	17,000	<6.2	<6.2	A01
MW-6	2/7/2012	32.04	26.53	0.00	5.51	410	<0.50	<0.50	<0.50	<1.0	970	<0.50	0.79	A01

**Note**

Analytical results given in micrograms per liter (µg/l)

**Standard Abbreviations**

- not analyzed, measured, or collected
- < not detected at or above laboratory detection limit
- TOC top of casing (surveyed reference elevation)
- AMSL above mean sealevel
- DTW depth to water
- bgs below ground surface
- LPH liquid-phase hydrocarbons
- GW groundwater
- µg/l micrograms per liter (approx. equivalent to parts per billion, ppb)

**Analytes**

- TPPH total purgeable petroleum hydrocarbons
- MTBE methyl tertiary butyl ether
- EDB 1,2-dibromoethane
- EDC 1,2-dichloroethane (same as ethylene dichloride)
- 8260B EPA Method 8260B for Volatile Organic Compounds
- GC/MS gas chromatography-mass spectrometry for TPPH
- A01 PQL's and MDL's are raised due to sample dilution.

**Table 2**  
**Additional Groundwater Analytical Results - VOCs**  
**76 Station 0752**  
**800 Harrison Street Oakland, California**

Well ID	Date Sampled	Acenaphthene	Acenaphthylene	Aldrin	Aniline (Benzeneamine)	Anthracene	Benzo (a) anthracene	Benzo (b) Fluoranthene	Benzo (k) Fluoranthene	Benzo(a) Pyrene	Benzo (g,h,i) Perylene	Benzoic Acid	Benzy Alcohol	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC (Lindane)	bis (2-Chloroethoxy) methane	bis (2-Chloroethyl) ether	bis (2-Ethylhexyl) phthalate	4-Bromophenyl phenylether	4-Chloroaniline	2-Chloro naphthalene	4-Chlorophenyl phenyl ether	Chrysene	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dibenz (a,h) anthracene		
<b>800 Harrison Street</b>																															
MW-1	2/7/2012	<2.0	<2.0	<2.0	<5.0	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<2.0	<3.0	
MW-2	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-5	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-8	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

**Note**  
Analytical results given in micrograms per liter (µg/l)

**Standard Abbreviations**  
-- not analyzed, measured, or collected  
< not detected at or above laboratory detection limit

**Analytes**  
BHC  
DDD  
DDE  
DDT

**Table 2**  
**Additional Groundwater Analytical Results - VOCs**  
**76 Station 0752**  
**800 Harrison Street Oakland, California**

Well ID	Date Sampled	Dibenzofuran	1,2-Dichloro benzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dieldrin	Diethylphthalate	Dimethyl phthalate	Di-n-butylphthalate	2,4-Dinitrotoluene	2,6-Dinitrotoluene	Di-n-octylphthalate	1,2-Diphenylhydrazine	Endosulfan I (alpha-Endosulfan)	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Fluoranthene	Fluorene	Heptachlor	Heptachlor Epoxide	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	2-Methylnaphthalene	Naphthalene	
<b>800 Harrison Street</b>																															
MW-1	2/7/2012	<2.0	<2.0	<2.0	<2.0	<3.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10	<10	<3.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MW-2	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Note**  
Analytical results given in micrograms per liter (µg/l)

**Standard Abbreviations**  
-- not analyzed, measured, or collected  
< not detected at or above laboratory detection limit

**Analytes**  
BHC  
DDD  
DDE  
DDT

**Table 2**  
**Additional Groundwater Analytical Results - VOCs**  
**76 Station 0752**  
**800 Harrison Street Oakland, California**

Well ID	Date Sampled	2-Naphthaleneamine (2-Naphthylamine)	2-Nitroaniline (o-)	3-Nitroaniline	4-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Phenanthrene	Pyrene	1,2,4-Trichlorobenzene	p-Chloro-m-cresol	2-Chlorophenol (o-Chlorophenol)	2,4-Dichlorophenol	2,4-Dimethylphenol	4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	2,4-Dinitrophenol	2-Methylphenol (o-Cresol)	3-Methylphenol	2-Nitrophenol (o-Nitrophenol)	4-Nitrophenol	Pentachlorophenol	Phenol
<b>800 Harrison Street</b>																								
MW-1	2/7/2012	<20	<2.0	<2.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<2.0	<2.0	<2.0	<10	<10	<2.0	<2.0	<2.0	<2.0	<10	<2.0
MW-2	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-5	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-6	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	2/7/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Note**  
Analytical results given in micrograms per liter (µg/l)

**Standard Abbreviations**  
-- not analyzed, measured, or collected  
< not detected at or above laboratory detection limit

**Analytes**  
BHC  
DDD  
DDE  
DDT

**Table 3**  
**Additional Groundwater Analytical Results - Metals**  
**76 Station 0752**  
**800 Harrison Street Oakland, California**

Well ID	Date Sampled	Dissolved Cadmium	Dissolved Chromium	Dissolved Lead	Dissolved Nickel	Dissolved Zinc	Comments
<b>800 Harrison Street</b>							
MW-1	2/7/2012	<10	<10	<50	<10	<10	
MW-2	2/7/2012	--	--	--	--	--	
MW-3	2/7/2012	--	--	--	--	--	
MW-4	2/7/2012	--	--	--	--	--	
MW-5	2/7/2012	--	--	--	--	--	
MW-6	2/7/2012	--	--	--	--	--	
MW-7	2/7/2012	--	--	--	--	--	
MW-8	2/7/2012	--	--	--	--	--	

**Note**

Analytical results given in micrograms per liter (µg/l)

**Standard Abbreviations**

µg/l      micrograms per liter (approx. equivalent to parts per billion, ppb)



ARCADIS

**Attachment A**

Field Data Sheets and General Procedures



123 Technology Drive West  
Irvine, CA 92618

949.727.9336 PHONE  
949.727.7399 FAX

[www.TRCSolutions.com](http://www.TRCSolutions.com)

DATE: February 17, 2012

TO: Katherine Brandt  
ARCADIS U.S., Inc.  
1900 Powell Street, 12<sup>th</sup> Floor  
Emeryville, California 94608

SITE: Unocal Site 0752  
Facility 351646  
800 Harrison Street, Oakland CA

RE: Transmittal of Groundwater Monitoring Data

Dear Ms. Brandt,

Please find attached the field data sheets, chain of custody (COC) forms, and technical services request (TSR) form for the monitoring event that was completed on February 7, 2012. Field measurements and collection of samples submitted to the laboratory were completed in general accordance with our usual groundwater monitoring protocol which is also attached for your reference.

Please call me at 949-341-7440 if you have questions.

Sincerely,

TRC  
A handwritten signature in black ink, appearing to read "Anju Parfan".

Anju Parfan  
Groundwater Program Operations Manager

# GENERAL FIELD PROCEDURES

## Groundwater Gauging and Sampling Assignments

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater gauging 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 (Gauging)

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.

Unless otherwise instructed, a well that is found to contain a measureable amount of LPH (0.01 foot) is not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed.

## 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. The pump intake is initially set at about 5 feet below the level of water in the casing, and is lowered as needed to compensate for falling water level. Pump depths are recorded in Field Notes.

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, using a flow cell, until they become stable in general accordance with EPA guidelines.

## 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.

## **GENERAL FIELD PROCEDURES**

Samples are collected by lowering a new, disposable 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.

Sample 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. If wells must be gauged or sampled out of order, alternate interface probes and/or pumps are utilized and are noted in field documentation.

### **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 Liquinox and water and rinsing twice. The final rinse is in deionized water.

### **Purge Water Disposal**

Purge water is generally collected in labeled drums for disposal as non-hazardous waste. Drums may be left on site for disposal by others, or transported to a collection location at a TRC field office, in either Fullerton, California or Concord, California, for eventual transfer to a licensed treatment or recycling facility. Alternatively, 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.

### **Exceptions**

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







## GROUNDWATER SAMPLING FIELD NOTES

Technician: R. Rodriguez

Site: 0752

Project No.: 189791.0035.1646

Date: 2/7/12

Well No. MW-8

Purge Method: Sub

Depth to Water (feet): 18.15

Depth to Product (feet):           

Total Depth (feet): 28.37

LPH & Water Recovered (gallons):           

Water Column (feet): 10.22

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 20.19

1 Well Volume (gallons): 2

*PUMP  
DEPTH*

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0733		23ft	2	465.5	16.5	6.67			
		↓	4	365.6	18.3	6.68			
	0738	↓	6	338.4	19.2	6.66			
	↓		8	326.3	19.4	6.67			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.35			8			0745			
<b>Comments:</b>									

Well No. MW-4

Purge Method: Sub

Depth to Water (feet): 18.38

Depth to Product (feet):           

Total Depth (feet): 32.28

LPH & Water Recovered (gallons):           

Water Column (feet): 13.90

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 21.16

1 Well Volume (gallons): 3

*PUMP  
DEPTH*

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0807		23ft	3	252.1	17.3	7.04			
		↓	6	216.6	19.0	6.81			
	0813	↓	9	219.1	19.2	6.67			
	↓		12	219.5	19.3	6.64			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.90			12			0820			
<b>Comments:</b>									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: R. RODRIGUEZ

Site: 0752

Project No.: 189791.0035.1646

Date: 2/07/12

Well No. MW-1

Purge Method: Sub

Depth to Water (feet): 20.00

Depth to Product (feet):           

Total Depth (feet): 33.53

LPH & Water Recovered (gallons):           

Water Column (feet): 13.53

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 22.71

1 Well Volume (gallons): 3

PUMP  
DEPTH

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0832		25 ft	3	139.8	17.5	6.87			
		↓	6	128.9	18.8	6.80			
	0839	↓	9	131.1	19.2	6.76			
Static at Time Sampled			Total Gallons Purged			Sample Time			
20.40			9			0845			
<b>Comments:</b>									

Well No. MW-6

Purge Method: Sub

Depth to Water (feet): 18.02

Depth to Product (feet):           

Total Depth (feet): 30.88

LPH & Water Recovered (gallons):           

Water Column (feet): 12.86

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 20.59

1 Well Volume (gallons): 3

PUMP  
DEPTH

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0903		25 ft	3	231.9	17.0	6.78			
		↓	6	219.9	18.9	6.81			
	0907	↓	9	209.8	19.5	6.81			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.45			9			0915			
<b>Comments:</b>									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: R. RODRIGUEZ

Site: 0752

Project No.: 189791.0035.1616

Date: 2/07/12

Well No. MW-2

Purge Method: Sub

Depth to Water (feet): 19.77

Depth to Product (feet): \_\_\_\_\_

Total Depth (feet) 30.74

LPH & Water Recovered (gallons): \_\_\_\_\_

Water Column (feet): 10.97

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 21.96

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0949			2	668.5	18.5	6.93			
			4	601.4	18.3	6.90			
	0954		6	581.4	19.1	6.90			
Static at Time Sampled			Total Gallons Purged			Sample Time			
20.41			6			1000			
<b>Comments:</b>									

Well No. MW-3

Purge Method: Sub

Depth to Water (feet): 18.88

Depth to Product (feet): \_\_\_\_\_

Total Depth (feet) 30.50

LPH & Water Recovered (gallons): \_\_\_\_\_

Water Column (feet): 11.62

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 21.20

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
1013			2	721.9	16.2	6.68			
			4	634.5	18.7	6.66			
	1016		6	647.9	19.5	6.67			
Static at Time Sampled			Total Gallons Purged			Sample Time			
19.10			6			1020			
<b>Comments:</b>									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: R. Popprigue

Site: 0752

Project No.: 189791.0035.1646

Date: 2/07/12

Well No. MW-7

Purge Method: Sub

Depth to Water (feet): 18.40

Depth to Product (feet):           

Total Depth (feet): 31.40

LPH & Water Recovered (gallons):           

Water Column (feet): 13.00

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 21.00

1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
1042			3	316.9	18.2	7.03			
			6	321.4	19.6	6.98			
	1047		9	307.8	19.8	6.90			
Static at Time Sampled			Total Gallons Purged			Sample Time			
19.00			9			1053			
<b>Comments:</b>									

Well No. MW-5

Purge Method: Sub

Depth to Water (feet): 18.59

Depth to Product (feet):           

Total Depth (feet): 31.65

LPH & Water Recovered (gallons):           

Water Column (feet): 13.06

Casing Diameter (Inches): 2"

80% Recharge Depth(feet): 21.20

1 Well Volume (gallons): 3

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
1029			3	355.2	17.5	7.53			
			6	332.1	19.1	7.32			
	1028		9	310.6	19.7	7.17			
Static at Time Sampled			Total Gallons Purged			Sample Time			
19.40			9			1037			
<b>Comments:</b>									
<u>Purge Sample by Basilio</u>									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: Basilis

Site: 0752

Project No.: 189791.0035, 1646

Date: 2-7-12

Well No. A-MW-6

Purge Method: BKSB HB

Depth to Water (feet): 17.51

Depth to Product (feet):       

Total Depth (feet): 25.90

LPH & Water Recovered (gallons):       

Water Column (feet): 8.39

Casing Diameter (Inches): 2

80% Recharge Depth(feet): 19.18

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0738			2	613.6	18.2	7.92			
			4	578.4	19.3	7.37			
	0747		6	524.8	19.3	6.94			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.10			6			0756			
<b>Comments:</b>									

Well No. A-MW-7

Purge Method: HB

Depth to Water (feet): 17.40

Depth to Product (feet):       

Total Depth (feet): 27.74

LPH & Water Recovered (gallons):       

Water Column (feet): 10.34

Casing Diameter (Inches): 2

80% Recharge Depth(feet): 19.46

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0807			2	900.9	18.9	7.02			
			4	908.6	19.8	6.85			
	0815		6	892.5	19.2	6.92			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.21			6			0820			
<b>Comments:</b>									

### GROUNDWATER SAMPLING FIELD NOTES

Technician: Basilio

Site: 0752

Project No.: 189791.0035.1646

Date: 2-7-12

Well No. A-MW-3

Purge Method: Sub

Depth to Water (feet): 17.23

Depth to Product (feet):         

Total Depth (feet): 27.50

LPH & Water Recovered (gallons):         

Water Column (feet): 10.27

Casing Diameter (Inches): 2

80% Recharge Depth(feet): 19.28

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
<u>0837</u>			<u>2</u>	<u>422.3</u>	<u>13.8</u>	<u>7.54</u>			
			<u>4</u>	<u>423.7</u>	<u>16.5</u>	<u>7.44</u>			
	<u>0841</u>		<u>6</u>	<u>421.4</u>	<u>17.6</u>	<u>7.35</u>			
Static at Time Sampled			Total Gallons Purged			Sample Time			
<u>17.95</u>			<u>6</u>			<u>0847</u>			
<b>Comments:</b>									

Well No. A-MW-4

Purge Method: HIS

Depth to Water (feet): 18.43

Depth to Product (feet):         

Total Depth (feet): 25.58

LPH & Water Recovered (gallons):         

Water Column (feet): 7.15

Casing Diameter (Inches): 2

80% Recharge Depth(feet): 19.86

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
<u>0900</u>			<u>2</u>	<u>691.7</u>	<u>17.7</u>	<u>7.06</u>			
			<u>4</u>	<u>688.5</u>	<u>18.8</u>	<u>6.86</u>			
	<u>0909</u>		<u>6</u>	<u>644.2</u>	<u>19.2</u>	<u>6.32</u>			
Static at Time Sampled			Total Gallons Purged			Sample Time			
<u>18.94</u>			<u>6</u>			<u>0914</u>			
<b>Comments:</b>									

## GROUNDWATER SAMPLING FIELD NOTES

Technician: Basilio

Site: 0752      Project No.: 189791, 0035.1646      Date: 2-7-12

Well No. A-MW-1      Purge Method: 3RHB Sub  
 Depth to Water (feet): 17.33      Depth to Product (feet):         
 Total Depth (feet): 24.38      LPH & Water Recovered (gallons):         
 Water Column (feet): 7.05      Casing Diameter (Inches): 2  
 80% Recharge Depth(feet): 18.74      1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, °C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0936			2	561.2	15.0	7.22			
			4	770.0	17.3	7.12			
			6	843.1	18.3	6.84			
	1001		8	867.4	19.0	6.72			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.10			8			1006			
<b>Comments:</b>									

Well No. A-MW-2      Purge Method: HB  
 Depth to Water (feet): 17.90      Depth to Product (feet):         
 Total Depth (feet): 24.84      LPH & Water Recovered (gallons):         
 Water Column (feet): 6.94      Casing Diameter (Inches): 2  
 80% Recharge Depth(feet): 19.20      1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F, °C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
0919			2	814.6	17.3	6.86			
			4	950.6	18.9	6.67			
	0928		6	958.2	19.5	6.56			
Static at Time Sampled			Total Gallons Purged			Sample Time			
18.13			6			0934			
<b>Comments:</b>									



### GROUNDWATER SAMPLING FIELD NOTES

Technician: Basilis

Site: 0752      Project No.: 189791.0035.1646      Date: 2-7-12

Well No. A-MW-5      Purge Method: 545

Depth to Water (feet): 16.45      Depth to Product (feet):         

Total Depth (feet): 27.80      LPH & Water Recovered (gallons):         

Water Column (feet): 11.35      Casing Diameter (Inches): 2

80% Recharge Depth(feet): 18.72      1 Well Volume (gallons): 2

Time Start	Time Stop	Depth to Water (feet)	Volume Purged (gallons)	Conductivity (µS/cm)	Temperature (F °C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
1134			2	445.1	16.0	7.63			
			4	467.4	17.7	7.49			
	1138		6	477.7	19.0	7.42			
Static at Time Sampled			Total Gallons Purged			Sample Time			
17.82			6			1145			
<b>Comments:</b>									

Well No. \_\_\_\_\_      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)	Conductivity (µS/cm)	Temperature (F, C)	pH	D.O. (mg/L)	ORP	Turbidity
<b>Pre-Purge</b>									
Static at Time Sampled			Total Gallons Purged			Sample Time			
<b>Comments:</b>									

STATEMENT OF NON-COMPLETION OF JOB

DATE OF EVENT: 2-7-12 SITE ID: 0752

TECH: \_\_\_\_\_ CALLED SUPERVISOR:  YES / NO

CALLED PM:  YES / NO NAME OF PM: Arjun Pradhan

WELL ID: SP-4 Unable to Locate

SP-3

SP-5 ↓

WELL ID: \_\_\_\_\_

WELL ID: \_\_\_\_\_

# WELL BOX CONDITION REPORT

SITE NO. 0752  
 ADDRESS 800 HARRISON ST, OAKLAND  
 DATE 2/07/12

PERFORMED BY: R. RODRIGUEZ  
 PAGE 1 OF 1

Well Name	Current Well Box Size	# of Ears	# of Stripped Ears	# of Broken Ears	# of Broken Bolts	# of Missing Bolts	Seal Damaged	Missing Lid	Broken Lid	Well Box Is Exposed	Well Box Is Below Grade	Unable to Access	Unable to Locate	Foundation Damaged	Paved Over	Street Well	Saw Cut Needed	System Well	USA Marked Well	Comments
MW-8	8"	3														X	X			OK
MW-4	12"	2																		OK
MW-1	12"	2																		OK
MW-6	8"	3					X									X	X			OK
MW-2	8"	2	1																	
MW-3	12"	2					X													OK
MW-7	12"	2														X	X			OK
MW-5	12"	2																		OK



# WELL BOX CONDITION REPORT

SITE NO. 0752  
 ADDRESS 800 Hansen St.  
 DATE 2-7-12

PERFORMED BY: *[Signature]*  
 PAGE 2 OF 2

Well Name	Current Well Box Size	# of Ears	# of Shipped Ears	# of Broken Ears	# of Broken Bolts	# of Missing Bolts	Seal Damaged	Missing Lid	Broken Lid	Well Box is Exposed	Well Box is Below Grade	Unable to Access	Unable to Locate	Foundation Damaged	Paved Over	Street Well	Saw Cut Needed	System Well	USA Marked Well	Comments	
SP-4	0												X								
SP-3													X								
SP-5													X								
AMW-6	8" <del>12"</del>	0														X					Christy Lid
AMW-7	8" <del>12"</del>	0														X					Christy Lid
AMW-5																X					
AMW-3	8"	3																			
AMW-4	8"	3																			
AMW-1	8"	<del>3</del>																			
AMW-2	8"	3																			







TRC SOLUTIONS  
TECHNICAL SERVICES REQUEST FORM

23-Jan-12

Site ID: 0752  
Address: 800 Harrison Street  
City: Oakland  
Cross Street: 8th Street

Project No.: 189791.0035.1646 / 00TA01  
Client: Roya Kambin  
Contact #: 925-790-6270  
PM: Kathy Brandt Arcadis  
PM Contact #: 510-596-9675

Total number of wells: 18    Min. Well Diameter (in.): 2    # of Techs, # of Hrs: 2, 6  
Depth to Water (ft.): 16    Max. Well Diameter (in.): 2    Travel Time (hrs):  
Max. Well Depth (ft): 33

ACTIVITIES:	Frequency	Notes
Gauging: <input checked="" type="checkbox"/>	Semi Q1/Q3	
Purge/Sampling: <input checked="" type="checkbox"/>	Semi Q1/Q3	
No Purge/Sample <input type="checkbox"/>		

RELATED ACTIVITIES	Notes
Drums: <input checked="" type="checkbox"/>	
Other Activities: <input checked="" type="checkbox"/>	No Parking signs
Traffic Control: <input checked="" type="checkbox"/>	City of Oakland

*Permit needed*

**PERMIT INFORMATION:**  
No parking signs to be posted 48 hours before event.

**NOTIFICATIONS:**  
Chinatown 76: 510-893-2356

**SITE INFORMATION:**  
Coordinated event with 726 Harrison St. - DO NOT SAMPLE THESE WELLS.  
Well MW-8 is in front of a driveway to a business. Try to finish well before 6AM.  
Purging cannot begin until all sites in the coordinated event have finished gauging. Gauging should be complete before 6:30 AM.  
Former ARCO wells incorporated into the 76 Station 3Q11.

**TRC SOLUTIONS**  
**TECHNICAL SERVICES REQUEST FORM**

23-Jan-12

Site ID.: 0752  
 Address 800 Harrison Street  
 City: Oakland  
 Cross Street 8th Street

Well IDs	Benz.	MTBE	Gauging				Sampling				Field Measurements			Comments	
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Pre-Purge	Post-Purge	Type		
SP-4			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
SP-3			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
SP-5			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
A-MW-6	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
A-MW-7	0	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
MW-8	0	1.6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
MW-4	0	12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
MW-1	0	44	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
MW-6	0	89	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
A-MW-5	0	360	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
A-MW-3	0.53	200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
MW-2	6.7	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
MW-3	9.7	2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
MW-7	20	27	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
MW-5	58	40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2" casing
A-MW-4	98	260	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
A-MW-1	720	810	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
A-MW-2	940	1500	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		



# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME YEE

---

JOB NUMBER 3412 DATE OF SAMPLING 02.07.12

---

WELL ID. MW-1 SAMPLER DA

---

TOTAL DEPTH OF WELL 27.2 WELL DIAMETER 2

---

DEPTH TO WATER PRIOR TO PURGING 18.77 TIME OF MEASUREMENT 0700

---

PRODUCT THICKNESS 0

---

DEPTH OF WELL CASING IN WATER 8.43

---

NUMBER OF GALLONS PER WELL CASING VOLUME 1.34

---

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

---

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 4

---

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

---

TIME EVACUATION STARTED 0822 TIME EVACUATION COMPLETED 0830

---

TIME SAMPLES WERE COLLECTED 0832

---

DID WELL GO DRY NO AFTER HOW MANY GALLONS —

---

VOLUME OF GROUNDWATER PURGED 4

---

SAMPLING DEVICE NEW DISPOSABLE BAILER

---

SAMPLE COLOR LT GRAY ODOR/SEDIMENT NO AHC / SUGAR

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.2	6.5	540
2	19.3	6.4	540
3	19.3	6.4	540

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-1	3	40 ml VOA	8260 B	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME YEE

---

JOB NUMBER 3412 DATE OF SAMPLING 02-07-12

---

WELL ID. MW-2 SAMPLER DA

---

TOTAL DEPTH OF WELL 28.0 WELL DIAMETER 2

---

DEPTH TO WATER PRIOR TO PURGING 19.52 TIME OF MEASUREMENT 0654

---

PRODUCT THICKNESS 0

---

DEPTH OF WELL CASING IN WATER 8.78

---

NUMBER OF GALLONS PER WELL CASING VOLUME 1.35

---

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

---

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 4

---

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

---

TIME EVACUATION STARTED 0720 TIME EVACUATION COMPLETED 0728

---

TIME SAMPLES WERE COLLECTED 0730

---

DID WELL GO DRY No AFTER HOW MANY GALLONS —

---

VOLUME OF GROUNDWATER PURGED 4

---

SAMPLING DEVICE NEW DISPOSABLE BAILER

---

SAMPLE COLOR LT BWT ODOR/SEDIMENT NO / SLIGHT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.2	6.8	410
2	19.3	6.9	390
3	19.3	6.8	390

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-2	3	40 ml VOA	8260 B	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME YEE

---

JOB NUMBER 3412 DATE OF SAMPLING 02-07-12

---

WELL ID. MW-3 SAMPLER DA

---

TOTAL DEPTH OF WELL 29.2 WELL DIAMETER 2

---

DEPTH TO WATER PRIOR TO PURGING 18.71 TIME OF MEASUREMENT 0656

---

PRODUCT THICKNESS 0

---

DEPTH OF WELL CASING IN WATER 10.49

---

NUMBER OF GALLONS PER WELL CASING VOLUME 1.7

---

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

---

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 5

---

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

---

TIME EVACUATION STARTED 0805 TIME EVACUATION COMPLETED 0815

---

TIME SAMPLES WERE COLLECTED 0816

---

DID WELL GO DRY NO AFTER HOW MANY GALLONS —

---

VOLUME OF GROUNDWATER PURGED 5

---

SAMPLING DEVICE NEW DISPOSABLE BAILER

---

SAMPLE COLOR LT BRN ODOR/SEDIMENT TR AC / SLIGHT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.5	6.6	410
2	19.6	6.5	440
3	14.6	6.5	440

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-3	3	40 ml VOA	8260 B	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME YEE

---

JOB NUMBER 3412 DATE OF SAMPLING 02-07-12

---

WELL ID. MW-4 SAMPLER DA

---

TOTAL DEPTH OF WELL 29.7 WELL DIAMETER 2

---

DEPTH TO WATER PRIOR TO PURGING 19.09 TIME OF MEASUREMENT 0658

---

PRODUCT THICKNESS 0

---

DEPTH OF WELL CASING IN WATER 10.61

---

NUMBER OF GALLONS PER WELL CASING VOLUME 1.7

---

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

---

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 5

---

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

---

TIME EVACUATION STARTED 0840 TIME EVACUATION COMPLETED 0850

---

TIME SAMPLES WERE COLLECTED 0852

---

DID WELL GO DRY NO AFTER HOW MANY GALLONS —

---

VOLUME OF GROUNDWATER PURGED 5

---

SAMPLING DEVICE NEW DISPOSABLE BAILER

---

SAMPLE COLOR LT GRAY ODOR/SEDIMENT SL HC / SLIGHT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.4	5.2	580
2	19.4	5.2	570
3	19.5	5.2	570

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-4	3	40 ml VOA	8260 B	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME YEE

JOB NUMBER 3412 DATE OF SAMPLING 02-07-12

WELL ID. MW-5 SAMPLER DA

TOTAL DEPTH OF WELL 28.5 WELL DIAMETER 2

DEPTH TO WATER PRIOR TO PURGING 19.16 TIME OF MEASUREMENT 0702

PRODUCT THICKNESS 0

DEPTH OF WELL CASING IN WATER 9.34

NUMBER OF GALLONS PER WELL CASING VOLUME 1.5

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 4.5

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

TIME EVACUATION STARTED 0738 TIME EVACUATION COMPLETED 0747

TIME SAMPLES WERE COLLECTED 0748

DID WELL GO DRY No AFTER HOW MANY GALLONS —

VOLUME OF GROUNDWATER PURGED 4.5

SAMPLING DEVICE NEW DISPOSABLE BAILER

SAMPLE COLOR LT GRAY ODOR/SEDIMENT MOD WT/SLIGHT

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.3	6.5	1120
2	19.3	6.4	1120
3	19.4	6.5	1130

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
MW-5	3	40 ml VOA	8260 B	✓

# AQUA SCIENCE ENGINEERS

## WELL SAMPLING FIELD LOG

PROJECT NAME YCC

---

JOB NUMBER 3412 DATE OF SAMPLING 02.07.12

---

WELL ID. MW-6 SAMPLER DA

---

TOTAL DEPTH OF WELL 49.1 WELL DIAMETER 2

---

DEPTH TO WATER PRIOR TO PURGING 26.53 TIME OF MEASUREMENT 0704

---

PRODUCT THICKNESS 0

---

DEPTH OF WELL CASING IN WATER 22.57

---

NUMBER OF GALLONS PER WELL CASING VOLUME 13.54

---

NUMBER OF WELL CASING VOLUMES TO BE REMOVED 3 screens plus 150.0

---

REQUIRED VOLUME OF GROUNDWATER TO BE PURGED PRIOR TO SAMPLING 8.5

---

EQUIPMENT USED TO PURGE WELL NEW DISPOSABLE BAILER

---

TIME EVACUATION STARTED 0749 TIME EVACUATION COMPLETED 0759

---

TIME SAMPLES WERE COLLECTED 0800

---

DID WELL GO DRY No AFTER HOW MANY GALLONS —

---

VOLUME OF GROUNDWATER PURGED 8

---

SAMPLING DEVICE NEW DISPOSABLE BAILER

---

SAMPLE COLOR CLEAR ODOR/SEDIMENT no/no

### CHEMICAL DATA

VOLUME PURGED	TEMPERATURE	PH	CONDUCTIVITY
1	19.4	7.1	400
2	19.4	7.0	410
3	19.5	7.0	400

### SAMPLES COLLECTED

SAMPLE	# OF CONTAINERS	SIZE AND TYPE OF CONTAINER	ANALYSIS	PRESERVED
<u>MW-6</u>	<u>3</u>	<u>40 mL VOA</u>	<u>8260 B</u>	<u>✓</u>

ARCADIS

**Attachment B**

Historical Groundwater Results from TRC

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
76 Station 0752**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
<b>MW-1</b>														
6/5/1991	34.94	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
9/30/1991	34.94	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
12/30/1991	34.94	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/2/1992	34.94	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/30/1992	34.94	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
9/15/1992	34.94	--	--	--	--	76	--	1.0	ND	ND	ND	--	--	
12/21/1992	34.94	21.17	0.00	13.77	--	95	--	0.69	ND	ND	1.0	--	--	
4/28/1993	34.94	--	--	--	--	920	--	3.1	2.3	1.2	9.7	--	--	
7/23/1993	34.94	20.13	0.00	14.81	--	ND	--	0.5	0.66	ND	ND	--	--	
10/5/1993	34.69	20.30	0.00	14.39	-0.42	92	--	1.5	ND	ND	0.72	--	--	
1/3/1994	34.69	20.52	0.00	14.17	-0.22	ND	--	ND	ND	ND	ND	--	--	
4/2/1994	34.69	20.16	0.00	14.53	0.36	ND	--	ND	ND	ND	ND	--	--	
7/5/1994	34.69	19.27	0.00	15.42	0.89	250	--	4.8	13	1.2	7.3	--	--	
10/6/1994	34.69	20.87	0.00	13.82	-1.60	540	--	1.4	ND	0.66	11	--	--	
1/2/1995	34.69	19.67	0.00	15.02	1.20	140	--	ND	ND	ND	ND	--	--	
4/3/1995	34.69	17.61	0.00	17.08	2.06	580	--	3.6	0.8	ND	4.0	--	--	
7/14/1995	34.69	18.58	0.00	16.11	-0.97	260	--	2.1	ND	ND	1.2	--	--	
10/10/1995	34.69	19.60	0.00	15.09	-1.02	220	--	2.0	ND	25	5.6	29	--	
1/3/1996	34.69	19.69	0.00	15.00	-0.09	190	--	2.4	ND	0.71	1.2	--	--	
4/10/1996	34.69	17.65	0.00	17.04	2.04	540	--	8.9	1.7	1.5	7.4	50	--	
7/9/1996	34.69	18.52	0.00	16.17	-0.87	490	--	3.0	1.4	1.3	2.5	150	--	
1/24/1997	34.69	17.72	0.00	16.97	0.80	760	--	27	0.89	5.2	10	510	--	
7/23/1997	34.69	19.42	0.00	15.27	-1.70	ND	--	ND	ND	ND	ND	550	--	
1/26/1998	34.69	17.46	0.00	17.23	1.96	1800	--	ND	ND	ND	ND	4800	--	
7/3/1998	34.69	18.61	0.00	16.08	-1.15	ND	--	ND	ND	ND	ND	1800	--	
1/14/1999	34.69	18.92	0.00	15.77	-0.31	83	--	ND	ND	ND	ND	230	--	
7/15/1999	34.69	17.84	0.00	16.85	1.08	110	--	ND	ND	ND	1.0	290	--	
1/7/2000	34.69	19.13	0.00	15.56	-1.29	ND	--	ND	ND	ND	ND	260	--	
7/19/2000	34.69	20.27	0.00	14.42	-1.14	ND	--	ND	ND	ND	ND	648	--	
1/2/2001	34.69	20.04	0.00	14.65	0.23	ND	--	ND	ND	ND	ND	119	--	
5/23/2001	34.69	18.27	0.00	16.42	1.77	84	--	ND	ND	ND	ND	760	--	
7/30/2001	34.69	18.56	0.00	16.13	-0.29	<50	--	<0.50	<0.50	<0.50	<0.50	350	--	
10/15/2001	34.69	18.72	0.00	15.97	-0.16	96	--	<0.50	<0.50	<0.50	<0.50	160	--	



**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
1/14/2002	34.69	16.78	0.00	17.91	1.94	450	--	<2.5	<2.5	<2.5	3.3	4100	--	
4/15/2002	34.69	17.35	0.00	17.34	-0.57	<1000	--	<10	<10	<10	<10	10000	--	
7/15/2002	34.69	17.63	0.00	17.06	-0.28	2100	--	<10	<10	<10	<20	--	2100	
1/18/2003	34.69	17.04	0.00	17.65	0.59	<25000	--	<250	<250	<250	<500	--	29000	
7/11/2003	34.69	17.91	0.00	16.78	-0.87	4000	--	<25	<25	<25	<50	--	6300	
2/4/2004	34.69	17.98	0.00	16.71	-0.07	--	8000	<50	<50	<50	<100	--	8500	
8/11/2004	34.69	17.84	0.00	16.85	0.14	--	1100	<10	<10	<10	<20	--	1500	
3/31/2005	34.69	15.71	0.00	18.98	2.13	--	<2000	<0.50	<0.50	0.54	2.2	--	4900	
9/30/2005	34.69	17.65	0.00	17.04	-1.94	--	190	<0.50	<0.50	<0.50	<1.0	--	160	
3/27/2006	34.69	15.03	0.00	19.66	2.62	--	760	<0.50	<0.50	<0.50	<1.0	--	1000	
9/27/2006	34.69	18.45	0.00	16.24	-3.42	--	170	<0.50	<0.50	<0.50	0.61	--	73	
3/27/2007	34.69	18.84	0.00	15.85	-0.39	--	120	<0.50	<0.50	<0.50	<0.50	--	99	
9/28/2007	34.69	19.73	0.00	14.96	-0.89	--	68	<0.50	<0.50	<0.50	<0.50	--	15	
3/26/2008	34.69	19.32	0.00	15.37	0.41	--	200	<0.50	<0.50	<0.50	1.0	--	47	
7/28/2008	34.69	20.15	0.00	14.54	-0.83	--	<50	<0.50	<0.50	<0.50	<1.0	--	8.7	
1/26/2009	34.69	20.74	0.00	13.95	-0.59	--	<50	<0.50	<0.50	<0.50	<1.0	--	5.2	
8/3/2009	34.72	20.10	0.00	14.62	0.67	--	76	<0.50	<0.50	<0.50	<1.0	--	12	
1/25/2010	34.72	19.78	0.00	14.94	0.32	--	<50	<0.50	<0.50	<0.50	<1.0	--	14	
8/3/2010	34.72	19.47	0.00	15.25	0.31	--	210	<0.50	<0.50	<0.50	<1.0	--	37	
2/17/2011	34.72	19.50	0.00	15.22	-0.03	--	150	<0.50	<0.50	<0.50	<1.0	--	17	
8/3/2011	34.72	18.96	0.00	15.76	0.54	--	230	<0.50	<0.50	<0.50	<1.0	--	44	
<b>MW-2</b>														
6/5/1991	34.97	--	--	--	--	49	--	ND	ND	ND	ND	--	--	
9/30/1991	34.97	--	--	--	--	130	--	18	0.53	14	9.6	--	--	
12/30/1991	34.97	--	--	--	--	91	--	16	0.89	11	1.9	--	--	
4/2/1992	34.97	--	--	--	--	88	--	12	0.32	6.3	7.2	--	--	
6/30/1992	34.97	--	--	--	--	76	--	9.3	0.76	4.8	6.9	--	--	
9/15/1992	34.97	--	--	--	--	1300	--	91	5.7	80	110	--	--	
12/21/1992	34.97	20.85	0.00	14.12	--	960	--	97	3.2	74	96	--	--	
4/28/1993	34.97	--	--	--	--	1300	--	76	1.9	130	87	--	--	
7/23/1993	34.97	19.81	0.00	15.16	--	66	--	1.8	ND	2.5	2.0	--	--	
10/5/1993	34.72	19.95	0.00	14.77	-0.39	120	--	12	ND	2.1	12	--	--	
1/3/1994	34.72	20.21	0.00	14.51	-0.26	260	--	25	ND	5.5	26	--	--	
4/2/1994	34.72	19.88	0.00	14.84	0.33	ND	--	0.65	ND	ND	0.99	--	--	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
7/5/1994	34.72	19.07	0.00	15.65	0.81	160	--	16	ND	0.73	10	--	--	
10/6/1994	34.72	20.55	0.00	14.17	-1.48	170	--	15	ND	1.4	11	--	--	
1/2/1995	34.72	19.25	0.00	15.47	1.30	190	--	27	ND	0.95	11	--	--	
4/3/1995	34.72	17.49	0.00	17.23	1.76	2400	--	65	6.6	19	63	--	--	
7/14/1995	34.72	18.30	0.00	16.42	-0.81	750	--	270	ND	ND	13	--	--	
10/10/1995	34.72	19.25	0.00	15.47	-0.95	50	--	1.6	ND	ND	ND	200	--	
1/3/1996	34.72	19.40	0.00	15.32	-0.15	ND	--	ND	ND	ND	ND	--	--	
4/10/1996	34.72	17.35	0.00	17.37	2.05	300	--	42	ND	2.4	9	620	--	
7/9/1996	34.72	18.22	0.00	16.50	-0.87	760	--	230	ND	1.3	2.4	1500	--	
1/24/1997	34.72	17.59	0.00	17.13	0.63	2900	--	400	350	190	720	1300	--	
7/23/1997	34.72	19.13	0.00	15.59	-1.54	ND	--	ND	ND	ND	ND	65	--	
1/26/1998	34.72	17.12	0.00	17.60	2.01	ND	--	ND	ND	ND	0.58	13	--	
7/3/1998	34.72	18.20	0.00	16.52	-1.08	140	--	26	ND	0.95	5.0	330	--	
1/14/1999	34.72	18.56	0.00	16.16	-0.36	ND	--	0.54	ND	ND	ND	350	--	
7/15/1999	34.72	17.39	0.00	17.33	1.17	ND	--	0.88	ND	ND	ND	39	--	
1/7/2000	34.72	18.78	0.00	15.94	-1.39	ND	--	ND	ND	ND	ND	24	--	
7/19/2000	34.72	19.68	0.00	15.04	-0.90	ND	--	1.45	ND	ND	ND	117	--	
1/2/2001	34.72	19.73	0.00	14.99	-0.05	ND	--	ND	ND	ND	ND	11.4	--	
5/23/2001	34.72	18.16	0.00	16.56	1.57	ND	--	ND	ND	ND	ND	33	--	
7/30/2001	34.72	18.34	0.00	16.38	-0.18	<50	--	<0.50	<0.50	<0.50	<0.50	67	--	
10/15/2001	34.72	18.52	0.00	16.20	-0.18	<50	--	<0.50	<0.50	<0.50	<0.50	31	--	
1/14/2002	34.72	16.72	0.00	18.00	1.80	<50	--	<0.50	<0.50	<0.50	0.56	11	--	
4/15/2002	34.72	17.26	0.00	17.46	-0.54	<50	--	<0.50	<0.50	<0.50	<0.50	110	--	
7/15/2002	34.72	17.46	0.00	17.26	-0.20	270	--	21	<0.50	3.8	4.0	--	73	
1/18/2003	34.72	16.93	0.00	17.79	0.53	<50	--	<0.50	<0.50	<0.50	<1.0	--	22	
7/11/2003	34.72	17.68	0.00	17.04	-0.75	130	--	3.0	<0.50	<0.50	<1.0	--	89	
2/4/2004	34.72	17.36	0.00	17.36	0.32	--	61	2.9	<0.50	<0.50	<1.0	--	22	
8/11/2004	34.72	17.61	0.00	17.11	-0.25	--	140	<0.50	0.60	<0.50	<1.0	--	94	
3/31/2005	34.72	15.56	0.00	19.16	2.05	--	<50	<0.50	<0.50	<0.50	<1.0	--	14	
9/30/2005	34.72	17.31	0.00	17.41	-1.75	--	<50	<0.50	<0.50	<0.50	<1.0	--	9.1	
3/27/2006	34.72	14.91	0.00	19.81	2.40	--	<50	<0.50	<0.50	<0.50	<1.0	--	2.7	
9/27/2006	34.72	18.15	0.00	16.57	-3.24	--	<50	<0.50	<0.50	<0.50	<0.50	--	7.7	
3/27/2007	34.72	18.57	0.00	16.15	-0.42	--	<50	<0.50	<0.50	<0.50	<0.50	--	1.4	
9/28/2007	34.72	18.38	0.00	16.34	0.19	--	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
76 Station 0752**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
3/26/2008	34.72	19.06	0.00	15.66	-0.68	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
7/28/2008	34.72	19.90	0.00	14.82	-0.84	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
1/26/2009	34.72	20.50	0.00	14.22	-0.60	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
8/3/2009	34.74	19.92	0.00	14.82	0.60	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
1/25/2010	34.74	19.70	0.00	15.04	0.22	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
8/3/2010	34.74	19.26	0.00	15.48	0.44	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
2/17/2011	34.74	19.32	0.00	15.42	-0.06	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
8/3/2011	34.74	18.74	0.00	16.00	0.58	--	77	6.7	<0.50	<0.50	<1.0	--	14	
<b>MW-3</b>														
6/5/1991	33.39	--	--	--	--	5800	--	1200	40	140	97	--	--	
9/30/1991	33.39	--	--	--	--	6800	--	1400	130	290	240	--	--	
12/30/1991	33.39	--	--	--	--	7200	--	2100	690	410	550	--	--	
4/2/1992	33.39	--	--	--	--	8000	--	1400	200	300	310	--	--	
6/30/1992	33.39	--	--	--	--	8900	--	1900	210	430	550	--	--	
9/15/1992	33.39	--	--	--	--	10000	--	1900	330	400	580	--	--	
12/21/1992	33.39	20.02	0.00	13.37	--	8500	--	1500	150	310	330	--	--	
4/28/1993	33.39	--	--	--	--	2600	--	220	7.6	41	27	--	--	
7/23/1993	33.39	19.00	0.00	14.39	--	4400	--	660	26	160	82	--	--	
10/5/1993	33.14	19.20	0.00	13.94	-0.45	9200	--	720	88	140	140	--	--	
1/3/1994	33.14	19.40	0.00	13.74	-0.20	4900	--	830	100	170	150	--	--	
4/2/1994	33.14	19.01	0.00	14.13	0.39	6000	--	800	30	140	110	--	--	
7/5/1994	33.14	18.14	0.00	15.00	0.87	25000	--	ND	ND	ND	ND	--	--	
10/6/1994	33.14	19.73	0.00	13.41	-1.59	49000	--	1300	200	280	300	--	--	
1/2/1995	33.14	18.36	0.00	14.78	1.37	480	--	1.6	ND	1.4	ND	--	--	
4/3/1995	33.14	16.38	0.00	16.76	1.98	8100	--	65	ND	ND	ND	--	--	
7/14/1995	33.14	17.49	0.00	15.65	-1.11	ND	--	1300	ND	ND	ND	--	--	
10/10/1995	33.14	18.50	0.00	14.64	-1.01	3100	--	1400	36	50	53	190000	--	
1/3/1996	33.14	18.54	0.00	14.60	-0.04	ND	--	2300	110	150	140	--	--	
7/9/1996	33.14	17.43	0.00	15.71	1.11	ND	--	2000	ND	150	160	140000	--	
1/24/1997	33.14	16.57	0.00	16.57	0.86	540	--	8.0	ND	11	9.9	45	--	
7/23/1997	33.14	18.38	0.00	14.76	-1.81	7400	--	1900	180	140	340	45000	--	
1/26/1998	33.14	16.22	0.00	16.92	2.16	250	--	2.2	1.9	0.87	1.9	4.0	--	
7/3/1998	33.14	17.46	--	15.68	-1.24	230	--	1.8	2.5	1.5	3.4	6.3	--	
1/14/1999	33.14	17.73	--	15.41	-0.27	400	--	8.2	2.7	0.90	5.9	140	--	

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HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
7/15/1999	33.14	16.58	--	16.56	1.15	290	--	3.3	3.6	1.7	2.5	13	--	
1/7/2000	33.14	17.84	--	15.30	-1.26	ND	--	890	91	100	480	20000	--	
7/19/2000	33.14	18.92	--	14.22	-1.08	354	--	3.87	2.61	0.646	ND	13.7	--	
1/2/2001	33.14	19.07	--	14.07	-0.15	464	--	ND	3.69	3.91	ND	21.1	--	
5/23/2001	33.14	17.12	--	16.02	1.95	420	--	7.6	3.1	3.0	5.1	1900	--	
7/30/2001	33.14	17.38	--	15.76	-0.26	290	--	4.6	4.1	<0.50	3.4	23	--	
10/15/2001	33.14	17.61	--	15.53	-0.23	400	--	<0.50	<0.50	<0.50	<0.50	13	--	
1/14/2002	33.14	15.53	--	17.61	2.08	130	--	0.50	0.61	1.1	<0.50	9.9	--	
4/15/2002	33.14	16.12	--	17.02	-0.59	280	--	9.9	1.6	3.3	6.8	1400	--	
7/15/2002	33.14	16.48	--	16.66	-0.36	64	--	<0.50	<0.50	<0.50	<1.0	33	--	
1/18/2003	33.14	15.81	--	17.33	0.67	420	--	0.54	<0.50	<0.50	<1.0	130	--	
7/11/2003	33.14	16.74	--	16.40	-0.93	--	300	2.3	<0.50	<0.50	<1.0	--	31	
2/4/2004	33.14	16.15	0.00	16.99	0.59	--	130	7.9	<0.50	<0.50	<1.0	--	63	
8/11/2004	33.14	16.64	0.00	16.50	-0.49	--	<20000	<200	<200	<200	<400	--	20000	
3/31/2005	33.14	14.53	0.00	18.61	2.11	--	<20000	330	<200	<200	<400	--	78000	
9/30/2005	33.14	16.55	0.00	16.59	-2.02	--	12000	360	40	<25	50	--	20000	
3/27/2006	33.14	13.66	0.00	19.48	2.89	--	10000	150	<25	53	99	--	15000	
9/27/2006	33.14	17.40	0.00	15.74	-3.74	--	<12000	<120	<120	<120	<120	--	12000	
3/27/2007	33.14	17.55	0.00	15.59	-0.15	--	8700	180	<12	60	57	--	8900	
9/28/2007	33.14	18.59	0.00	14.55	-1.04	--	9000	55	<50	<50	<50	--	11000	
3/26/2008	33.14	18.19	0.00	14.95	0.40	--	450	13	1.3	0.84	1.4	--	7200	
7/28/2008	33.14	19.00	0.00	14.14	-0.81	--	8300	<50	<50	<50	<100	--	13000	
1/26/2009	33.14	19.54	0.00	13.60	-0.54	--	8800	27	<12	<12	<25	--	13000	
8/3/2009	33.18	18.90	0.00	14.28	0.68	--	9300	56	<50	<50	<100	--	8000	
1/25/2010	33.18	18.54	0.00	14.64	0.36	--	4900	79	7.3	5.4	13	--	8100	
8/3/2010	33.18	18.35	0.00	14.83	0.19	--	2500	30	<12	<12	<25	--	4600	
2/17/2011	33.18	18.30	0.00	14.88	0.05	--	3800	11	<5.0	<5.0	<10	--	4700	
8/3/2011	33.18	17.87	0.00	15.31	0.43	--	2,600	9.7	0.8	3.1	1.4	--	2,000	
<b>MW-4</b>														
10/19/1992	--	--	--	--	--	480	--	0.51	2.1	2.8	6.8	--	--	
12/21/1992	33.12	19.73	--	13.39	--	220	--	ND	ND	0.97	0.74	--	--	
4/28/1993	33.12	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/23/1993	33.12	18.72	--	14.40	--	85	--	ND	ND	ND	ND	--	--	
10/5/1993	32.71	18.74	--	13.97	-0.43	130	--	ND	ND	ND	ND	--	--	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
76 Station 0752**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
1/3/1994	32.71	18.93	--	13.78	-0.19	210	--	ND	ND	0.76	1.6	--	--	
4/2/1994	32.71	18.53	--	14.18	0.40	89	--	ND	ND	ND	ND	--	--	
7/5/1994	32.71	17.67	--	15.04	0.86	190	--	ND	ND	ND	ND	--	--	
10/6/1994	32.71	19.25	--	13.46	-1.58	170	--	0.85	ND	ND	0.74	--	--	
1/2/1995	32.71	17.75	--	14.96	1.50	ND	--	ND	ND	ND	ND	--	--	
4/3/1995	32.71	15.87	--	16.84	1.88	98	--	ND	ND	ND	ND	--	--	
7/14/1995	32.71	17.01	--	15.70	-1.14	ND	--	ND	ND	ND	ND	--	--	
10/10/1995	32.71	18.03	--	14.68	-1.02	ND	--	ND	ND	ND	ND	120	--	
1/3/1996	32.71	18.05	--	14.66	-0.02	ND	--	ND	ND	ND	ND	--	--	
4/10/1996	32.71	16.00	--	16.71	2.05	ND	--	ND	ND	ND	ND	240	--	
7/9/1996	32.71	16.96	--	15.75	-0.96	ND	--	ND	ND	ND	ND	480	--	
1/24/1997	32.71	16.04	0.00	16.67	0.92	ND	--	ND	ND	ND	ND	270	--	
7/23/1997	32.71	17.87	0.00	14.84	-1.83	ND	--	ND	ND	ND	ND	460	--	
1/26/1998	32.71	16.05	--	16.66	1.82	ND	--	ND	ND	ND	ND	17	--	
7/3/1998	32.71	16.95	--	15.76	-0.90	ND	--	ND	ND	ND	ND	3.8	--	
1/14/1999	32.71	17.34	--	15.37	-0.39	ND	--	ND	ND	ND	ND	4600	--	
7/15/1999	32.71	16.36	--	16.35	0.98	ND	--	ND	ND	ND	ND	ND	--	
1/7/2000	32.71	17.81	--	14.90	-1.45	ND	--	ND	ND	ND	ND	450	--	
7/19/2000	32.71	18.94	--	13.77	-1.13	ND	--	ND	ND	ND	ND	ND	--	
1/2/2001	32.71	18.85	--	13.86	0.09	ND	--	ND	ND	ND	ND	ND	--	
5/23/2001	32.71	16.82	--	15.89	2.03	ND	--	ND	ND	ND	ND	ND	--	
7/30/2001	32.71	16.88	--	15.83	-0.06	<50	--	<0.50	<0.50	<0.50	<0.50	4.9	--	
10/15/2001	32.71	17.08	--	15.63	-0.20	<50	--	<0.50	<0.50	<0.50	<0.50	<5.0	--	
1/14/2002	32.71	14.97	--	17.74	2.11	<50	--	<0.50	<0.50	<0.50	<0.50	30	--	
4/15/2002	32.71	15.48	--	17.23	-0.51	<50	--	<0.50	<0.50	<0.50	<0.50	180	--	
7/15/2002	32.71	15.90	--	16.81	-0.42	<50	--	<0.50	<0.50	<0.50	<1.0	50	--	
1/18/2003	32.71	15.39	--	17.32	0.51	<50	--	<0.50	<0.50	<0.50	<1.0	<2.0	--	
7/11/2003	32.71	16.17	--	16.54	-0.78	--	200	<0.50	<0.50	<0.50	<1.0	--	52	
2/4/2004	32.71	16.12	0.00	16.59	0.05	--	1300	<10	<10	<10	<20	--	1700	
8/11/2004	32.71	16.16	0.00	16.55	-0.04	--	<5000	<50	<50	<50	<100	--	6400	
3/31/2005	32.71	14.15	0.00	18.56	2.01	--	<1300	<0.50	<0.50	<0.50	<1.0	--	1600	
9/30/2005	32.71	16.91	0.00	15.80	-2.76	--	900	<0.50	<0.50	<0.50	<1.0	--	3800	
3/27/2006	32.71	13.94	0.00	18.77	2.97	--	870	<0.50	<0.50	<0.50	<1.0	--	2000	
9/27/2006	32.71	16.91	0.00	15.80	-2.97	--	<1000	<10	<10	<10	<10	--	1600	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
3/27/2007	32.71	17.15	0.00	15.56	-0.24	--	1500	<2.5	<2.5	<2.5	<2.5	--	1700	
9/28/2007	32.71	18.13	0.00	14.58	-0.98	--	590	<5.0	<5.0	<5.0	<5.0	--	1400	
3/26/2008	32.71	17.66	0.00	15.05	0.47	--	390	<0.50	<0.50	<0.50	<1.0	--	1400	
7/28/2008	32.71	18.34	0.00	14.37	-0.68	--	480	<1.0	<1.0	<1.0	<2.0	--	950	
1/26/2009	32.71	18.80	0.00	13.91	-0.46	--	500	<0.50	<0.50	<0.50	<1.0	--	830	
8/3/2009	32.72	18.43	0.00	14.29	0.38	--	640	<5.0	6.6	<5.0	<10	--	570	
1/25/2010	32.72	18.02	0.00	14.70	0.41	--	190	<0.50	<0.50	<0.50	<1.0	--	400	
8/3/2010	32.72	17.83	0.00	14.89	0.19	--	58	<0.50	<0.50	<0.50	<1.0	--	110	
2/17/2011	32.72	17.85	0.00	14.87	-0.02	--	<50	<0.50	<0.50	<0.50	<1.0	--	12	
8/3/2011	32.72	17.36	0.00	15.36	0.49	--	<50	<0.50	<0.50	<0.50	<1.0	--	12	
<b>MW-5</b>														
10/19/1992	--	--	--	--	--	2700	--	61	5.0	100	61	--	--	
12/21/1992	33.25	19.75	--	13.50	--	1700	--	51	4.7	83	34	--	--	
4/28/1993	33.25	--	--	--	--	6700	--	200	190	250	430	--	--	
7/23/1993	33.25	18.74	--	14.51	--	2000	--	122	8.0	68	47	--	--	
10/5/1993	32.95	18.83	--	14.12	-0.39	1700	--	70	6.2	54	40	--	--	
1/3/1994	32.95	19.05	--	13.90	-0.22	1500	--	44	ND	42	46	--	--	
4/2/1994	32.95	18.68	--	14.27	0.37	1800	--	46	5.1	38	35	--	--	
7/5/1994	32.95	17.90	--	15.05	0.78	2200	--	97	8.4	37	36	--	--	
10/6/1994	32.95	19.37	--	13.58	-1.47	1600	--	79	5.7	28	22	--	--	
1/2/1995	32.95	17.92	--	15.03	1.45	1700	--	50	8.6	30	28	--	--	
4/3/1995	32.95	16.15	--	16.80	1.77	5400	--	190	240	170	420	--	--	
7/14/1995	32.95	17.18	--	15.77	-1.03	3800	--	210	100	130	190	--	--	
10/10/1995	32.95	18.15	--	14.80	-0.97	1300	--	92	14	15	39	1100	--	
1/3/1996	32.95	18.20	--	14.75	-0.05	630	--	53	4.4	8.3	13	--	--	
4/10/1996	32.95	16.05	--	16.90	2.15	500	--	25	18	7.0	20	640	--	
7/9/1996	32.95	17.11	--	15.84	-1.06	1000	--	44	20	10	34	150	--	
1/24/1997	32.95	16.36	0.00	16.59	0.75	4000	--	190	400	160	430	600	--	
7/23/1997	32.95	18.08	0.00	14.87	-1.72	1700	--	200	23	18	45	2500	--	
1/26/1998	32.95	16.27	--	16.68	1.81	ND	--	ND	ND	ND	ND	ND	--	
7/3/1998	32.95	17.27	--	15.68	-1.00	ND	--	ND	ND	ND	ND	ND	--	
1/14/1999	32.95	17.55	--	15.40	-0.28	330	--	61	4.1	2.2	2.9	560	--	
7/15/1999	32.95	16.41	--	16.54	1.14	1100	--	170	ND	ND	27	660	--	
1/7/2000	32.95	17.85	--	15.10	-1.44	1000	--	180	6.3	ND	14	430	--	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
7/19/2000	32.95	18.87	--	14.08	-1.02	2980	--	289	57.3	65.3	43.4	976	--	
1/2/2001	32.95	18.47	--	14.48	0.40	1150	--	87.2	17.8	7.97	9.32	368	--	
5/23/2001	32.95	17.38	--	15.57	1.09	840	--	42	10	13	7.1	130	--	
7/30/2001	32.95	17.12	--	15.83	0.26	1900	--	82	24	6.9	13	370	--	
10/15/2001	32.95	17.33	--	15.62	-0.21	26000	--	390	230	58	1300	<500	--	
1/14/2002	32.95	15.33	--	17.62	2.00	<50	--	<0.50	<0.50	<0.50	<0.50	<2.5	--	
4/15/2002	32.95	15.89	--	17.06	-0.56	310	--	20	6.7	11	7.7	77	--	
7/15/2002	32.95	16.21	--	16.74	-0.32	1500	--	40	22	60	28	170	--	
1/18/2003	32.95	15.68	--	17.27	0.53	<50	--	0.75	<0.50	<0.50	<1.0	81	--	
7/11/2003	32.95	16.29	--	16.66	-0.61	--	<50	<0.50	<0.50	<0.50	<1.0	--	3.6	
2/4/2004	32.95	16.08	0.00	16.87	0.21	--	82	16	1.6	0.65	<1.0	--	16	
8/11/2004	32.95	16.38	0.00	16.57	-0.30	--	900	81	14	2.8	11	--	120	
3/31/2005	32.95	14.30	0.00	18.65	2.08	--	5000	160	84	65	72	--	140	
9/30/2005	32.95	16.19	0.00	16.76	-1.89	--	1200	26	5.8	2.4	9.2	--	38	
3/27/2006	32.95	13.90	0.00	19.05	2.29	--	1100	13	12	4.7	16	--	8.8	
9/27/2006	32.95	17.06	0.00	15.89	-3.16	--	1300	20	11	2.3	15	--	21	
3/27/2007	32.95	17.43	0.00	15.52	-0.37	--	960	15	7.8	2.2	11	--	14	
9/28/2007	32.95	18.25	0.00	14.70	-0.82	--	1300	13	6.0	2.3	15	--	8.4	
3/26/2008	32.95	17.82	0.00	15.13	0.43	--	1200	7.6	3.3	1.8	11	--	2.7	
7/28/2008	32.95	18.70	0.00	14.25	-0.88	--	2000	12	4.9	3.2	17	--	<0.50	
1/26/2009	32.95	19.25	0.00	13.70	-0.55	--	1400	7.4	3.3	2.5	11	--	3.3	
8/3/2009	32.98	18.62	0.00	14.36	0.66	--	1500	17	9.0	3.5	22	--	7.3	
1/25/2010	32.98	18.34	0.00	14.64	0.28	--	1600	7.6	3.6	2.4	15	--	1.7	
8/3/2010	32.98	18.07	0.00	14.91	0.27	--	2200	32	32	10	48	--	10	
2/17/2011	32.98	18.05	0.00	14.93	0.02	--	1800	33	7.4	<0.50	11	--	15	
8/3/2011	32.98	17.57	0.00	15.41	0.48	--	2,500	58	23	12	34	--	40	
<b>MW-6</b>														
10/19/1992	--	--	--	--	--	3900	--	420	12	60	28	--	--	
12/21/1992	32.42	19.17	--	13.25	--	2300	--	370	11	39	15	--	--	
4/28/1993	32.42	--	--	--	--	1200	--	54	1.5	11	5.3	--	--	
7/23/1993	32.42	18.17	--	14.25	--	580	--	19	0.99	3.4	2.7	--	--	
10/5/1993	32.16	18.35	--	13.81	-0.44	1400	--	34	ND	5.3	7.3	--	--	
1/3/1994	32.16	18.54	--	13.62	-0.19	1400	--	57	ND	8.5	11	--	--	
4/2/1994	32.16	18.15	--	14.01	0.39	5300	--	ND	ND	ND	ND	--	--	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
7/5/1994	32.16	17.25	--	14.91	0.90	ND	--	ND	ND	ND	ND	--	--	
10/6/1994	32.16	18.85	--	13.31	-1.60	11000	--	ND	ND	ND	ND	--	--	
1/2/1995	32.16	17.51	--	14.65	1.34	550	--	18	0.92	2.0	1.8	--	--	
4/3/1995	32.16	15.48	--	16.68	2.03	6600	--	ND	ND	ND	ND	--	--	
7/14/1995	32.16	16.63	--	15.53	-1.15	ND	--	ND	ND	ND	ND	--	--	
10/10/1995	32.16	17.68	--	14.48	-1.05	ND	--	81	ND	ND	ND	75000	--	
1/3/1996	32.16	17.66	--	14.50	0.02	70	--	9.9	0.58	ND	0.81	--	--	
4/10/1996	32.16	15.56	--	16.60	2.10	300	--	258	4.7	0.94	2.7	53000	--	
7/9/1996	32.16	16.59	--	15.57	-1.03	1800	--	410	ND	12	ND	76000	--	
1/24/1997	32.16	15.69	0.00	16.47	0.90	ND	--	0.80	ND	ND	ND	390	--	
7/23/1997	32.16	17.53	0.00	14.63	-1.84	5700	--	1100	240	240	700	16000	--	
1/26/1998	32.16	15.44	--	16.72	2.09	ND	--	ND	ND	ND	ND	ND	--	
7/3/1998	32.16	16.58	--	15.58	-1.14	ND	--	ND	ND	ND	ND	ND	--	
1/14/1999	32.16	17.02	--	15.14	-0.44	ND	--	ND	ND	ND	ND	14	--	
7/15/1999	32.16	15.95	--	16.21	1.07	ND	--	ND	ND	ND	ND	2.8	--	
1/7/2000	32.16	16.96	--	15.20	-1.01	78	--	24	ND	0.66	17	280	--	
7/19/2000	32.16	18.04	--	14.12	-1.08	ND	--	ND	1.32	ND	0.974	ND	--	
1/2/2001	32.16	18.10	--	14.06	-0.06	ND	--	ND	ND	ND	ND	ND	--	
5/23/2001	32.16	16.42	--	15.74	1.68	ND	--	ND	ND	ND	ND	ND	--	
7/30/2001	32.16	16.49	--	15.67	-0.07	<50	--	<0.50	<0.50	<0.50	<0.50	<2.5	--	
10/15/2001	32.16	16.67	--	15.49	-0.18	<50	--	<0.50	0.62	<0.50	<0.50	<5.0	--	
1/14/2002	32.16	14.60	--	17.56	2.07	<50	--	<0.50	<0.50	<0.50	<0.50	<2.5	--	
4/15/2002	32.16	15.07	--	17.09	-0.47	<50	--	<0.50	<0.50	<0.50	0.73	<5.0	--	
7/15/2002	32.16	15.56	--	16.60	-0.49	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	--	
1/18/2003	32.16	15.80	--	16.36	-0.24	<50	--	<0.50	<0.50	<0.50	<1.0	<2.0	--	
7/11/2003	32.16	15.74	--	16.42	0.06	--	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	
2/4/2004	32.16	15.49	0.00	16.67	0.25	--	<50	2.6	<0.50	<0.50	<1.0	--	2.4	
8/11/2004	32.16	15.81	0.00	16.35	-0.32	--	7900	95	<50	<50	<100	--	9100	
3/31/2005	32.16	13.70	0.00	18.46	2.11	--	<5000	2.5	<0.50	<0.50	<1.0	--	7600	
9/30/2005	32.16	15.48	0.00	16.68	-1.78	--	4300	140	37	28	41	--	5800	
3/27/2006	32.16	13.02	0.00	19.14	2.46	--	7200	34	0.66	0.96	18	--	9900	
9/27/2006	32.16	16.56	0.00	15.60	-3.54	--	1800	<12	<12	<12	<12	--	3300	
3/27/2007	32.16	16.73	0.00	15.43	-0.17	--	1600	2.8	<2.5	<2.5	<2.5	--	1800	
9/28/2007	32.16	17.75	0.00	14.41	-1.02	--	830	<5.0	<5.0	<5.0	<5.0	--	1600	



**Table 2  
HISTORICAL GROUNDWATER RESULTS**

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Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
3/26/2008	32.16	17.31	0.00	14.85	0.44	--	940	45	5.9	2.0	5.3	--	1300	
7/28/2008	32.16	18.50	0.00	13.66	-1.19	--	500	<1.0	<1.0	<1.0	<2.0	--	750	
1/26/2009	32.16	18.46	0.00	13.70	0.04	--	570	<0.50	<0.50	<0.50	<1.0	--	500	
8/3/2009	32.19	18.01	0.00	14.18	0.48	--	800	<5.0	<5.0	<5.0	<10	--	690	
1/25/2010	32.19	17.64	0.00	14.55	0.37	--	410	4.8	0.63	<0.50	1.4	--	390	
8/3/2010	32.19	17.48	0.00	14.71	0.16	--	480	2.0	<0.50	<0.50	<1.0	--	520	
2/17/2011	32.19	17.48	0.00	14.71	0.00	--	290	<0.50	<0.50	<0.50	<1.0	--	130	
8/3/2011	32.19	17.02	0.00	15.17	0.46	--	330	<0.50	<0.50	<0.50	<1.0	--	89	
<b>MW-7</b>														
10/19/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	
4/28/1993	32.49	--	--	--	--	110	--	2.8	1.3	1.4	1.7	--	--	
7/23/1993	32.49	18.60	--	13.89	--	790	--	23	3.3	28	5.4	--	--	
10/5/1993	32.20	18.76	--	13.44	-0.45	360	--	10	1.2	0.91	0.99	--	--	
1/3/1994	32.20	18.91	--	13.29	-0.15	ND	--	0.93	ND	0.75	1.9	--	--	
4/2/1994	32.20	18.50	--	13.70	0.41	360	--	2.0	ND	ND	0.8	--	--	
7/5/1994	32.20	17.52	--	14.68	0.98	ND	--	ND	ND	ND	ND	--	--	
10/6/1994	32.20	19.25	--	12.95	-1.73	340	--	5.6	0.85	ND	1.2	--	--	
1/2/1995	32.20	17.67	--	14.53	1.58	ND	--	ND	ND	ND	ND	--	--	
4/3/1995	32.20	15.81	--	16.39	1.86	570	--	24	ND	3.4	5.8	--	--	
7/14/1995	32.20	17.05	--	15.15	-1.24	ND	--	14	ND	ND	ND	--	--	
10/10/1995	32.20	18.08	--	14.12	-1.03	740	--	170	ND	ND	ND	13000	--	
1/3/1996	32.20	18.02	--	14.18	0.06	360	--	16	1.3	2.7	1.4	--	--	
4/10/1996	32.20	15.81	--	16.39	2.21	120	--	4.1	1.5	ND	0.88	3200	--	
7/9/1996	32.20	16.99	--	15.21	-1.18	ND	--	ND	ND	ND	ND	3400	--	
1/24/1997	32.20	16.08	0.00	16.12	0.91	ND	--	16	ND	ND	ND	6600	--	
7/23/1997	32.20	17.99	0.00	14.21	-1.91	ND	--	16	ND	ND	0.62	10000	--	
1/26/1998	32.20	15.56	--	16.64	2.43	ND	--	ND	ND	ND	0.56	ND	--	
7/3/1998	32.20	17.04	--	15.16	-1.48	ND	--	ND	ND	ND	ND	ND	--	
1/14/1999	32.20	--	--	--	--	--	--	--	--	--	--	--	--	
7/15/1999	32.20	15.72	--	16.48	--	ND	--	ND	ND	ND	ND	290	--	
1/7/2000	32.20	16.80	--	15.40	-1.08	ND	--	7.7	ND	ND	4.4	98	--	
7/19/2000	32.20	17.88	--	14.32	-1.08	ND	--	ND	1.27	ND	0.979	ND	--	
1/2/2001	32.20	17.97	--	14.23	-0.09	ND	--	ND	ND	ND	ND	ND	--	
5/23/2001	32.20	16.81	--	15.39	1.16	ND	--	ND	ND	ND	ND	ND	--	

essible-parke

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
76 Station 0752**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
7/30/2001	32.20	16.79	--	15.41	0.02	<50	--	<0.50	<0.50	<0.50	<0.50	<2.5	--	
10/15/2001	32.20	16.98	--	15.22	-0.19	<50	--	<0.50	0.58	<0.50	<0.50	<5.0	--	
1/14/2002	32.20	14.85	--	17.35	2.13	<50	--	<0.50	<0.50	<0.50	<0.50	<2.5	--	
4/15/2002	32.20	15.29	--	16.91	-0.44	<50	--	<0.50	<0.50	<0.50	0.70	<5.0	--	
7/15/2002	32.20	15.92	--	16.28	-0.63	<50	--	<0.50	<0.50	<0.50	<1.0	<0.50	--	
1/18/2003	32.20	15.11	--	17.09	0.81	<50	--	<0.50	<0.50	<0.50	<1.0	<2.0	--	
7/11/2003	32.20	15.89	--	16.31	-0.78	--	<50	<0.50	<0.50	<0.50	<1.0	--	19	
2/4/2004	32.20	15.90	0.00	16.30	-0.01	--	<50	3.6	<0.50	<0.50	<1.0	--	3.2	
8/11/2004	32.20	16.12	0.00	16.08	-0.22	--	<5000	120	<50	<50	<100	--	5100	
3/31/2005	32.20	13.99	0.00	18.21	2.13	--	<5000	190	<50	<50	<100	--	8400	
9/30/2005	32.20	15.93	0.00	16.27	-1.94	--	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	
3/27/2006	32.20	13.40	0.00	18.80	2.53	--	2500	160	10	11	26	--	5600	
9/27/2006	32.20	16.96	0.00	15.24	-3.56	--	2800	180	<12	15	44	--	4200	
3/27/2007	32.20	17.30	0.00	14.90	-0.34	--	920	66	2.9	3.4	4.5	--	970	
9/28/2007	32.20	18.10	0.00	14.10	-0.80	--	4000	440	15	17	59	--	3300	
3/26/2008	32.20	17.64	0.00	14.56	0.46	--	390	39	3.3	0.85	7.5	--	96	
7/28/2008	32.20	18.50	0.00	13.70	-0.86	--	64	3.3	<0.50	<0.50	<1.0	--	8.7	
1/26/2009	32.20	18.90	0.00	13.30	-0.40	--	80	7.9	0.58	<0.50	<1.0	--	10	
8/3/2009	32.22	18.29	0.00	13.93	0.63	--	2100	220	14	10	31	--	750	
1/25/2010	32.22	17.49	0.00	14.73	0.80	--	490	25	3.5	0.54	6.9	--	16	
8/3/2010	32.22	17.84	0.00	14.38	-0.35	--	240	45	1.8	1.2	1.7	--	290	
2/17/2011	32.22	17.83	0.00	14.39	0.01	--	370	53	2.0	<0.50	2.1	--	12	
8/3/2011	32.22	17.42	0.00	14.80	0.41	--	390	20	1.8	<0.50	1.6	--	27	
<b>MW-8</b>														
4/28/1993	32.33	--	--	--	--	450	--	18	1.8	1.8	1.4	--	--	
7/23/1993	32.33	18.45	--	13.88	--	260	--	5.1	ND	0.6	ND	--	--	
10/5/1993	32.00	18.57	--	13.43	-0.45	120	--	1.7	ND	ND	ND	--	--	
1/3/1994	32.00	18.73	--	13.27	-0.16	ND	--	ND	ND	ND	ND	51	--	
4/2/1994	32.00	18.30	--	13.70	0.43	150	--	1.2	ND	ND	ND	--	--	
7/5/1994	32.00	17.41	--	14.59	0.89	730	--	17	ND	1.6	ND	--	--	
10/6/1994	32.00	18.98	--	13.02	-1.57	140	--	ND	ND	ND	ND	--	--	
1/2/1995	32.00	17.58	--	14.42	1.40	440	--	18	0.72	2.0	1.8	--	--	
4/3/1995	32.00	15.54	--	16.46	2.04	960	--	11	ND	ND	ND	--	--	
7/14/1995	32.00	16.81	--	15.19	-1.27	280	--	4.2	2.6	1.1	3.3	--	--	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
76 Station 0752**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
10/10/1995	32.00	17.85	--	14.15	-1.04	110	--	1.3	0.62	0.67	ND	170	--	
1/3/1996	32.00	17.82	--	14.18	0.03	63	--	ND	0.51	ND	1.8	--	--	
4/10/1996	32.00	15.70	--	16.30	2.12	ND	--	1.1	0.61	ND	ND	60	--	
7/9/1996	32.00	16.78	--	15.22	-1.08	72	--	1.0	ND	ND	ND	140	--	
1/24/1997	32.00	15.79	0.00	16.21	0.99	ND	--	ND	ND	ND	ND	76	--	
7/23/1997	32.00	17.69	0.00	14.31	-1.90	ND	--	ND	ND	ND	ND	270	--	
1/26/1998	32.00	15.50	--	16.50	2.19	ND	--	ND	ND	ND	0.76	2.9	--	
7/3/1998	32.00	16.80	--	15.20	-1.30	ND	--	ND	ND	ND	ND	ND	--	
1/14/1999	32.00	17.13	--	14.87	-0.33	ND	--	ND	ND	ND	ND	11	--	
7/15/1999	32.00	15.85	--	16.15	1.28	ND	--	ND	ND	ND	ND	ND	--	
1/7/2000	32.00	16.94	--	15.06	-1.09	ND	--	ND	ND	ND	ND	11	--	
7/19/2000	32.00	18.06	--	13.94	-1.12	ND	--	ND	2.99	0.521	ND	ND	--	
1/2/2001	32.00	18.12	--	13.88	-0.06	ND	--	ND	ND	ND	ND	ND	--	
5/23/2001	32.00	16.96	--	15.04	1.16	ND	--	ND	ND	ND	ND	ND	--	
7/30/2001	32.00	16.52	--	15.48	0.44	<50	--	<0.50	<0.50	<0.50	<0.50	2.7	--	
10/15/2001	32.00	16.72	--	15.28	-0.20	<50	--	<0.50	0.65	<0.50	<0.50	<5.0	--	
1/14/2002	32.00	14.53	--	17.47	2.19	<50	--	<0.50	<0.50	<0.50	<0.50	<2.5	--	
4/15/2002	32.00	14.96	--	17.04	-0.43	<50	--	<0.50	<0.50	<0.50	<0.50	<5.0	--	
7/15/2002	32.00	15.60	--	16.40	-0.64	<50	--	<0.50	<0.50	<0.50	<1.0	11	--	
1/18/2003	32.00	14.78	--	17.22	0.82	<50	--	<0.50	<0.50	<0.50	<1.0	<2.0	--	
2/4/2004	32.00	15.65	0.00	16.35	-0.87	--	52	2.3	<0.50	<0.50	<1.0	--	2.4	
8/11/2004	32.00	15.86	0.00	16.14	-0.21	--	350	<2.5	<2.5	<2.5	<5.0	--	310	
3/31/2005	32.00	13.73	0.00	18.27	2.13	--	<2000	<0.50	<0.50	<0.50	<1.0	--	2100	
9/30/2005	32.00	15.94	0.00	16.06	-2.21	--	1200	<0.50	0.50	<0.50	<1.0	--	6900	
3/27/2006	32.00	13.13	0.00	18.87	2.81	--	460	<0.50	<0.50	<0.50	<1.0	--	820	
9/27/2006	32.00	16.75	0.00	15.25	-3.62	--	520	<5.0	<5.0	<5.0	8.2	--	870	
3/27/2007	32.00	16.87	0.00	15.13	-0.12	--	1400	<0.50	<0.50	<0.50	<0.50	--	3600	
9/28/2007	32.00	17.91	0.00	14.09	-1.04	--	280	<2.5	<2.5	<2.5	<2.5	--	670	
3/26/2008	32.00	17.45	0.00	14.55	0.46	--	110	<0.50	<0.50	<0.50	<1.0	--	210	
7/28/2008	32.00	18.50	0.00	13.50	-1.05	--	<50	<0.50	<0.50	<0.50	<1.0	--	11	
1/26/2009	32.00	18.65	0.00	13.35	-0.15	--	<50	<0.50	<0.50	<0.50	<1.0	--	22	
8/3/2009	32.03	18.11	0.00	13.92	0.57	--	67	<0.50	<0.50	<0.50	<1.0	--	64	
1/25/2010	32.03	17.67	0.00	14.36	0.44	--	<50	<0.50	<0.50	<0.50	<1.0	--	10	
8/3/2010	32.03	17.58	0.00	14.45	0.09	--	<50	<0.50	<0.50	<0.50	<1.0	--	10	

**Table 2  
HISTORICAL GROUNDWATER RESULTS**

**August 3, 2011  
76 Station 0752**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-Water Elevation (feet)	Change in Elevation (feet)	TPH-G 8015 (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
2/17/2011	32.03	17.53	0.00	14.50	0.05	--	<50	<0.50	<0.50	<0.50	<1.0	--	2.5	
8/3/2011	32.03	17.18	0.00	14.85	0.35	--	<50	<0.50	<0.50	<0.50	<1.0	--	1.6	

ARCADIS

**Attachment C**

Laboratory Reports and Chain-of-Custody Documentation



Date of Report: 02/15/2012

Robert Kitay

Aqua Science Engineers, Inc.  
55 Oak Court, Ste. 220  
Danville, CA 94526

Project: Yee  
BC Work Order: 1202338  
Invoice ID: B116454

Enclosed are the results of analyses for samples received by the laboratory on 2/9/2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Linda Phoudamneun  
Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014



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# Chain of Custody

Aqua Science Engineers, Inc.  
55 Oak Court, Suite 220  
Danville, CA 94526  
(925) 820-9391  
FAX (925) 837-4853

12-02338

PAGE 1 of 1

SAMPLER (SIGNATURE)  
*David Allen*

PROJECT NAME YEE PROPERTY JOB NO. 3412  
ADDRESS 726 HARRISON STREET, OAKLAND, CA

ANALYSIS REQUEST  
SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	QUANTITY	TPH-GAS / MTBE & BTEX (EPA 5030/6015-6020)	TPH-DIESEL (EPA 3510/6015)	TPH-DIESEL & MOTOR OIL (EPA 3510/6015)	CAM 17 METALS (EPA 6010+7000)	SEMI-VOLATILE ORGANICS (EPA 625/6270)	Pb (TOTAL or DISSOLVED) (EPA 6010)	PESTICIDES (EPA 8081)	FUEL OXYGENATES (EPA 8260)	PURGEABLE HALOCARBONS (EPA 601/6010)	TPH-G/BTEX/S OXYS (EPA METHOD 8260)	MULTI-RANGE HYDROCARBONS WITH SILICA GEL CLEANUP (EPA 8015)	VOLATILE ORGANICS (EPA 624/8240/8260)	LUFF METALS (5) (EPA 6010+7000)	COMPOSITE 4:1	EDF	TPH-G/BTEX/MTBE/ 17-METALS, GD'S (EPA 8260)		
																				X	X	
MW-1	2/7/12	0832	W	3																	X	X
MW-2		0730 0846																			X	X
MW-3		0816																			X	X
MW-4		0852																			X	X
MW-5		0748																			X	X
MW-6		0800																			X	X

CHK BY BIT DISTRIBUTION   
SUB-OUT

RELINQUISHED BY:  
*David Allen* 1456  
(signature) (time)  
DAVID ALLEN 2/7/12  
(printed name) (date)  
Company-ASE, INC.

RECEIVED BY:  
*Gary Bogan* 1405  
(signature) (time)  
GARY BOGAN 2/8/12  
(printed name) (date)  
Company-

RELINQUISHED BY:  
*Gary Bogan* 1900  
(signature) (time)  
GARY BOGAN  
(printed name) (date)  
Company-BC LABS 2/8/12

RECEIVED BY LABORATORY:  
  
(signature) (time)  
(printed name) (date)  
Company-

COMMENTS:  
  
TURN AROUND TIME  
STANDARD 24Hr 48Hr 72Hr  
OTHER:

Rec. R. R. Ruy and 2.8.12 1930 Rec. R. R. Ruy and 2.8.12 2300 KOMAS 2.8.12 2300





BC LABORATORIES INC.		SAMPLE RECEIPT FORM		Rev. No. 12	06/24/08	Page <u>1</u> Of <u>2</u>
Submission #: <u>12-02338</u>						
<b>SHIPPING INFORMATION</b> Federal Express <input type="checkbox"/> UPS <input type="checkbox"/> Hand Delivery <input type="checkbox"/> BC Lab Field Service <input checked="" type="checkbox"/> Other <input type="checkbox"/> (Specify) _____				<b>SHIPPING CONTAINER</b> Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments: _____						
Custody Seals: Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments: _____ Intact? Yes <input type="checkbox"/> No <input type="checkbox"/> Intact? Yes <input type="checkbox"/> No <input type="checkbox"/>						
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All samples containers intact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Description(s) match COC? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>						
COC Received <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Emissivity: <u>D.98</u> Container: <u>NOA</u> Thermometer ID: <u>177</u>		Date/Time: <u>2/9/10 0010</u>		Analyst Initial: <u>AAA</u>
Temperature: A <u>5.2</u> °C / C <u>5.5</u> °C						

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A	B	A	B	A	B	A	B		
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments: NO TIME ON SAMPLES  
 Sample Numbering Completed By: AAA Date/Time: 2/9/10 10:20  
 A = Actual / C = Corrected



Aqua Science Engineers, Inc.  
55 Oak Court, Ste. 220  
Danville, CA 94526

**Reported:** 02/15/2012 15:53  
**Project:** Yee  
**Project Number:** 3412  
**Project Manager:** Robert Kitay

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1202338-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> Yee Property <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-1 <b>Sampled By:</b> ASED	<b>Receive Date:</b> 02/08/2012 23:00 <b>Sampling Date:</b> 02/07/2012 08:32 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Drinking Water Delivery Work Order: Global ID: T0600102122 Location ID (FieldPoint): MW-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202338-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> Yee Property <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-2 <b>Sampled By:</b> ASED	<b>Receive Date:</b> 02/08/2012 23:00 <b>Sampling Date:</b> 02/07/2012 07:30 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Drinking Water Delivery Work Order: Global ID: T0600102122 Location ID (FieldPoint): MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202338-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> Yee Property <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-3 <b>Sampled By:</b> ASED	<b>Receive Date:</b> 02/08/2012 23:00 <b>Sampling Date:</b> 02/07/2012 08:16 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Drinking Water Delivery Work Order: Global ID: T0600102122 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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55 Oak Court, Ste. 220  
Danville, CA 94526

**Reported:** 02/15/2012 15:53  
**Project:** Yee  
**Project Number:** 3412  
**Project Manager:** Robert Kitay

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1202338-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> Yee Property <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-4 <b>Sampled By:</b> ASED	<b>Receive Date:</b> 02/08/2012 23:00 <b>Sampling Date:</b> 02/07/2012 08:52 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Drinking Water Delivery Work Order: Global ID: T0600102122 Location ID (FieldPoint): MW-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202338-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> Yee Property <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-5 <b>Sampled By:</b> ASED	<b>Receive Date:</b> 02/08/2012 23:00 <b>Sampling Date:</b> 02/07/2012 07:48 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Drinking Water Delivery Work Order: Global ID: T0600102122 Location ID (FieldPoint): MW-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202338-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> Yee Property <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-6 <b>Sampled By:</b> ASED	<b>Receive Date:</b> 02/08/2012 23:00 <b>Sampling Date:</b> 02/07/2012 08:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Drinking Water Delivery Work Order: Global ID: T0600102122 Location ID (FieldPoint): MW-6 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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**Reported:** 02/15/2012 15:53  
**Project:** Yee  
**Project Number:** 3412  
**Project Manager:** Robert Kitay

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202338-01	<b>Client Sample Name:</b> Yee Property, MW-1, 2/7/2012 8:32:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	46	ug/L	0.50	0.083	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.16	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-8260	ND		1
Ethylbenzene	4.2	ug/L	0.50	0.098	EPA-8260	ND		1
Methyl t-butyl ether	3800	ug/L	25	5.5	EPA-8260	ND	A01	2
Toluene	1.7	ug/L	0.50	0.093	EPA-8260	ND		1
Total Xylenes	4.5	ug/L	1.0	0.36	EPA-8260	ND		1
p- & m-Xylenes	4.0	ug/L	0.50	0.28	EPA-8260	ND		1
o-Xylene	0.52	ug/L	0.50	0.082	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	370	ug/L	50	7.2	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.6	%	76 - 114 (LCL - UCL)		EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	93.2	%	76 - 114 (LCL - UCL)		EPA-8260			2
Toluene-d8 (Surrogate)	96.5	%	88 - 110 (LCL - UCL)		EPA-8260			1
Toluene-d8 (Surrogate)	93.3	%	88 - 110 (LCL - UCL)		EPA-8260			2
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260			1
4-Bromofluorobenzene (Surrogate)	108	%	86 - 115 (LCL - UCL)		EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/10/12	02/10/12 15:42	JMC	MS-V12	1	BVB0806
2	EPA-8260	02/10/12	02/14/12 13:13	JMC	MS-V12	50	BVB0806



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**Reported:** 02/15/2012 15:53  
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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202338-02	<b>Client Sample Name:</b> Yee Property, MW-2, 2/7/2012 7:30:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.16	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	0.098	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	0.11	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	0.093	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	0.36	EPA-8260	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.28	EPA-8260	ND		1
o-Xylene	ND	ug/L	0.50	0.082	EPA-8260	ND		1
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50	7.2	Luft-GC/MS	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.1	%	76 - 114 (LCL - UCL)		EPA-8260			1
Toluene-d8 (Surrogate)	94.6	%	88 - 110 (LCL - UCL)		EPA-8260			1
4-Bromofluorobenzene (Surrogate)	110	%	86 - 115 (LCL - UCL)		EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/10/12	02/13/12 15:21	JMC	MS-V12	1	BVB0691



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**Reported:** 02/15/2012 15:53  
Project: Yee  
Project Number: 3412  
Project Manager: Robert Kitay

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202338-03	<b>Client Sample Name:</b> Yee Property, MW-3, 2/7/2012 8:16:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.16	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	0.098	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>2.1</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.11</b>	<b>EPA-8260</b>	ND		1
Toluene	ND	ug/L	0.50	0.093	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	0.36	EPA-8260	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.28	EPA-8260	ND		1
o-Xylene	ND	ug/L	0.50	0.082	EPA-8260	ND		1
<b>Total Purgeable Petroleum Hydrocarbons</b>	<b>25</b>	<b>ug/L</b>	<b>50</b>	<b>7.2</b>	<b>Luft-GC/MS</b>	ND	<b>J</b>	1
1,2-Dichloroethane-d4 (Surrogate)	91.2	%	76 - 114 (LCL - UCL)		EPA-8260			1
Toluene-d8 (Surrogate)	90.7	%	88 - 110 (LCL - UCL)		EPA-8260			1
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)		EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/10/12	02/10/12 15:06	JMC	MS-V12	1	BVB0691



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**Reported:** 02/15/2012 15:53  
**Project:** Yee  
**Project Number:** 3412  
**Project Manager:** Robert Kitay

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202338-04	<b>Client Sample Name:</b> Yee Property, MW-4, 2/7/2012 8:52:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.16	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	0.17	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	0.098	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>17</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.11</b>	<b>EPA-8260</b>	ND		1
Toluene	ND	ug/L	0.50	0.093	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	0.36	EPA-8260	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.28	EPA-8260	ND		1
o-Xylene	ND	ug/L	0.50	0.082	EPA-8260	ND		1
<b>Total Purgeable Petroleum Hydrocarbons</b>	<b>210</b>	<b>ug/L</b>	<b>50</b>	<b>7.2</b>	<b>Luft-GC/MS</b>	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.4	%	76 - 114 (LCL - UCL)		EPA-8260			1
Toluene-d8 (Surrogate)	97.0	%	88 - 110 (LCL - UCL)		EPA-8260			1
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)		EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/10/12	02/10/12 14:49	JMC	MS-V12	1	BVB0691



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**Reported:** 02/15/2012 15:53  
**Project:** Yee  
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**Project Manager:** Robert Kitay

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202338-05	<b>Client Sample Name:</b> Yee Property, MW-5, 2/7/2012 7:48:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	890	ug/L	100	17	EPA-8260	ND	A01	1
1,2-Dibromoethane	ND	ug/L	6.2	2.0	EPA-8260	ND	A01	2
1,2-Dichloroethane	ND	ug/L	6.2	2.1	EPA-8260	ND	A01	2
Ethylbenzene	360	ug/L	6.2	1.2	EPA-8260	ND	A01	2
Methyl t-butyl ether	17000	ug/L	100	22	EPA-8260	ND	A01	1
Toluene	410	ug/L	6.2	1.2	EPA-8260	ND	A01	2
Total Xylenes	990	ug/L	12	4.5	EPA-8260	ND	A01	2
p- & m-Xylenes	830	ug/L	6.2	3.5	EPA-8260	ND	A01	2
o-Xylene	160	ug/L	6.2	1.0	EPA-8260	ND	A01	2
Total Purgeable Petroleum Hydrocarbons	19000	ug/L	620	90	Luft-GC/MS	ND	A01	2
1,2-Dichloroethane-d4 (Surrogate)	92.5	%	76 - 114 (LCL - UCL)		EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	91.9	%	76 - 114 (LCL - UCL)		EPA-8260			2
Toluene-d8 (Surrogate)	95.4	%	88 - 110 (LCL - UCL)		EPA-8260			1
Toluene-d8 (Surrogate)	96.5	%	88 - 110 (LCL - UCL)		EPA-8260			2
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)		EPA-8260			1
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UCL)		EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/10/12	02/13/12 16:13	JMC	MS-V12	200	BVB0691
2	EPA-8260	02/10/12	02/10/12 14:31	JMC	MS-V12	12.500	BVB0691





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Reported: 02/15/2012 15:53  
Project: Yee  
Project Number: 3412  
Project Manager: Robert Kitay

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202338-06	<b>Client Sample Name:</b> Yee Property, MW-6, 2/7/2012 8:00:00AM
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Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	0.083	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	0.16	EPA-8260	ND		1
<b>1,2-Dichloroethane</b>	<b>0.79</b>	<b>ug/L</b>	<b>0.50</b>	<b>0.17</b>	<b>EPA-8260</b>	ND		1
Ethylbenzene	ND	ug/L	0.50	0.098	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>970</b>	<b>ug/L</b>	<b>10</b>	<b>2.2</b>	<b>EPA-8260</b>	ND	<b>A01</b>	2
Toluene	ND	ug/L	0.50	0.093	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	0.36	EPA-8260	ND		1
p- & m-Xylenes	ND	ug/L	0.50	0.28	EPA-8260	ND		1
o-Xylene	ND	ug/L	0.50	0.082	EPA-8260	ND		1
<b>Total Purgeable Petroleum Hydrocarbons</b>	<b>410</b>	<b>ug/L</b>	<b>50</b>	<b>7.2</b>	<b>Luft-GC/MS</b>	ND	<b>A90</b>	1
1,2-Dichloroethane-d4 (Surrogate)	91.7	%	76 - 114 (LCL - UCL)		EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	92.2	%	76 - 114 (LCL - UCL)		EPA-8260			2
Toluene-d8 (Surrogate)	95.8	%	88 - 110 (LCL - UCL)		EPA-8260			1
Toluene-d8 (Surrogate)	97.6	%	88 - 110 (LCL - UCL)		EPA-8260			2
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260			1
4-Bromofluorobenzene (Surrogate)	106	%	86 - 115 (LCL - UCL)		EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/10/12	02/10/12 14:13	JMC	MS-V12	1	BVB0691
2	EPA-8260	02/10/12	02/13/12 15:55	JMC	MS-V12	20	BVB0691



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Project Manager: Robert Kitay

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: BVB0691</b>						
Benzene	BVB0691-BLK1	ND	ug/L	0.50	0.083	
1,2-Dibromoethane	BVB0691-BLK1	ND	ug/L	0.50	0.16	
1,2-Dichloroethane	BVB0691-BLK1	ND	ug/L	0.50	0.17	
Ethylbenzene	BVB0691-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BVB0691-BLK1	ND	ug/L	0.50	0.11	
Toluene	BVB0691-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BVB0691-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BVB0691-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BVB0691-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BVB0691-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	BVB0691-BLK1	96.4	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BVB0691-BLK1	97.1	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BVB0691-BLK1	98.5	%	86 - 115 (LCL - UCL)		
<b>QC Batch ID: BVB0806</b>						
Benzene	BVB0806-BLK1	ND	ug/L	0.50	0.083	
1,2-Dibromoethane	BVB0806-BLK1	ND	ug/L	0.50	0.16	
1,2-Dichloroethane	BVB0806-BLK1	ND	ug/L	0.50	0.17	
Ethylbenzene	BVB0806-BLK1	ND	ug/L	0.50	0.098	
Methyl t-butyl ether	BVB0806-BLK1	ND	ug/L	0.50	0.11	
Toluene	BVB0806-BLK1	ND	ug/L	0.50	0.093	
Total Xylenes	BVB0806-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BVB0806-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BVB0806-BLK1	ND	ug/L	0.50	0.082	
Total Purgeable Petroleum Hydrocarbons	BVB0806-BLK1	ND	ug/L	50	7.2	
1,2-Dichloroethane-d4 (Surrogate)	BVB0806-BLK1	93.2	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BVB0806-BLK1	96.8	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BVB0806-BLK1	101	%	86 - 115 (LCL - UCL)		

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**Reported:** 02/15/2012 15:53  
Project: Yee  
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Project Manager: Robert Kitay

## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: BVB0691</b>										
Benzene	BVB0691-BS1	LCS	21.880	25.000	ug/L	87.5		70 - 130		
Toluene	BVB0691-BS1	LCS	20.370	25.000	ug/L	81.5		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVB0691-BS1	LCS	9.3300	10.000	ug/L	93.3		76 - 114		
Toluene-d8 (Surrogate)	BVB0691-BS1	LCS	9.6500	10.000	ug/L	96.5		88 - 110		
4-Bromofluorobenzene (Surrogate)	BVB0691-BS1	LCS	10.320	10.000	ug/L	103		86 - 115		
<b>QC Batch ID: BVB0806</b>										
Benzene	BVB0806-BS1	LCS	24.920	25.000	ug/L	99.7		70 - 130		
Toluene	BVB0806-BS1	LCS	22.900	25.000	ug/L	91.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVB0806-BS1	LCS	9.2600	10.000	ug/L	92.6		76 - 114		
Toluene-d8 (Surrogate)	BVB0806-BS1	LCS	9.6000	10.000	ug/L	96.0		88 - 110		
4-Bromofluorobenzene (Surrogate)	BVB0806-BS1	LCS	10.130	10.000	ug/L	101		86 - 115		



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### Volatile Organic Analysis (EPA Method 8260)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: BVB0691</b>		Used client sample: N								
Benzene	MS	1201079-51	ND	24.390	25.000	ug/L		97.6		70 - 130
	MSD	1201079-51	ND	22.110	25.000	ug/L	9.8	88.4	20	70 - 130
Toluene	MS	1201079-51	ND	23.100	25.000	ug/L		92.4		70 - 130
	MSD	1201079-51	ND	21.180	25.000	ug/L	8.7	84.7	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1201079-51	ND	9.3700	10.000	ug/L		93.7		76 - 114
	MSD	1201079-51	ND	9.4000	10.000	ug/L	0.3	94.0		76 - 114
Toluene-d8 (Surrogate)	MS	1201079-51	ND	9.6500	10.000	ug/L		96.5		88 - 110
	MSD	1201079-51	ND	9.8300	10.000	ug/L	1.8	98.3		88 - 110
4-Bromofluorobenzene (Surrogate)	MS	1201079-51	ND	10.240	10.000	ug/L		102		86 - 115
	MSD	1201079-51	ND	10.080	10.000	ug/L	1.6	101		86 - 115
<b>QC Batch ID: BVB0806</b>		Used client sample: N								
Benzene	MS	1202328-02	ND	20.090	25.000	ug/L		80.4		70 - 130
	MSD	1202328-02	ND	23.470	25.000	ug/L	15.5	93.9	20	70 - 130
Toluene	MS	1202328-02	ND	21.420	25.000	ug/L		85.7		70 - 130
	MSD	1202328-02	ND	22.650	25.000	ug/L	5.6	90.6	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	MS	1202328-02	ND	9.0600	10.000	ug/L		90.6		76 - 114
	MSD	1202328-02	ND	8.6800	10.000	ug/L	4.3	86.8		76 - 114
Toluene-d8 (Surrogate)	MS	1202328-02	ND	9.8400	10.000	ug/L		98.4		88 - 110
	MSD	1202328-02	ND	9.8700	10.000	ug/L	0.3	98.7		88 - 110
4-Bromofluorobenzene (Surrogate)	MS	1202328-02	ND	10.300	10.000	ug/L		103		86 - 115
	MSD	1202328-02	ND	10.430	10.000	ug/L	1.3	104		86 - 115

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Aqua Science Engineers, Inc.  
55 Oak Court, Ste. 220  
Danville, CA 94526

**Reported:** 02/15/2012 15:53  
**Project:** Yee  
**Project Number:** 3412  
**Project Manager:** Robert Kitay

**Notes And Definitions**

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected at or above the reporting limit
- PQL Practical Quantitation Limit
- RPD Relative Percent Difference
- A01 PQL's and MDL's are raised due to sample dilution.
- A90 TPPH does not exhibit a "gasoline" pattern. TPPH is entirely due to MTBE.



Date of Report: 02/24/2012

Kathy Brandt

Arcadis

1900 Powell Street 12th Floor  
Emeryville, CA 94608

Project: 0752  
BC Work Order: 1202467  
Invoice ID: B116924

Enclosed are the results of analyses for samples received by the laboratory on 2/7/2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers  
Client Service Rep

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014



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CHAIN OF CUSTODY FORM

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

COC 1 of 2

# 12-02467

Union Oil Site ID: <u>0752</u> Site Global ID: <u>TO600101486</u> Site Address: <u>800 Harrison St, Oakland</u> Union Oil PM: <u>Roya Kamlin</u> Union Oil PM Phone No.: <u>925-790-6270</u> Charge Code: NWRTB-0 <u>351646-0-LAB</u>				Union Oil Consultant: <u>Arcadis</u> Consultant Contact: <u>Kathy Brandt</u> Consultant Phone No.: <u>510-596-9675</u> Sampling Company: TRC Sampled By (PRINT): <u>Basilio</u> Sampler Signature: <u>[Signature]</u> BC Laboratories, Inc. Project Manager: Molly Meyers 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911				ANALYSES REQUIRED Turnaround Time (TAT): Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Special Instructions: <u>8015-Gas, No 8015-Diesel. per Rick. MMJH</u>			
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.				*TPH - Diesel by EPA-8015 TPH - G by CEMS BTEX/MTBE/CS/MS by EPA 8260B Ethanol by EPA 8260B EPA 8260B Full List with OXYS <u>40928 by 003/903</u>				Notes / Comments			
SAMPLE ID			Date (yyymmdd)	Sample Time	# of Containers	TPH - Diesel by EPA-8015	TPH - G by CEMS	BTEX/MTBE/CS/MS by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	
Field Point Name	Matrix	DTW									
<u>A-MW-6</u>	<u>W-S-A</u>	<u>-1</u>	<u>2-7-12</u>	<u>0756</u>	<u>6</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>A-MW-7</u>	<u>W-S-A</u>	<u>-2</u>		<u>0820</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>A-MW-5</u>	<u>W-S-A</u>	<u>-3</u>		<u>1145</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>A-MW-3</u>	<u>W-S-A</u>	<u>-4</u>		<u>0847</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>A-MW-4</u>	<u>W-S-A</u>	<u>-5</u>		<u>0914</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>A-MW-1</u>	<u>W-S-A</u>	<u>-6</u>		<u>1006</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>A-MW-2</u>	<u>W-S-A</u>	<u>-7</u>		<u>0934</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	<u>W-S-A</u>										
	<u>W-S-A</u>										
	<u>W-S-A</u>										
	<u>W-S-A</u>										
	<u>W-S-A</u>										
	<u>W-S-A</u>										
	<u>W-S-A</u>										
Relinquished By: <u>[Signature]</u> TRC Date / Time: <u>2-7-12 1315</u>			Relinquished By: <u>Dany Rogan</u> BCLABS Date / Time: <u>2-7-12 1900</u>			Relinquished By: <u>RL Ruy</u> BCL Date / Time: <u>2-7-12 2140</u>					
Received By: <u>Dany Rogan</u> BCLABS Date / Time: <u>2/7/12 1405</u>			Received By: <u>RL Ruy</u> BCL Date / Time: <u>2-7-12 1900</u>			Received By: <u>[Signature]</u> BCL Date / Time: <u>2-7-12 2140</u>					

CHK BY: [Signature] DISTRIBUTION: [Signature]  
 SUB-OUT

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CHAIN OF CUSTODY FORM

#12-02467

Union Oil Company of California ■ 6101 Bollinger Canyon Road ■ San Ramon, CA 94583

COC 1 of 2

Union Oil Site ID: 0752				Union Oil Consultant: Arcadis		ANALYSES REQUIRED														
Site Global ID: T0600101486				Consultant Contact: KATHY BRANDELL		TPH - Diesel by EPA 8015	TPH - G by GC/MS	BTX/MTBE by EPA 8260B	Ethanol by EPA 8260B	EPA 8260B Full List with OXYS	TPH-G by 8015/8260B (C6-C12)	BTX/EDC by 8260B	SUGS by 8260	DISSOLV METALS (Cd, Cr, Pb, Ni, Zn) by 6010	Turnaround Time (TAT):					
Site Address: 800 HARRISON ST, OAKLAND				Consultant Phone No.: 510-596-9675											Standard <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/>					
Union Oil PM: ROYA KAMBIN				Sampling Company: TRC											48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/>					
Union Oil PM Phone No.: 925-790-6270				Sampled By (PRINT): Rick Rodriguez											Special Instructions					
Charge Code: NWRTB-0 351646-0-LAB				Sampler Signature:		BC Laboratories, Inc. Project Manager: Molly Meyers 4100 Atlas Court, Bakersfield, CA 93308 Phone No. 661-327-4911														
This is a LEGAL document. ALL fields must be filled out CORRECTLY and COMPLETELY.																				
SAMPLE ID				Sample Time	# of Containers	Notes / Comments														
Field Point Name	Matrix	DTW	Date (yymmdd)																	
MW-8	W-S-A	-8	12/02/07	0745	6															
MW-4	W-S-A	-9		0820	6															
MW-1	W-S-A	-10		0845	9															
MW-6	W-S-A	-11		0915	6															
MW-2	W-S-A	-12		1000	6															
MW-3	W-S-A	-13		1020	6															
MW-7	W-S-A	-14		1053	6															
MW-5	W-S-A	-15	✓	1037	6															
	W-S-A																			
	W-S-A																			
	W-S-A																			
	W-S-A																			

Relinquished By:	Company: TRC	Date / Time: 2/07/12 - 1300	Relinquished By: Harry Bogan	Company: BC LABS	Date / Time: 2/7/12 1900	Relinquished By: RL Ruy	Company: BCL	Date / Time: 2-7-12 2140
Received By:	Company: BC LABS	Date / Time: 2/7/12 1405	Received By: RL Ruy	Company: BCL	Date / Time: 2-7-12 1900	Received By:	Company: BCL	Date / Time: 2-7-12 2140

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BC LABORATORIES INC. SAMPLE RECEIPT FORM Rev. No. 12 06/24/08 Page 1 of 2  
 Submission #: 12-02467

SHIPPING INFORMATION  
 Federal Express  UPS  Hand Delivery   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_

SHIPPING CONTAINER  
 Ice Chest  None   
 Box  Other  (Specify) \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No  Intact? Yes  No

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received YES  NO   
 Emissivity: 0.98 Container: DTA Thermometer ID: 177  
 Temperature: A 0.3 °C / C 0.7 °C Date/Time 2-7-12  
 Analyst Init JNW 2125

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED						B-210				B
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A 16	A 16	A 16	A 16	A 16	A 16	A 16	A 16	A 16	A 16
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										C, D
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: BLT Date/Time: 2/10/12 @ 1620  
 A = Actual / C = Corrected

[H:\DOCS\WPB\LAB\_DOCS\FORMS\SAMREC2.WPD]



BC LABORATORIES INC. SAMPLE RECEIPT FORM Rev. No. 12 06/24/08 Page 2 Of 2

Submission #: 12-02467

**SHIPPING INFORMATION**  
 Federal Express  UPS  Hand Delivery   
 BC Lab Field Service  Other  (Specify) \_\_\_\_\_

**SHIPPING CONTAINER**  
 Ice Chest  None   
 Box  Other  (Specify) \_\_\_\_\_

Refrigerant: Ice  Blue Ice  None  Other  Comments: \_\_\_\_\_

Custody Seals Ice Chest  Containers  None  Comments: \_\_\_\_\_  
 Intact? Yes  No  Intact? Yes  No

All samples received? Yes  No  All samples containers intact? Yes  No  Description(s) match COC? Yes  No

COC Received YES  NO

Emissivity: 0.98 Container: BIA Thermometer ID: 177  
 Temperature: A 0.3 °C / C 0.7 °C Date/Time 2-7-12 2125  
 Analyst Init JNW

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT GENERAL MINERAL/ GENERAL PHYSICAL										
PT PE UNPRESERVED										
QT INORGANIC CHEMICAL METALS										
PT INORGANIC CHEMICAL METALS										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT TOX										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL	A	C	A	C	A	C	A	C	A	C
QT EPA 413.1, 413.2, 418.1										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
100ml EPA 547										
100ml EPA 531.1										
QT EPA 548										
QT EPA 549										
QT EPA 632										
QT EPA 8015M										
QT AMBER										
8 OZ. JAR										
32 OZ. JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
FERROUS IRON										
ENCORE										

Comments: \_\_\_\_\_  
 Sample Numbering Completed By: BJT Date/Time: 2/10/12 @ 1020  
 A = Actual / C = Corrected

[H:\DOCS\WP00\LAB\_DOCS\FORMS\SAMREC2.WPD]



Arcadis  
1900 Powell Street 12th Floor  
Emeryville, CA 94608

**Reported:** 02/24/2012 16:12  
**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1202467-01</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> A-MW-6-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 07:56 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): A-MW-6 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1202467-02</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> A-MW-7-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 08:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): A-MW-7 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1202467-03</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> A-MW-5-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 11:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): A-MW-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--



Arcadis  
1900 Powell Street 12th Floor  
Emeryville, CA 94608

**Reported:** 02/24/2012 16:12  
**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1202467-04</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> A-MW-3-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 08:47 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): A-MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1202467-05</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> A-MW-4-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 09:14 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): A-MW-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1202467-06</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> A-MW-1-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 10:06 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): A-MW-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--



Arcadis  
1900 Powell Street 12th Floor  
Emeryville, CA 94608

**Reported:** 02/24/2012 16:12  
**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
------------	---------------------------

<b>1202467-07</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> A-MW-2-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 09:34 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): A-MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
-------------------	---	--

<b>1202467-08</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-8-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 07:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-8 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202467-09</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-4-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 08:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-4 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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**Project Number:** 351646  
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### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1202467-10</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-1-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 08:45 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Metal Analysis: 2-Lab Filtered and Acidified Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202467-11</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-6-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 09:15 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-6 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202467-12</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-2-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 10:00 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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### Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information
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<b>1202467-13</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-3-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 10:20 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-3 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202467-14</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-7-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 10:53 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-7 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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<b>1202467-15</b>	<b>COC Number:</b> --- <b>Project Number:</b> 0752 <b>Sampling Location:</b> --- <b>Sampling Point:</b> MW-5-W-120207 <b>Sampled By:</b> TRCI	<b>Receive Date:</b> 02/07/2012 21:40 <b>Sampling Date:</b> 02/07/2012 10:37 <b>Sample Depth:</b> --- <b>Lab Matrix:</b> Water <b>Sample Type:</b> Water Delivery Work Order: Global ID: T0600101486 Location ID (FieldPoint): MW-5 Matrix: W Sample QC Type (SACode): CS Cooler ID:
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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-01	<b>Client Sample Name:</b> 0752, A-MW-6-W-120207, 2/7/2012 7:56:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.8	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	91.7	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	102	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 14:07	JMC	MS-V12	1	BVB0937

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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-01	<b>Client Sample Name:</b> 0752, A-MW-6-W-120207, 2/7/2012 7:56:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	78.8	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 18:47	jjh	GC-V4	1	BVB0841

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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-02	<b>Client Sample Name:</b> 0752, A-MW-7-W-120207, 2/7/2012 8:20:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.9	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	92.6	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 13:49	JMC	MS-V12	1	BVB0937



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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-02	<b>Client Sample Name:</b> 0752, A-MW-7-W-120207, 2/7/2012 8:20:00AM						
Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	85.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 21:04	jjh	GC-V4	1	BVB0841



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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-03	<b>Client Sample Name:</b> 0752, A-MW-5-W-120207, 2/7/2012 11:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>190</b>	<b>ug/L</b>	<b>1.0</b>	<b>EPA-8260</b>	ND	<b>A01</b>	<b>2</b>
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
<b>Total Xylenes</b>	<b>1.6</b>	<b>ug/L</b>	<b>1.0</b>	<b>EPA-8260</b>	ND		<b>1</b>
1,2-Dichloroethane-d4 (Surrogate)	91.5	%	76 - 114 (LCL - UCL)	EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	90.2	%	76 - 114 (LCL - UCL)	EPA-8260			2
Toluene-d8 (Surrogate)	95.6	%	88 - 110 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	93.5	%	88 - 110 (LCL - UCL)	EPA-8260			2
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)	EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 13:31	JMC	MS-V12	1	BVB0937
2	EPA-8260	02/13/12	02/14/12 12:55	JMC	MS-V12	2	BVB0937



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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-03	<b>Client Sample Name:</b> 0752, A-MW-5-W-120207, 2/7/2012 11:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	77.8	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 21:26	jjh	GC-V4	1	BVB0841

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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-04	<b>Client Sample Name:</b> 0752, A-MW-3-W-120207, 2/7/2012 8:47:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>110</b>	<b>ug/L</b>	<b>1.0</b>	<b>EPA-8260</b>	ND	<b>A01</b>	<b>2</b>
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.6	%	76 - 114 (LCL - UCL)	EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	94.7	%	76 - 114 (LCL - UCL)	EPA-8260			2
Toluene-d8 (Surrogate)	93.2	%	88 - 110 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	87.7	%	88 - 110 (LCL - UCL)	EPA-8260		S09	2
4-Bromofluorobenzene (Surrogate)	102	%	86 - 115 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	106	%	86 - 115 (LCL - UCL)	EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 13:14	JMC	MS-V12	1	BVB0937
2	EPA-8260	02/13/12	02/14/12 12:38	JMC	MS-V12	2	BVB0937





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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-04	<b>Client Sample Name:</b> 0752, A-MW-3-W-120207, 2/7/2012 8:47:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	79.4	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 21:48	jjh	GC-V4	1	BVB0841

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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-05	<b>Client Sample Name:</b> 0752, A-MW-4-W-120207, 2/7/2012 9:14:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	140	ug/L	5.0	EPA-8260	ND	A01	1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		2
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		2
Ethylbenzene	21	ug/L	0.50	EPA-8260	ND		2
Methyl t-butyl ether	430	ug/L	5.0	EPA-8260	ND	A01	1
Toluene	15	ug/L	0.50	EPA-8260	ND		2
Total Xylenes	32	ug/L	1.0	EPA-8260	ND		2
1,2-Dichloroethane-d4 (Surrogate)	91.0	%	76 - 114 (LCL - UCL)	EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	90.7	%	76 - 114 (LCL - UCL)	EPA-8260			2
Toluene-d8 (Surrogate)	92.9	%	88 - 110 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	94.9	%	88 - 110 (LCL - UCL)	EPA-8260			2
4-Bromofluorobenzene (Surrogate)	109	%	86 - 115 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)	EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/14/12 12:20	JMC	MS-V12	10	BVB0937
2	EPA-8260	02/13/12	02/13/12 12:56	JMC	MS-V12	1	BVB0937



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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-05	<b>Client Sample Name:</b> 0752, A-MW-4-W-120207, 2/7/2012 9:14:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	1800	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	98.1	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 22:11	jjh	GC-V4	1	BVB0841

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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-06	<b>Client Sample Name:</b> 0752, A-MW-1-W-120207, 2/7/2012 10:06:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	1000	ug/L	10	EPA-8260	ND	A01	1
1,2-Dibromoethane	ND	ug/L	5.0	EPA-8260	ND	A01	2
1,2-Dichloroethane	ND	ug/L	5.0	EPA-8260	ND	A01	2
Ethylbenzene	230	ug/L	5.0	EPA-8260	ND	A01	2
Methyl t-butyl ether	420	ug/L	5.0	EPA-8260	ND	A01	2
Toluene	260	ug/L	5.0	EPA-8260	ND	A01	2
Total Xylenes	610	ug/L	10	EPA-8260	ND	A01	2
1,2-Dichloroethane-d4 (Surrogate)	92.1	%	76 - 114 (LCL - UCL)	EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	90.4	%	76 - 114 (LCL - UCL)	EPA-8260			2
Toluene-d8 (Surrogate)	94.2	%	88 - 110 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	93.5	%	88 - 110 (LCL - UCL)	EPA-8260			2
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	110	%	86 - 115 (LCL - UCL)	EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/14/12 12:03	JMC	MS-V12	20	BVB0937
2	EPA-8260	02/13/12	02/14/12 11:10	JMC	MS-V12	10	BVB0937



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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-06	<b>Client Sample Name:</b> 0752, A-MW-1-W-120207, 2/7/2012 10:06:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	8900	ug/L	1000	EPA-8015B	ND	A01	1
a,a,a-Trifluorotoluene (FID Surrogate)	95.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 22:34	jjh	GC-V4	20	BVB0841



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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-07	<b>Client Sample Name:</b> 0752, A-MW-2-W-120207, 2/7/2012 9:34:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	1100	ug/L	25	EPA-8260	ND	A01	1
1,2-Dibromoethane	ND	ug/L	5.0	EPA-8260	ND	A01	2
1,2-Dichloroethane	ND	ug/L	5.0	EPA-8260	ND	A01	2
Ethylbenzene	990	ug/L	5.0	EPA-8260	ND	A01	2
Methyl t-butyl ether	1600	ug/L	25	EPA-8260	ND	A01	1
Toluene	3600	ug/L	25	EPA-8260	ND	A01	1
Total Xylenes	4200	ug/L	50	EPA-8260	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	94.3	%	76 - 114 (LCL - UCL)	EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	94.5	%	76 - 114 (LCL - UCL)	EPA-8260			2
Toluene-d8 (Surrogate)	96.1	%	88 - 110 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	95.1	%	88 - 110 (LCL - UCL)	EPA-8260			2
4-Bromofluorobenzene (Surrogate)	106	%	86 - 115 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	106	%	86 - 115 (LCL - UCL)	EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/14/12 11:45	JMC	MS-V12	50	BVB0937
2	EPA-8260	02/13/12	02/13/12 12:21	JMC	MS-V12	10	BVB0937



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**Reported:** 02/24/2012 16:12  
**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-07	<b>Client Sample Name:</b> 0752, A-MW-2-W-120207, 2/7/2012 9:34:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	36000	ug/L	2500	EPA-8015B	ND	A01	1
a,a,a-Trifluorotoluene (FID Surrogate)	103	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 22:58	jjh	GC-V4	50	BVB0841

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**Reported:** 02/24/2012 16:12  
**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-08	<b>Client Sample Name:</b> 0752, MW-8-W-120207, 2/7/2012 7:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>0.75</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260</b>	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.5	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	92.0	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 12:04	JMC	MS-V12	1	BVB0938





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**Project:** 0752  
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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-08	<b>Client Sample Name:</b> 0752, MW-8-W-120207, 2/7/2012 7:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	78.5	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 23:21	jjh	GC-V4	1	BVB0841

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**Reported:** 02/24/2012 16:12  
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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-09	<b>Client Sample Name:</b> 0752, MW-4-W-120207, 2/7/2012 8:20:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>1.5</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260</b>	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	88.8	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	92.9	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	104	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 11:46	JMC	MS-V12	1	BVB0937



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**Reported:** 02/24/2012 16:12  
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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-09	<b>Client Sample Name:</b> 0752, MW-4-W-120207, 2/7/2012 8:20:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	83.2	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/13/12 23:44	jjh	GC-V4	1	BVB0841



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Project Number: 351646  
Project Manager: Kathy Brandt

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-10	<b>Client Sample Name:</b> 0752, MW-1-W-120207, 2/7/2012 8:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>8.6</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260</b>	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.6	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	92.0	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	106	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 11:29	JMC	MS-V12	1	BVB0937

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**Reported:** 02/24/2012 16:12  
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### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

<b>BCL Sample ID:</b> 1202467-10	<b>Client Sample Name:</b> 0752, MW-1-W-120207, 2/7/2012 8:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	ND	ug/L	2.0	EPA-8270C	ND		1
Acenaphthylene	ND	ug/L	2.0	EPA-8270C	ND		1
Aldrin	ND	ug/L	2.0	EPA-8270C	ND		1
Aniline	ND	ug/L	5.0	EPA-8270C	ND		1
Anthracene	ND	ug/L	2.0	EPA-8270C	ND		1
Benzidine	ND	ug/L	20	EPA-8270C	ND		1
Benzo[a]anthracene	ND	ug/L	2.0	EPA-8270C	ND		1
Benzo[b]fluoranthene	ND	ug/L	2.0	EPA-8270C	ND		1
Benzo[k]fluoranthene	ND	ug/L	2.0	EPA-8270C	ND		1
Benzo[a]pyrene	ND	ug/L	2.0	EPA-8270C	ND		1
Benzo[g,h,i]perylene	ND	ug/L	2.0	EPA-8270C	ND		1
Benzoic acid	ND	ug/L	10	EPA-8270C	ND		1
Benzyl alcohol	ND	ug/L	2.0	EPA-8270C	ND		1
Benzyl butyl phthalate	ND	ug/L	2.0	EPA-8270C	ND		1
alpha-BHC	ND	ug/L	2.0	EPA-8270C	ND		1
beta-BHC	ND	ug/L	2.0	EPA-8270C	ND		1
delta-BHC	ND	ug/L	2.0	EPA-8270C	ND		1
gamma-BHC (Lindane)	ND	ug/L	2.0	EPA-8270C	ND		1
bis(2-Chloroethoxy)methane	ND	ug/L	2.0	EPA-8270C	ND		1
bis(2-Chloroethyl) ether	ND	ug/L	2.0	EPA-8270C	ND		1
bis(2-Chloroisopropyl) ether	ND	ug/L	2.0	EPA-8270C	ND		1
bis(2-Ethylhexyl)phthalate	ND	ug/L	5.0	EPA-8270C	ND		1
4-Bromophenyl phenyl ether	ND	ug/L	2.0	EPA-8270C	ND		1
4-Chloroaniline	ND	ug/L	2.0	EPA-8270C	ND		1
2-Chloronaphthalene	ND	ug/L	2.0	EPA-8270C	ND		1
4-Chlorophenyl phenyl ether	ND	ug/L	2.0	EPA-8270C	ND		1
Chrysene	ND	ug/L	2.0	EPA-8270C	ND		1
4,4'-DDD	ND	ug/L	2.0	EPA-8270C	ND		1
4,4'-DDE	ND	ug/L	3.0	EPA-8270C	ND		1
4,4'-DDT	ND	ug/L	2.0	EPA-8270C	ND		1
Dibenzo[a,h]anthracene	ND	ug/L	3.0	EPA-8270C	ND		1
Dibenzofuran	ND	ug/L	2.0	EPA-8270C	ND		1
1,2-Dichlorobenzene	ND	ug/L	2.0	EPA-8270C	ND		1

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**Project:** 0752  
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### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

<b>BCL Sample ID:</b> 1202467-10	<b>Client Sample Name:</b> 0752, MW-1-W-120207, 2/7/2012 8:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
1,3-Dichlorobenzene	ND	ug/L	2.0	EPA-8270C	ND		1
1,4-Dichlorobenzene	ND	ug/L	2.0	EPA-8270C	ND		1
3,3-Dichlorobenzidine	ND	ug/L	10	EPA-8270C	ND		1
Dieldrin	ND	ug/L	3.0	EPA-8270C	ND		1
Diethyl phthalate	ND	ug/L	2.0	EPA-8270C	ND		1
Dimethyl phthalate	ND	ug/L	2.0	EPA-8270C	ND		1
Di-n-butyl phthalate	ND	ug/L	2.0	EPA-8270C	ND		1
2,4-Dinitrotoluene	ND	ug/L	2.0	EPA-8270C	ND		1
2,6-Dinitrotoluene	ND	ug/L	2.0	EPA-8270C	ND		1
Di-n-octyl phthalate	ND	ug/L	2.0	EPA-8270C	ND		1
1,2-Diphenylhydrazine	ND	ug/L	2.0	EPA-8270C	ND		1
Endosulfan I	ND	ug/L	10	EPA-8270C	ND		1
Endosulfan II	ND	ug/L	10	EPA-8270C	ND		1
Endosulfan sulfate	ND	ug/L	3.0	EPA-8270C	ND		1
Endrin	ND	ug/L	2.0	EPA-8270C	ND		1
Endrin aldehyde	ND	ug/L	10	EPA-8270C	ND		1
Fluoranthene	ND	ug/L	2.0	EPA-8270C	ND		1
Fluorene	ND	ug/L	2.0	EPA-8270C	ND		1
Heptachlor	ND	ug/L	2.0	EPA-8270C	ND		1
Heptachlor epoxide	ND	ug/L	2.0	EPA-8270C	ND		1
Hexachlorobenzene	ND	ug/L	2.0	EPA-8270C	ND		1
Hexachlorobutadiene	ND	ug/L	2.0	EPA-8270C	ND		1
Hexachlorocyclopentadiene	ND	ug/L	2.0	EPA-8270C	ND		1
Hexachloroethane	ND	ug/L	2.0	EPA-8270C	ND		1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2.0	EPA-8270C	ND		1
Isophorone	ND	ug/L	2.0	EPA-8270C	ND		1
2-Methylnaphthalene	ND	ug/L	2.0	EPA-8270C	ND		1
Naphthalene	ND	ug/L	2.0	EPA-8270C	ND		1
2-Naphthylamine	ND	ug/L	20	EPA-8270C	ND		1
2-Nitroaniline	ND	ug/L	2.0	EPA-8270C	ND		1
3-Nitroaniline	ND	ug/L	2.0	EPA-8270C	ND		1
4-Nitroaniline	ND	ug/L	5.0	EPA-8270C	ND		1
Nitrobenzene	ND	ug/L	2.0	EPA-8270C	ND		1

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### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

<b>BCL Sample ID:</b> 1202467-10	<b>Client Sample Name:</b> 0752, MW-1-W-120207, 2/7/2012 8:45:00AM
----------------------------------	--

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
N-Nitrosodimethylamine	ND	ug/L	2.0	EPA-8270C	ND		1
N-Nitrosodi-N-propylamine	ND	ug/L	2.0	EPA-8270C	ND		1
N-Nitrosodiphenylamine	ND	ug/L	2.0	EPA-8270C	ND		1
Phenanthrene	ND	ug/L	2.0	EPA-8270C	ND		1
Pyrene	ND	ug/L	2.0	EPA-8270C	ND		1
1,2,4-Trichlorobenzene	ND	ug/L	2.0	EPA-8270C	ND		1
4-Chloro-3-methylphenol	ND	ug/L	5.0	EPA-8270C	ND		1
2-Chlorophenol	ND	ug/L	2.0	EPA-8270C	ND		1
2,4-Dichlorophenol	ND	ug/L	2.0	EPA-8270C	ND		1
2,4-Dimethylphenol	ND	ug/L	2.0	EPA-8270C	ND		1
4,6-Dinitro-2-methylphenol	ND	ug/L	10	EPA-8270C	ND		1
2,4-Dinitrophenol	ND	ug/L	10	EPA-8270C	ND		1
2-Methylphenol	ND	ug/L	2.0	EPA-8270C	ND		1
3- & 4-Methylphenol	ND	ug/L	2.0	EPA-8270C	ND		1
2-Nitrophenol	ND	ug/L	2.0	EPA-8270C	ND		1
4-Nitrophenol	ND	ug/L	2.0	EPA-8270C	ND		1
Pentachlorophenol	ND	ug/L	10	EPA-8270C	ND		1
Phenol	ND	ug/L	2.0	EPA-8270C	ND		1
2,4,5-Trichlorophenol	ND	ug/L	5.0	EPA-8270C	ND		1
2,4,6-Trichlorophenol	ND	ug/L	5.0	EPA-8270C	ND		1
2-Fluorophenol (Surrogate)	49.0	%	20 - 120 (LCL - UCL)	EPA-8270C			1
Phenol-d5 (Surrogate)	29.6	%	10 - 110 (LCL - UCL)	EPA-8270C			1
Nitrobenzene-d5 (Surrogate)	106	%	55 - 150 (LCL - UCL)	EPA-8270C			1
2-Fluorobiphenyl (Surrogate)	92.0	%	51 - 130 (LCL - UCL)	EPA-8270C			1
2,4,6-Tribromophenol (Surrogate)	89.0	%	44 - 160 (LCL - UCL)	EPA-8270C			1
p-Terphenyl-d14 (Surrogate)	91.6	%	30 - 160 (LCL - UCL)	EPA-8270C			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C	02/14/12	02/17/12 06:05	SKC	MS-B2	1	BVB1042

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**Project:** 0752  
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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-10	<b>Client Sample Name:</b> 0752, MW-1-W-120207, 2/7/2012 8:45:00AM
----------------------------------	--

Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	97	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	80.2	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/14/12 00:07	jjh	GC-V4	1	BVB0841

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**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Water Analysis (Metals)

<b>BCL Sample ID:</b> 1202467-10	<b>Client Sample Name:</b> 0752, MW-1-W-120207, 2/7/2012 8:45:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Dissolved Cadmium	ND	ug/L	10	EPA-6010B	ND		1
Dissolved Chromium	ND	ug/L	10	EPA-6010B	ND		1
Dissolved Lead	ND	ug/L	50	EPA-6010B	ND		1
Dissolved Nickel	ND	ug/L	10	EPA-6010B	ND		1
Dissolved Zinc	ND	ug/L	10	EPA-6010B	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	02/13/12	02/15/12 09:38	ARD	PE-OP1	1	BVB0968

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**Reported:** 02/24/2012 16:12  
**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-11	<b>Client Sample Name:</b> 0752, MW-6-W-120207, 2/7/2012 9:15:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
<b>Methyl t-butyl ether</b>	<b>29</b>	<b>ug/L</b>	<b>0.50</b>	<b>EPA-8260</b>	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	92.0	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	92.8	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	105	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 11:11	JMC	MS-V12	1	BVB0937



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**Project:** 0752  
**Project Number:** 351646  
**Project Manager:** Kathy Brandt

### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-11	<b>Client Sample Name:</b> 0752, MW-6-W-120207, 2/7/2012 9:15:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	450	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	83.3	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/10/12	02/14/12 00:31	jjh	GC-V4	1	BVB0841



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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-12	<b>Client Sample Name:</b> 0752, MW-2-W-120207, 2/7/2012 10:00:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	ND	ug/L	0.50	EPA-8260	ND		1
Toluene	ND	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	ND	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	91.2	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	88.3	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 10:54	JMC	MS-V12	1	BVB0937

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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-12	<b>Client Sample Name:</b> 0752, MW-2-W-120207, 2/7/2012 10:00:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	ND	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	76.7	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/14/12	02/14/12 18:23	jjh	GC-V4	1	BVB0952

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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-13	<b>Client Sample Name:</b> 0752, MW-3-W-120207, 2/7/2012 10:20:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	6.7	ug/L	1.0	EPA-8260	ND	A01	1
1,2-Dibromoethane	ND	ug/L	1.0	EPA-8260	ND	A01	1
1,2-Dichloroethane	ND	ug/L	1.0	EPA-8260	ND	A01	1
Ethylbenzene	1.9	ug/L	1.0	EPA-8260	ND	A01	1
Methyl t-butyl ether	1600	ug/L	12	EPA-8260	ND	A01	2
Toluene	ND	ug/L	1.0	EPA-8260	ND	A01	1
Total Xylenes	ND	ug/L	2.0	EPA-8260	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	90.9	%	76 - 114 (LCL - UCL)	EPA-8260			1
1,2-Dichloroethane-d4 (Surrogate)	91.4	%	76 - 114 (LCL - UCL)	EPA-8260			2
Toluene-d8 (Surrogate)	89.6	%	88 - 110 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	93.2	%	88 - 110 (LCL - UCL)	EPA-8260			2
4-Bromofluorobenzene (Surrogate)	109	%	86 - 115 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	109	%	86 - 115 (LCL - UCL)	EPA-8260			2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 10:37	JMC	MS-V12	2	BVB0937
2	EPA-8260	02/13/12	02/14/12 11:28	JMC	MS-V12	25	BVB0937

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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-13	<b>Client Sample Name:</b> 0752, MW-3-W-120207, 2/7/2012 10:20:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	1800	ug/L	500	EPA-8015B	ND	A01	1
a,a,a-Trifluorotoluene (FID Surrogate)	84.2	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/14/12	02/15/12 17:12	jjh	GC-V4	10	BVB0952



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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-14	<b>Client Sample Name:</b> 0752, MW-7-W-120207, 2/7/2012 10:53:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	25	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	ND	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	9.0	ug/L	0.50	EPA-8260	ND		1
Toluene	2.0	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	3.2	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	90.5	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	92.3	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	108	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 10:19	JMC	MS-V12	1	BVB0937

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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-14	<b>Client Sample Name:</b> 0752, MW-7-W-120207, 2/7/2012 10:53:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	310	ug/L	50	EPA-8015B	ND		1
a,a,a-Trifluorotoluene (FID Surrogate)	85.9	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/14/12	02/14/12 21:02	jjh	GC-V4	1	BVB0952



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### Volatile Organic Analysis (EPA Method 8260)

<b>BCL Sample ID:</b> 1202467-15	<b>Client Sample Name:</b> 0752, MW-5-W-120207, 2/7/2012 10:37:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Benzene	58	ug/L	0.50	EPA-8260	ND		1
1,2-Dibromoethane	ND	ug/L	0.50	EPA-8260	ND		1
1,2-Dichloroethane	ND	ug/L	0.50	EPA-8260	ND		1
Ethylbenzene	3.0	ug/L	0.50	EPA-8260	ND		1
Methyl t-butyl ether	10	ug/L	0.50	EPA-8260	ND		1
Toluene	11	ug/L	0.50	EPA-8260	ND		1
Total Xylenes	25	ug/L	1.0	EPA-8260	ND		1
1,2-Dichloroethane-d4 (Surrogate)	94.0	%	76 - 114 (LCL - UCL)	EPA-8260			1
Toluene-d8 (Surrogate)	94.2	%	88 - 110 (LCL - UCL)	EPA-8260			1
4-Bromofluorobenzene (Surrogate)	102	%	86 - 115 (LCL - UCL)	EPA-8260			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260	02/13/12	02/13/12 10:02	JMC	MS-V12	1	BVB0937



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### Purgeable Aromatics and Total Petroleum Hydrocarbons

<b>BCL Sample ID:</b> 1202467-15	<b>Client Sample Name:</b> 0752, MW-5-W-120207, 2/7/2012 10:37:00AM
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Constituent	Result	Units	PQL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C6 - C12)	1600	ug/L	500	EPA-8015B	ND	A01	1
a,a,a-Trifluorotoluene (FID Surrogate)	88.0	%	70 - 130 (LCL - UCL)	EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	02/14/12	02/15/12 17:35	jjh	GC-V4	10	BVB0952



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## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
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**QC Batch ID: BVB0937**

Benzene	BVB0937-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BVB0937-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BVB0937-BLK1	ND	ug/L	0.50		
Ethylbenzene	BVB0937-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BVB0937-BLK1	ND	ug/L	0.50		
Toluene	BVB0937-BLK1	ND	ug/L	0.50		
Total Xylenes	BVB0937-BLK1	ND	ug/L	1.0		
1,2-Dichloroethane-d4 (Surrogate)	BVB0937-BLK1	92.0	%		76 - 114 (LCL - UCL)	
Toluene-d8 (Surrogate)	BVB0937-BLK1	96.9	%		88 - 110 (LCL - UCL)	
4-Bromofluorobenzene (Surrogate)	BVB0937-BLK1	104	%		86 - 115 (LCL - UCL)	

**QC Batch ID: BVB0938**

Benzene	BVB0938-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BVB0938-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BVB0938-BLK1	ND	ug/L	0.50		
Ethylbenzene	BVB0938-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BVB0938-BLK1	ND	ug/L	0.50		
Toluene	BVB0938-BLK1	ND	ug/L	0.50		
Total Xylenes	BVB0938-BLK1	ND	ug/L	1.0		
1,2-Dichloroethane-d4 (Surrogate)	BVB0938-BLK1	91.2	%		76 - 114 (LCL - UCL)	
Toluene-d8 (Surrogate)	BVB0938-BLK1	94.8	%		88 - 110 (LCL - UCL)	
4-Bromofluorobenzene (Surrogate)	BVB0938-BLK1	105	%		86 - 115 (LCL - UCL)	



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## Volatile Organic Analysis (EPA Method 8260)

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: BVB0937</b>										
Benzene	BVB0937-BS1	LCS	22.260	25.000	ug/L	89.0		70 - 130		
Toluene	BVB0937-BS1	LCS	22.300	25.000	ug/L	89.2		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVB0937-BS1	LCS	8.9100	10.000	ug/L	89.1		76 - 114		
Toluene-d8 (Surrogate)	BVB0937-BS1	LCS	9.9600	10.000	ug/L	99.6		88 - 110		
4-Bromofluorobenzene (Surrogate)	BVB0937-BS1	LCS	10.590	10.000	ug/L	106		86 - 115		
<b>QC Batch ID: BVB0938</b>										
Benzene	BVB0938-BS1	LCS	26.690	25.000	ug/L	107		70 - 130		
Toluene	BVB0938-BS1	LCS	25.020	25.000	ug/L	100		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BVB0938-BS1	LCS	8.9700	10.000	ug/L	89.7		76 - 114		
Toluene-d8 (Surrogate)	BVB0938-BS1	LCS	9.8700	10.000	ug/L	98.7		88 - 110		
4-Bromofluorobenzene (Surrogate)	BVB0938-BS1	LCS	10.650	10.000	ug/L	106		86 - 115		



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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Control Limits Percent Recovery, Lab Quals. Includes two sections for QC Batch IDs BVB0937 and BVB0938.



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### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: BVB1042</b>						
Acenaphthene	BVB1042-BLK1	ND	ug/L	2.0		
Acenaphthylene	BVB1042-BLK1	ND	ug/L	2.0		
Aldrin	BVB1042-BLK1	ND	ug/L	2.0		
Aniline	BVB1042-BLK1	ND	ug/L	5.0		
Anthracene	BVB1042-BLK1	ND	ug/L	2.0		
Benzidine	BVB1042-BLK1	ND	ug/L	20		
Benzo[a]anthracene	BVB1042-BLK1	ND	ug/L	2.0		
Benzo[b]fluoranthene	BVB1042-BLK1	ND	ug/L	2.0		
Benzo[k]fluoranthene	BVB1042-BLK1	ND	ug/L	2.0		
Benzo[a]pyrene	BVB1042-BLK1	ND	ug/L	2.0		
Benzo[g,h,i]perylene	BVB1042-BLK1	ND	ug/L	2.0		
Benzoic acid	BVB1042-BLK1	ND	ug/L	10		
Benzyl alcohol	BVB1042-BLK1	ND	ug/L	2.0		
Benzyl butyl phthalate	BVB1042-BLK1	ND	ug/L	2.0		
alpha-BHC	BVB1042-BLK1	ND	ug/L	2.0		
beta-BHC	BVB1042-BLK1	ND	ug/L	2.0		
delta-BHC	BVB1042-BLK1	ND	ug/L	2.0		
gamma-BHC (Lindane)	BVB1042-BLK1	ND	ug/L	2.0		
bis(2-Chloroethoxy)methane	BVB1042-BLK1	ND	ug/L	2.0		
bis(2-Chloroethyl) ether	BVB1042-BLK1	ND	ug/L	2.0		
bis(2-Chloroisopropyl)ether	BVB1042-BLK1	ND	ug/L	2.0		
bis(2-Ethylhexyl)phthalate	BVB1042-BLK1	ND	ug/L	5.0		
4-Bromophenyl phenyl ether	BVB1042-BLK1	ND	ug/L	2.0		
4-Chloroaniline	BVB1042-BLK1	ND	ug/L	2.0		
2-Chloronaphthalene	BVB1042-BLK1	ND	ug/L	2.0		
4-Chlorophenyl phenyl ether	BVB1042-BLK1	ND	ug/L	2.0		
Chrysene	BVB1042-BLK1	ND	ug/L	2.0		
4,4'-DDD	BVB1042-BLK1	ND	ug/L	2.0		
4,4'-DDE	BVB1042-BLK1	ND	ug/L	3.0		
4,4'-DDT	BVB1042-BLK1	ND	ug/L	2.0		
Dibenzo[a,h]anthracene	BVB1042-BLK1	ND	ug/L	3.0		
Dibenzofuran	BVB1042-BLK1	ND	ug/L	2.0		
1,2-Dichlorobenzene	BVB1042-BLK1	ND	ug/L	2.0		
1,3-Dichlorobenzene	BVB1042-BLK1	ND	ug/L	2.0		

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### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: BVB1042</b>						
1,4-Dichlorobenzene	BVB1042-BLK1	ND	ug/L	2.0		
3,3-Dichlorobenzidine	BVB1042-BLK1	ND	ug/L	10		
Dieldrin	BVB1042-BLK1	ND	ug/L	3.0		
Diethyl phthalate	BVB1042-BLK1	ND	ug/L	2.0		
Dimethyl phthalate	BVB1042-BLK1	ND	ug/L	2.0		
Di-n-butyl phthalate	BVB1042-BLK1	ND	ug/L	2.0		
2,4-Dinitrotoluene	BVB1042-BLK1	ND	ug/L	2.0		
2,6-Dinitrotoluene	BVB1042-BLK1	ND	ug/L	2.0		
Di-n-octyl phthalate	BVB1042-BLK1	ND	ug/L	2.0		
1,2-Diphenylhydrazine	BVB1042-BLK1	ND	ug/L	2.0		
Endosulfan I	BVB1042-BLK1	ND	ug/L	10		
Endosulfan II	BVB1042-BLK1	ND	ug/L	10		
Endosulfan sulfate	BVB1042-BLK1	ND	ug/L	3.0		
Endrin	BVB1042-BLK1	ND	ug/L	2.0		
Endrin aldehyde	BVB1042-BLK1	ND	ug/L	10		
Fluoranthene	BVB1042-BLK1	ND	ug/L	2.0		
Fluorene	BVB1042-BLK1	ND	ug/L	2.0		
Heptachlor	BVB1042-BLK1	ND	ug/L	2.0		
Heptachlor epoxide	BVB1042-BLK1	ND	ug/L	2.0		
Hexachlorobenzene	BVB1042-BLK1	ND	ug/L	2.0		
Hexachlorobutadiene	BVB1042-BLK1	ND	ug/L	2.0		
Hexachlorocyclopentadiene	BVB1042-BLK1	ND	ug/L	2.0		
Hexachloroethane	BVB1042-BLK1	ND	ug/L	2.0		
Indeno[1,2,3-cd]pyrene	BVB1042-BLK1	ND	ug/L	2.0		
Isophorone	BVB1042-BLK1	ND	ug/L	2.0		
2-Methylnaphthalene	BVB1042-BLK1	ND	ug/L	2.0		
Naphthalene	BVB1042-BLK1	ND	ug/L	2.0		
2-Naphthylamine	BVB1042-BLK1	ND	ug/L	20		
2-Nitroaniline	BVB1042-BLK1	ND	ug/L	2.0		
3-Nitroaniline	BVB1042-BLK1	ND	ug/L	2.0		
4-Nitroaniline	BVB1042-BLK1	ND	ug/L	5.0		
Nitrobenzene	BVB1042-BLK1	ND	ug/L	2.0		
N-Nitrosodimethylamine	BVB1042-BLK1	ND	ug/L	2.0		
N-Nitrosodi-N-propylamine	BVB1042-BLK1	ND	ug/L	2.0		

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Reported: 02/24/2012 16:12  
Project: 0752  
Project Number: 351646  
Project Manager: Kathy Brandt

## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: BVB1042</b>						
N-Nitrosodiphenylamine	BVB1042-BLK1	ND	ug/L	2.0		
Phenanthrene	BVB1042-BLK1	ND	ug/L	2.0		
Pyrene	BVB1042-BLK1	ND	ug/L	2.0		
1,2,4-Trichlorobenzene	BVB1042-BLK1	ND	ug/L	2.0		
4-Chloro-3-methylphenol	BVB1042-BLK1	ND	ug/L	5.0		
2-Chlorophenol	BVB1042-BLK1	ND	ug/L	2.0		
2,4-Dichlorophenol	BVB1042-BLK1	ND	ug/L	2.0		
2,4-Dimethylphenol	BVB1042-BLK1	ND	ug/L	2.0		
4,6-Dinitro-2-methylphenol	BVB1042-BLK1	ND	ug/L	10		
2,4-Dinitrophenol	BVB1042-BLK1	ND	ug/L	10		
2-Methylphenol	BVB1042-BLK1	ND	ug/L	2.0		
3- & 4-Methylphenol	BVB1042-BLK1	ND	ug/L	2.0		
2-Nitrophenol	BVB1042-BLK1	ND	ug/L	2.0		
4-Nitrophenol	BVB1042-BLK1	ND	ug/L	2.0		
Pentachlorophenol	BVB1042-BLK1	ND	ug/L	10		
Phenol	BVB1042-BLK1	ND	ug/L	2.0		
2,4,5-Trichlorophenol	BVB1042-BLK1	ND	ug/L	5.0		
2,4,6-Trichlorophenol	BVB1042-BLK1	ND	ug/L	5.0		
2-Fluorophenol (Surrogate)	BVB1042-BLK1	56.3	%	20 - 120 (LCL - UCL)		
Phenol-d5 (Surrogate)	BVB1042-BLK1	35.8	%	10 - 110 (LCL - UCL)		
Nitrobenzene-d5 (Surrogate)	BVB1042-BLK1	92.6	%	55 - 150 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BVB1042-BLK1	86.7	%	51 - 130 (LCL - UCL)		
2,4,6-Tribromophenol (Surrogate)	BVB1042-BLK1	88.7	%	44 - 160 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BVB1042-BLK1	81.9	%	30 - 160 (LCL - UCL)		

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Reported: 02/24/2012 16:12  
Project: 0752  
Project Number: 351646  
Project Manager: Kathy Brandt

### Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
<b>QC Batch ID: BVB1042</b>										
Acenaphthene	BVB1042-BS1	LCS	39.989	50.000	ug/L	80.0		53 - 125		
1,4-Dichlorobenzene	BVB1042-BS1	LCS	37.706	50.000	ug/L	75.4		46 - 120		
2,4-Dinitrotoluene	BVB1042-BS1	LCS	43.878	50.000	ug/L	87.8		42 - 132		
Hexachlorobenzene	BVB1042-BS1	LCS	43.669	50.000	ug/L	87.3		60 - 120		
Hexachlorobutadiene	BVB1042-BS1	LCS	33.806	50.000	ug/L	67.6		40 - 120		
Hexachloroethane	BVB1042-BS1	LCS	37.219	50.000	ug/L	74.4		36 - 127		
Nitrobenzene	BVB1042-BS1	LCS	40.438	50.000	ug/L	80.9		50 - 136		
N-Nitrosodi-N-propylamine	BVB1042-BS1	LCS	29.746	50.000	ug/L	59.5		52 - 133		
Pyrene	BVB1042-BS1	LCS	40.111	50.000	ug/L	80.2		50 - 163		
1,2,4-Trichlorobenzene	BVB1042-BS1	LCS	35.788	50.000	ug/L	71.6		45 - 120		
4-Chloro-3-methylphenol	BVB1042-BS1	LCS	38.868	50.000	ug/L	77.7		56 - 126		
2-Chlorophenol	BVB1042-BS1	LCS	38.498	50.000	ug/L	77.0		46 - 116		
2-Methylphenol	BVB1042-BS1	LCS	31.688	50.000	ug/L	63.4		41 - 110		
3- & 4-Methylphenol	BVB1042-BS1	LCS	59.612	100.00	ug/L	59.6		40 - 110		
4-Nitrophenol	BVB1042-BS1	LCS	19.825	50.000	ug/L	39.6		25 - 71		
Pentachlorophenol	BVB1042-BS1	LCS	42.258	50.000	ug/L	84.5		34 - 135		
Phenol	BVB1042-BS1	LCS	15.037	50.000	ug/L	30.1		18 - 62		
2,4,6-Trichlorophenol	BVB1042-BS1	LCS	40.015	50.000	ug/L	80.0		53 - 138		
2-Fluorophenol (Surrogate)	BVB1042-BS1	LCS	40.113	80.000	ug/L	50.1		20 - 120		
Phenol-d5 (Surrogate)	BVB1042-BS1	LCS	28.295	80.000	ug/L	35.4		10 - 110		
Nitrobenzene-d5 (Surrogate)	BVB1042-BS1	LCS	70.991	80.000	ug/L	88.7		55 - 150		
2-Fluorobiphenyl (Surrogate)	BVB1042-BS1	LCS	71.749	80.000	ug/L	89.7		51 - 130		
2,4,6-Tribromophenol (Surrogate)	BVB1042-BS1	LCS	80.000	80.000	ug/L	100		44 - 160		
p-Terphenyl-d14 (Surrogate)	BVB1042-BS1	LCS	34.699	40.000	ug/L	86.7		30 - 160		

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Project Number: 351646
Project Manager: Kathy Brandt

Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

Quality Control Report - Precision & Accuracy

Table with columns: Constituent, Source Type, Source Sample ID, Source Result, Result, Spike Added, Units, RPD, Percent Recovery, Control Limits RPD, Control Limits Percent Recovery, Lab Quals. Includes QC Batch ID: BVB1042 and Used client sample: N.

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## Base Neutral and Acid Extractables Organic Analysis (EPA Method 8270C)

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	Percent Recovery	
<b>QC Batch ID: BVB1042</b>		Used client sample: N								
2-Fluorophenol (Surrogate)	MS	1110024-92	ND	42.102	80.000	ug/L		52.6	20 - 120	
	MSD	1110024-92	ND	45.247	80.000	ug/L	7.2	56.6	20 - 120	
Phenol-d5 (Surrogate)	MS	1110024-92	ND	28.193	80.000	ug/L		35.2	10 - 110	
	MSD	1110024-92	ND	29.046	80.000	ug/L	3.0	36.3	10 - 110	
Nitrobenzene-d5 (Surrogate)	MS	1110024-92	ND	69.139	80.000	ug/L		86.4	55 - 150	
	MSD	1110024-92	ND	69.315	80.000	ug/L	0.3	86.6	55 - 150	
2-Fluorobiphenyl (Surrogate)	MS	1110024-92	ND	68.247	80.000	ug/L		85.3	51 - 130	
	MSD	1110024-92	ND	71.272	80.000	ug/L	4.3	89.1	51 - 130	
2,4,6-Tribromophenol (Surrogate)	MS	1110024-92	ND	78.389	80.000	ug/L		98.0	44 - 160	
	MSD	1110024-92	ND	79.654	80.000	ug/L	1.6	99.6	44 - 160	
p-Terphenyl-d14 (Surrogate)	MS	1110024-92	ND	33.779	40.000	ug/L		84.4	30 - 160	
	MSD	1110024-92	ND	34.277	40.000	ug/L	1.5	85.7	30 - 160	



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**Project Manager:** Kathy Brandt

## Purgeable Aromatics and Total Petroleum Hydrocarbons

### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: BVB0841</b>						
Gasoline Range Organics (C6 - C12)	BVB0841-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BVB0841-BLK1	74.5	%	70 - 130 (LCL - UCL)		
<b>QC Batch ID: BVB0952</b>						
Gasoline Range Organics (C6 - C12)	BVB0952-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BVB0952-BLK1	80.1	%	70 - 130 (LCL - UCL)		



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## Purgeable Aromatics and Total Petroleum Hydrocarbons

### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
<b>QC Batch ID: BVB0841</b>											
Gasoline Range Organics (C6 - C12)	BVB0841-BS1	LCS	1025.1		ug/L			85 - 115			
a,a,a-Trifluorotoluene (FID Surrogate)	BVB0841-BS1	LCS	34.322	40.000	ug/L	85.8		70 - 130			
<b>QC Batch ID: BVB0952</b>											
Gasoline Range Organics (C6 - C12)	BVB0952-BS1	LCS	971.48		ug/L			85 - 115			
a,a,a-Trifluorotoluene (FID Surrogate)	BVB0952-BS1	LCS	36.173	40.000	ug/L	90.4		70 - 130			



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## Purgeable Aromatics and Total Petroleum Hydrocarbons

### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
<b>QC Batch ID: BVB0841</b>		Used client sample: N									
Gasoline Range Organics (C6 - C12)	MS	1201079-45	ND	1057.0		ug/L					70 - 130
	MSD	1201079-45	ND	1048.6		ug/L	0.8		20		70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1201079-45	ND	34.741	40.000	ug/L		86.9			70 - 130
	MSD	1201079-45	ND	35.282	40.000	ug/L	1.5	88.2			70 - 130
<b>QC Batch ID: BVB0952</b>		Used client sample: N									
Gasoline Range Organics (C6 - C12)	MS	1201079-46	ND	1061.7		ug/L					70 - 130
	MSD	1201079-46	ND	1041.1		ug/L	2.0		20		70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1201079-46	ND	35.280	40.000	ug/L		88.2			70 - 130
	MSD	1201079-46	ND	36.156	40.000	ug/L	2.5	90.4			70 - 130



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### Water Analysis (Metals)

#### Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
<b>QC Batch ID: BVB0968</b>						
Dissolved Cadmium	BVB0968-BLK1	ND	ug/L	10		
Dissolved Chromium	BVB0968-BLK1	ND	ug/L	10		
Dissolved Lead	BVB0968-BLK1	ND	ug/L	50		
Dissolved Nickel	BVB0968-BLK1	ND	ug/L	10		
Dissolved Zinc	BVB0968-BLK1	ND	ug/L	10		





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### Water Analysis (Metals)

#### Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
<b>QC Batch ID: BVB0968</b>											
Dissolved Cadmium	BVB0968-BS1	LCS	192.25	200.00	ug/L	96.1		85	115		
Dissolved Chromium	BVB0968-BS1	LCS	196.53	200.00	ug/L	98.3		85	115		
Dissolved Lead	BVB0968-BS1	LCS	397.29	400.00	ug/L	99.3		85	115		
Dissolved Nickel	BVB0968-BS1	LCS	399.96	400.00	ug/L	100		85	115		
Dissolved Zinc	BVB0968-BS1	LCS	504.00	500.00	ug/L	101		85	115		

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### Water Analysis (Metals)

#### Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab
								Percent Recovery	RPD	
<b>QC Batch ID: BVB0968</b>		Used client sample: N								
Dissolved Cadmium	DUP	1202585-04	ND	ND		ug/L			20	
	MS	1202585-04	ND	213.43	204.08	ug/L		105		75 - 125
	MSD	1202585-04	ND	217.03	204.08	ug/L	1.7	106	20	75 - 125
Dissolved Chromium	DUP	1202585-04	ND	ND		ug/L			20	
	MS	1202585-04	ND	213.93	204.08	ug/L		105		75 - 125
	MSD	1202585-04	ND	218.98	204.08	ug/L	2.3	107	20	75 - 125
Dissolved Lead	DUP	1202585-04	ND	ND		ug/L			20	
	MS	1202585-04	ND	423.11	408.16	ug/L		104		75 - 125
	MSD	1202585-04	ND	426.05	408.16	ug/L	0.7	104	20	75 - 125
Dissolved Nickel	DUP	1202585-04	ND	ND		ug/L			20	
	MS	1202585-04	ND	415.85	408.16	ug/L		102		75 - 125
	MSD	1202585-04	ND	427.08	408.16	ug/L	2.7	105	20	75 - 125
Dissolved Zinc	DUP	1202585-04	ND	ND		ug/L			20	
	MS	1202585-04	ND	550.47	510.20	ug/L		108		75 - 125
	MSD	1202585-04	ND	558.75	510.20	ug/L	1.5	110	20	75 - 125

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**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
- A01 PQL's and MDL's are raised due to sample dilution.
- S09 The surrogate recovery on the sample for this compound was not within the control limits.