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Atlanta, GA 30328-3474

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11:33 am, Jul 28, 2011

Alameda County  
Environmental Health



Ms. Barbara Jakub  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502

Subject:  
Groundwater Monitoring Report  
UPS Oakland Hub  
8400 Pardee Drive, Oakland, CA 94621  
Global ID T0600100939  
State ID # 583  
EPA ID # CAD 09707509

Dear Ms. Jakub:

Attached please find the Groundwater Monitoring for the above-referenced site. The report, which was prepared for United Parcel Service (UPS) by ARCADIS U.S., Inc. (ARCADIS), the first semi-annual groundwater monitoring event that was performed at the subject site on February 25, 2011.

I declare under penalty of perjury, that the information and/or recommendations contained in the attached Groundwater Monitoring and Injection Report are true and correct.

Please feel free to contact me directly at 404.828.8991 should you have any questions or comments.

Sincerely,

United Parcel Service

A handwritten signature in cursive script that reads "Julie Straub".

Julie Straub

Remediation and Assessment Manager



Ms. Barbara Jakub  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502

Subject:  
Groundwater Monitoring Report  
UPS Oakland Hub  
8400 Pardee Drive, Oakland, CA 94621  
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EPA ID # CAD 09707509

Dear Ms. Jakub:

On behalf of United Parcel Service (UPS), ARCADIS U.S., Inc. (ARCADIS) is pleased to submit this Groundwater Monitoring Report, which documents the first semi-annual 2011 groundwater monitoring event at the UPS Oakland Hub, located at 8400 Pardee Drive, Oakland, Alameda County, California (**Figures 1, 2, and 3**).

**BACKGROUND**

A review of historical aerial photographs from 1937 to present indicated the property that UPS leases from the Port of Oakland was originally a tidal marsh until 1968. The site was backfilled and graded in 1968; however, no structures were observed on the property until 1975, when the current UPS facility was constructed. The southern fueling area and the current release area, were visible in the photographs in 1985.

The site includes an office building and a parking lot. As indicated above, the property is owned by the Port of Oakland and is leased by UPS. The area around the site is characterized by medium to heavy industrial use and includes the Oakland International Airport.

The site was a tidal marsh prior to 1968 when it was raised above sea level with imported fill material. Artificial historic fill has been documented on both the northern and southern fueling areas, at depths ranging from 2 to 10 feet in thickness. Currently it is approximately 10 feet above sea level and is located on a narrow peninsula south of San Leandro Bay.

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ENVIRONMENT

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404.952.1604

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Our ref:  
B0038398.0005

Imagine the result

During activities to upgrade the product dispensing systems at the UPS-Oakland Hub in September 1989, hydrocarbon odors were observed at the gasoline (northern fuel area) and diesel (southern fuel area) fuel dispensing systems to the north of the facility and six soil samples and two water samples were collected from that area. The release at the northern fuel dispensing system has since been closed. In January 1990, Alameda County Health Care Services Agency (ADCEH) requested a work plan for initial soil and groundwater assessment which was submitted to the agency in March 1990.

In June 1990, a limited Site Assessment was performed on the southern fuel dispensing facility. Five monitoring wells and three soil borings were installed on the site in August 1990. Phase separated hydrocarbons (PSH) removal continued monthly and semi-annual groundwater sampling from the mid-1990's into 2009 when the southern fueling area USTs were removed.

Enhanced fluid recovery, preferential pathway study, well search, and soil and groundwater sampling event occurred in 2010. Summary of Soil and Groundwater Investigation Activities report dated February 15, 2011 was submitted and is currently under review.

## GROUNDWATER MONITORING

Groundwater samples were collected from six groundwater monitoring wells (MW-2, MW-4, MW-8, MW-9, MW-10, and MW-11) on February 25, 2011. Water levels were measured prior to purging and sampling the wells. Purge water was monitored to document stabilization of pH, temperature, turbidity, and conductivity parameters (**Appendix A**).

### Water Levels

The depth to water (DTW) in each well was gauged on February 25, 2011, prior to purging and the collection of the groundwater samples. The groundwater elevations during the February 2011 monitoring event ranged from 3.38 feet above mean sea level (ft-amsl) in observation well OW-1 to 9.08 ft-amsl in monitoring well MW-9.

Historical groundwater gauging and elevation data is presented in **Table 1**. A groundwater elevation map was prepared using the February 25, 2011 groundwater elevation data, and is presented as **Figure 4**. The apparent direction of groundwater flow was generally to the southeast on February 25, 2011 which is consistent with historical groundwater flow.

On November 24, 2010, Phase Separated Hydrocarbon (PSH) was detected in monitoring well MW-16 at a thickness of 0.29 ft and was therefore not purged or sampled.

### Groundwater Quality

Groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-8, MW-9, MW-10, and MW-11 on February 25, 2011 were analyzed for total petroleum hydrocarbons-diesel range organics (TPH-DRO) by United States Environmental Protection Agency (EPA) Method 8015B. The samples were also analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary butyl ether (MTBE), and TPH-gasoline range organics (TPH-GRO) by EPA Method 8260B/CA LUFT. Analyses were conducted by TestAmerica Laboratories, Inc. (TestAmerica) in Pleasanton, California which is certified by the California Department of Health Services (CADHS) for environmental analyses. Historical groundwater analytical data is presented in **Table 2**. A groundwater quality map is presented as **Figure 5**. Laboratory analytical results and chain of custody documentation for the February 2011 sampling event are attached in **Appendix B**.

BTEX and MTBE were not detected at or above their respective maximum contaminant levels (MCLs), environmental screening levels (ESLs), or laboratory reporting limit (RL) in monitoring wells MW-2, MW-4, MW-8, MW-9, MW-10, or MW-11 during the February 2011 groundwater monitoring event.

TPH-DRO was detected above the odor and taste threshold per the California Regional Water Quality Control Board regulations (100 µg/L) and ESLs (100 µg/L for drinking water and 210 µg/L for non-drinking water) in monitoring wells MW-2 (37,000 µg/L) MW-4 (24,000 µg/L), MW-8 (280 µg/L), MW-9 (580 µg/L), MW-10 (5,600 µg/L), and MW-11 (1,900 µg/L).

TPH-GRO was detected above ESLs (100 µg/L) for drinking water and 210 µg/L (non-drinking water) in monitoring wells MW-2 (360 µg/L) and MW-4 (250 µg/L), respectively.

### Purge Water Handling

The purge water generated during the February 2011 groundwater sampling activities was passed through a five-gallon container of granulated activated carbon (GAC) and then disposed of onsite upon the asphalt pavement immediately adjacent to each sampled well and allowed to evaporate.

## SUMMARY

- The groundwater elevations during the February 2011 monitoring event ranged from 3.38 ft-amsl in observation well OW-1 to 9.08 ft-amsl in monitoring well MW-9.
- Groundwater elevations indicated that the apparent groundwater flow direction was generally to the southeast on February 25, 2011 which is consistent with historical groundwater flow.
- Monitoring wells MW-2, MW-4, MW-8, MW-9, MW-10 and MW-11 were sampled for TPH-DRO, BTEX, MTBE, and TPH-GRO on February 25, 2011.
- TPH-DRO was detected above the ESL in monitoring wells MW-2, MW-4, MW-8, MW-9, MW-10, and MW-11.
- TPH-GRO was detected above ESLs in monitoring wells MW-2 and MW-4.

## RECOMMENDATIONS

According to the Summary of Soil and Groundwater Investigation Activities report dated February 15, 2011 (ARCADIS), the combination of traditional and forensic soil and groundwater analysis and interpretation enabled ARCADIS to demonstrate horizontal and vertical delineation of constituents of concern in soil and groundwater in the vicinity of the former diesel USTs located in the southern fueling area at the Site. The forensic data interpretation also enabled ARCADIS to differentiate between impacts associated with the former diesel USTs and those impacts associated with the artificial historic fill material or with historic activities that occurred prior to placement of fill material that affected the original Bay Muds.

The soil impact identified as likely associated with historic release of diesel fuel in the immediate area of the former diesel UST, southern fuel area has been delineated horizontally and vertically, with the exception of horizontally to the east at SB-04 and vertically at SB-07.

The stable/mature dissolved groundwater plume identified as likely associated with historic release of diesel fuel in the former diesel USTs has been delineated in all directions. TPH-DRO signatures of the samples collected for the forensic study exhibited a predominantly heavier than diesel hydrocarbon signature and were not considered related to the former diesel USTs in the southern fuel area. These heavier hydrocarbons may have been present in the artificial fill material used to fill

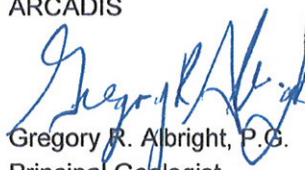
this former marsh area or may have been present in marsh/bay muds prior to placement of the artificial fill material in 1968.

ARCADIS recommends the immediate submittal of a Corrective Action Plan (CAP) to reduce soil concentrations of soils that are impacted by past release of diesel fuel in the immediate area of the former diesel UST, continued removal of the remaining mobile PSH, followed by a risk assessment to leave residual diesel impacted soils and groundwater to attenuate with continuing semi-annual groundwater monitoring until the Alameda County Department of Environmental Health advises otherwise. Although UPS is only the tenant, the current lease allows long term continued usage of the property by UPS in its existing location and current operations. This location is a key hub for UPS and UPS plans on using this location for the foreseeable future. The next groundwater monitoring event will occur in August 2011.

If you have any questions regarding this report, please do not hesitate to contact me at 770.428.9009, extension 11. Please send correspondence regarding this report to Ms. Julie Straub of UPS at the address provided below. Please copy ARCADIS on any such correspondence.

Sincerely,

ARCADIS

  
Gregory R. Albright, P.G.  
Principal Geologist  
California P.G. No. 5098



  
Hugh Devery  
Senior Geologist

Copies:

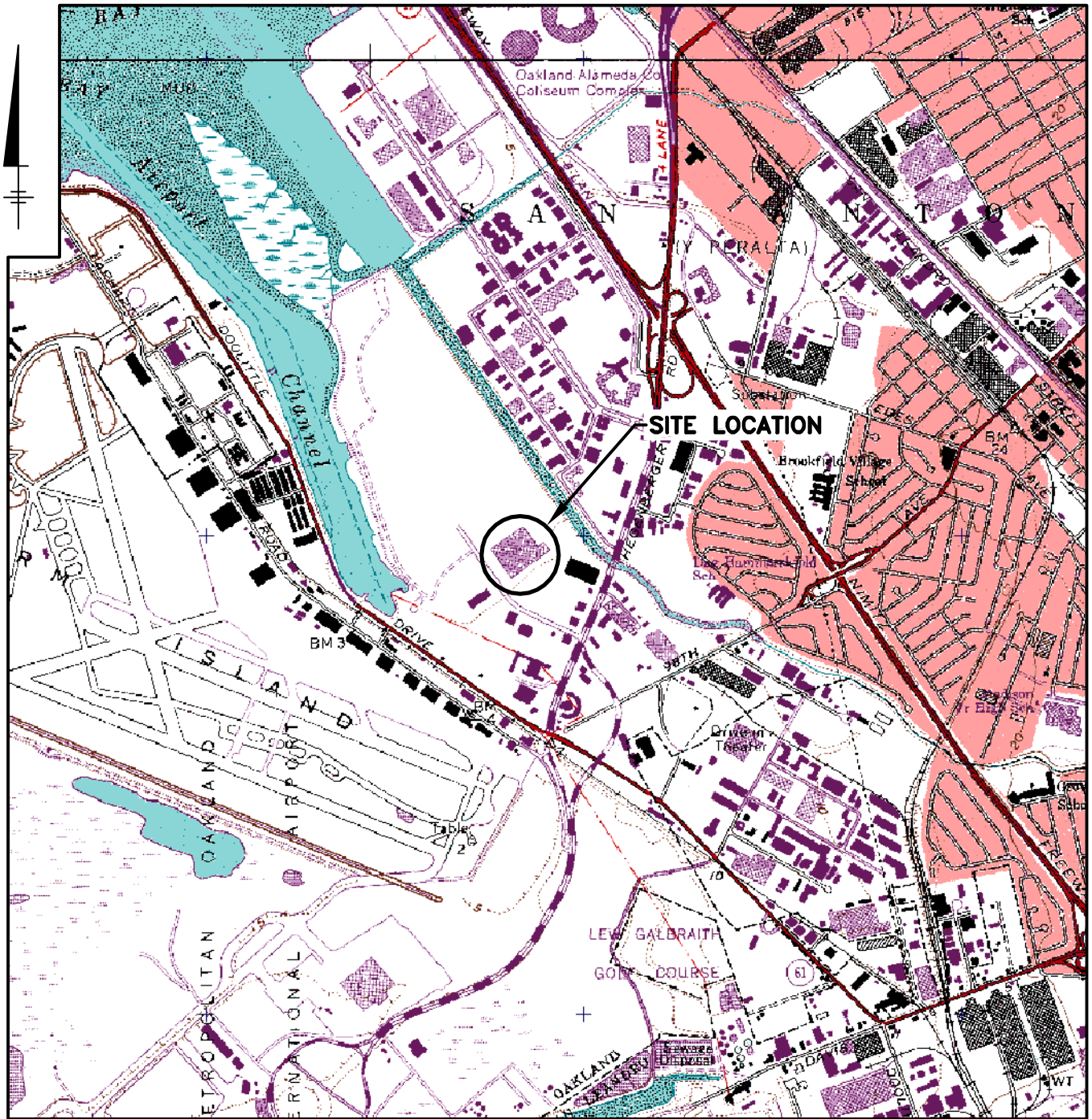
Julie Straub – UPS Corporate Plant Engineering; 55 Glenlake Parkway NE, Atlanta, GA 30328

Douglas Herman, Port of Oakland; 530 Water Street, Oakland, CA 94607

File

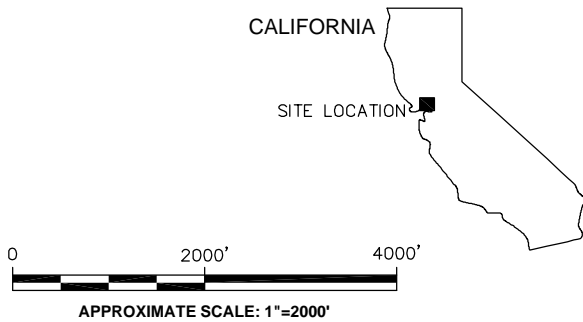
**Figures**

UPS – Oakland Hub



**NOTES:**

1. Base Map Source: USGS 7.5 Min. Topo. Quad., San Leandro, Calif.(1993)
2. Property Location is Approximate Only.



UPS-OAKLAND HUB  
 8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

**SITE LOCATION MAP**



CITY:TAMPA DIV:GROUP:ENV:141 DB:JAR\_LD:(Opt) PIC:(Opt) PM:(Repd) TM:(Opt) LVR:(Opt)ONL-OFF-REF: G:\ENV\CAD\Tampa-BAC\18003898Oakland\00000000\SAGMR\_2018\0003898B01.dwg LAYOUT: ZSAVED: 5/3/2011 10:02 AM ACADVER: 18.05 (LMS TECH) PAGESSETUP: PDF-APPLOTSTYLETABLE: PLTFULLCTB PLOTTED: 5/16/2011 11:16 AM BY: RICHARDS, JIM

XREFS: IMAGES: PROJECTNAME: AREA MAP.jpg UPSOakland.jpg



GRAPHIC SCALE

SOURCE: AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH PRO.

UPS-OAKLAND HUB  
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

## FACILITY LAYOUT MAP



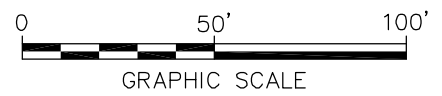
FIGURE  
**2**

CITY:TAMPA DIV:GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) Lyr:(Opt)ON=OFF=REF G:\ENVCAD\Tampa-BVACT\B0038988\Oakland\0000000000\0000000000\SA.GNR 2011\B0038988\B01.dwg LAYOUT: 3\$AVED: 5/16/2011 11:17 AM ACADVER: 18.05 (LMS TECH) PAGES: 18 PLT:FULL.CTB PLOTTED: 5/16/2011 11:17 AM BY: RICHARDS, JIM XREFS: IMAGES: PROJECTNAME: AREA MAP.ppt UPSOakland.jpg



**LEGEND:**


- MONITORING WELL LOCATION
- TEMPORARY VACUUM TEST WELL
- ▲ SOIL BORING LOCATION (2010)
- — — — — PROPERTY BOUNDARY
- E — UNDERGROUND ELECTRICAL LINE
- S — STORM WATER/SEWER LINE
- W — WATER/FIRE SERVICE/IRRIGATION
- UC — ELECTRIC/WATER LINE
- ▣ CATCH BASIN/STORM DRAIN
- LIGHT POST/ POWER POLE



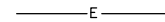
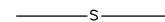
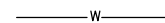
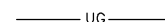







UPS-OAKLAND HUB 8400 PARDEE DRIVE, OAKLAND, CALIFORNIA	
<b>SITE MAP</b>	
	FIGURE <span style="font-size: 24pt; font-weight: bold;">3</span>

CITY:TAMPA DIV:GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) Lyr:(Opt)ON="OFF"REF=" G:\ENVCAD\Tampa-BACT\00383988\Oakland\0000000000\0000000000\0000000000\0000000000.dwg LAYOUT: 4\$SAVED: 5/16/2011 11:19:AM ACADVER: 18.05 (LMS TECH) PAGESETUP: PLTFULLCTB PLOTTED: 5/16/2011 11:20:AM BY: RICHARDS, JIM





-  MONITORING WELL LOCATION
-  PROPERTY BOUNDARY
-  UNDERGROUND ELECTRICAL LINE
-  STORM WATER/SEWER LINE
-  WATER/FIRE SERVICE/IRRIGATION
-  ELECTRIC/WATER LINE
-  CATCH BASIN/STORM DRAIN
-  LIGHT POST/ POWER POLE
-  (8.35) GROUNDWATER ELEVATION (FEET)
-  1 GROUNDWATER ELEVATION CONTOUR  
CONTOUR INTERVAL = 1.0 FOOT



GRAPHIC SCALE

UPS-OAKLAND HUB  
8400 PARDEE DRIVE, OAKLAND, CALIFORNIA

**GROUNDWATER CONTOUR MAP**




FIGURE  
**4**



**Tables**

UPS – Oakland Hub

**TABLE 1  
HISTORICAL GROUNDWATER ELEVATION SUMMARY**

UPS-OAKLAND HUB  
8400 PARDEE DRIVE  
OAKLAND, CALIFORNIA  
STATE ID # 583

Monitoring Well	Reference Elevation	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Change in Measurement (ft)	Product Thickness (ft)	Volume Product Recovered (mL)
MW-1	7.43	8/28/1990	3.80	3.63	--		0.00
		9/20/1990	3.99	3.44	-0.19		0.00
		6/19/1991	3.47	3.96	0.52		NM
		7/23/1991	3.70	3.73	-0.23		NM
		8/26/1991	3.92	3.51	-0.22		NM
		11/18/1991	4.21	3.22	-0.29		NM
		2/3/1992	3.99	3.44	0.22		NM
		6/29/1992	3.38	4.05	0.61		NM
		6/23/1993	2.72	4.71	0.66		NM
		10/11/1993	3.87	3.56	-1.15		NM
		1/4/1994	3.34	4.09	0.53		NM
		5/10/1994	2.14	5.29	1.20		NM
		2/1/1995	1.84	5.59	0.30		NM
		8/2/1995	3.10	4.33	-1.26		NM
		10/16/1995	3.75	3.68	-0.65		NM
		12/28/1995	3.56	3.87	0.19		NM
		6/4/1997	3.16	4.27	0.40		0.00
		9/30/1999	3.75	3.68	-0.59		0.00
		10/11/2000	3.88	3.55	-0.13		0.00
		9/3/2002	3.73	3.70	0.15		0.00
		10/22/2002	5.11	2.32	-1.38		0.05
		12/23/2002	3.51	3.92	1.60		0.00
		3/28/2003	3.52	3.91	-0.01		0.00
		5/30/2003	3.37	4.06	0.15		0.00
		6/20/2003	3.50	3.93	-0.13		0.00
		7/14/2003	3.65	3.78	-0.15		0.00
		8/25/2003	3.87	3.56	-0.22		0.00
		9/9/2003	4.02	3.41	-0.15		0.00
		9/25/2003	4.10	3.33	-0.08		0.00
		10/28/2003	4.29	3.14	-0.19		0.00
		11/18/2003	4.32	3.11	-0.03		0.00
		12/2/2003	4.34	3.09	-0.02		0.00
		1/27/2004	3.88	3.55	0.46		0.00
		2/24/2004	2.75	4.68	1.13		0.00
		3/29/2004	3.45	3.98	-0.70		0.00
		4/19/2004	3.55	3.88	-0.10		0.00
		5/20/2004	3.69	3.74	-0.14		0.00
		6/22/2004	3.81	3.62	-0.12		0.00
		7/27/2004	3.99	3.44	-0.18		0.00
		8/24/2004	4.14	3.29	-0.15		0.00
		9/29/2004	4.32	3.11	-0.18		0.00
		10/25/2004	3.89	3.54	0.43		0.00
		12/15/2004	3.18	4.25	0.71		0.00
		1/24/2005	2.69	4.74	0.49		0.00
		2/23/2005	2.48	4.95	0.21		0.00
		3/23/2005	2.21	5.22	0.27		0.00
		4/29/2005	2.57	4.86	-0.36		0.00
		5/27/2005	2.68	4.75	-0.11		0.00
		6/29/2005	2.97	4.46	-0.29		0.00
		7/20/2005	3.13	4.30	-0.16		0.00
8/24/2005	3.48	3.95	-0.35		0.00		
9/27/2005	3.69	3.74	-0.21		0.00		
10/19/2005	3.87	3.56	-0.18		0.00		
11/29/2005	3.79	3.64	0.08		0.00		
12/29/2005	3.08	4.35	0.71		0.00		
1/31/2006	2.91	4.52	0.17		0.00		
2/28/2006	2.84	4.59	0.07		0.00		
3/27/2006	2.26	5.17	0.58		0.00		
4/28/2006	2.40	5.03	-0.14		0.00		
6/27/2006	3.09	4.34	-0.69		0.00		
7/31/2006	3.35	4.08	-0.26		0.00		
8/29/2006	3.60	3.83	-0.25		0.00		
9/28/2006	3.90	3.53	-0.30		0.00		
10/27/2006	3.97	3.46	-0.07		0.00		
11/22/2006	3.64	3.79	0.33		0.00		
12/26/2006	3.04	4.39	0.60		0.00		
1/25/2007	3.26	4.17	-0.22		0.00		
2/16/2007	3.12	4.31	0.14		0.00		
3/19/2007	2.91	4.52	0.21		0.00		
4/26/2007	2.93	4.50	-0.02		0.00		
5/29/2007	3.15	4.28	-0.22		0.00		
6/28/2007	3.42	4.01	-0.27		0.00		
7/30/2007	3.60	3.83	-0.18		0.00		
8/30/2007	3.85	3.58	-0.25		0.00		
9/25/2007	4.00	3.43	-0.15		0.00		
10/29/2007	4.05	3.38	-0.05		0.00		
11/29/2007	4.10	3.33	-0.05		0.00		
12/28/2007	3.80	3.63	0.30		0.00		
1/24/2008	3.14	4.29	0.66		0.00		
2/21/2008	2.44	4.99	0.70		0.00		
3/28/2008	2.84	4.59	-0.40		0.00		
4/30/2008	3.00	4.43	-0.16		0.00		
5/29/2008	3.24	4.19	-0.24		0.00		
6/25/2008	3.39	4.04	-0.15		0.00		
7/29/2008	3.64	3.79	-0.25		0.00		
8/27/2008	3.85	3.58	-0.21		0.00		
9/30/2008	4.08	3.35	-0.23		0.00		
10/31/2008	4.20	3.23	-0.12		0.00		
11/26/2008	4.14	3.29	0.06		0.00		
12/30/2008	3.94	3.49	0.20		0.00		
1/22/2009	3.93	3.50	0.01		0.00		
4/3/2009				ABANDONED			

**TABLE 1  
HISTORICAL GROUNDWATER ELEVATION SUMMARY**

UPS-OAKLAND HUB  
8400 PARDEE DRIVE  
OAKLAND, CALIFORNIA  
STATE ID # 583

Monitoring Well	Reference Elevation	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Change in Measurement (ft)	Product Thickness (ft)	Volume Product Recovered (mL)	
MW-2	7.15	8/28/1990	4.98	2.17	--	0.00		
		9/20/1990	4.94	2.21	0.04	N/A		
		6/19/1991	4.66	2.49	0.28	N/A		
		7/23/1991	4.81	2.34	-0.15	N/A		
		8/26/1991	4.89	2.26	-0.08	N/A		
		11/18/1991	4.93	2.22	-0.04	N/A		
		2/3/1992	4.44	2.71	0.49	N/A		
		6/29/1992	4.80	2.35	-0.36	N/A		
		6/23/1993	4.38	2.77	0.42	N/A		
		10/11/1993	5.20	1.95	-0.82	N/A		
		1/4/1994	4.56	2.59	0.64	N/A		
		5/10/1994	4.20	2.95	0.36	N/A		
		2/1/1995	4.00	3.15	0.20	N/A		
		8/2/1995	4.71	2.44	-0.71	N/A		
		10/16/1995	5.02	2.13	-0.31	N/A		
		12/28/1995	4.56	2.59	0.46	N/A		
		6/12/1996	NM				0.25	
		6/4/1997	6.02	1.13	-1.46	Small globules		
		9/30/1999	4.95	2.20	1.07	0.00		
		10/11/2000	4.97	2.18	-0.02	0.08		
		2/12/2002	4.26	2.89	0.71	0.01	24.00	
		9/3/2002	5.02	2.13	-0.76	0.07		
		9/27/2002	4.89	2.26	0.13	0.09	222.30	
		10/22/2002	5.11	2.04	-0.22	0.05	125.00	
		12/23/2002	4.25	2.90	0.86	0.04	99.00	
		1/16/2003	4.28	2.87	-0.03	0.02	49.00	
		2/12/2003	4.26	2.89	0.02	0.01	24.00	
		3/28/2003	4.35	2.80	-0.09	0.01	25.00	
		5/30/2003	3.60	3.55	0.75	0.02	49.00	
		6/20/2003	4.55	2.60	-0.95	0.01		
		7/14/2003	4.56	2.59	-0.01	0.00		
		8/25/2003	4.79	2.36	-0.23	0.01	25.00	
		9/9/2003	4.90	2.25	-0.11	0.01		
		9/25/2003	4.97	2.18	-0.07	0.01	25.00	
		10/28/2003	4.98	2.17	-0.01	0.04	104.00	
		11/18/2003	4.83	2.32	0.15	0.00		
		12/3/2003	4.87	2.28	-0.04	0.00		
		1/27/2004	7.39	-0.24	-2.52	0.00		
		2/24/2004	4.56	2.59	2.83	0.01		
		3/23/2004	4.24	2.91	0.32	0.01		
		4/19/2004	4.50	2.65	-0.26	0.01	25.00	
		5/20/2004	4.53	2.62	-0.03	0.00		
		6/22/2004	4.65	2.50	-0.12	0.00	NR	
		7/27/2004	4.80	2.35	-0.15	0.00	NR	
		8/24/2004	5.93	1.22	-1.13	0.00		
		9/29/2004	5.00	2.15	0.93	0.02	50.00	
		10/25/2004	4.68	2.47	0.32	0.00		
		12/15/2004	4.34	2.81	0.34	0.02	50.00	
		1/24/2005	4.15	3.00	0.19	0.00		
		2/23/2005	4.95	2.20	-0.80	0.03	74.00	
		3/23/2005	4.96	2.19	-0.01	0.02	49.00	
		4/29/2005	4.23	2.92	0.73	0.10	246.00	
		5/27/2005	4.20	2.95	0.03	0.02	50.00	
		6/29/2005	4.29	2.86	-0.09	0.00	NR	
		7/20/2005	4.48	2.67	-0.19	0.04	98.00	
		8/24/2005	4.71	2.44	-0.23	0.00	NR	
		9/27/2005	4.98	2.17	-0.27	0.03	70.00	
		10/19/2005	5.08	2.07	-0.10	0.00	NR	
		11/29/2005	4.68	2.47	0.40	0.01		
		12/29/2005	4.19	2.96	0.49	0.01		
		1/31/2006	4.05	3.10	0.14	0.00		
		2/28/2006	4.16	2.99	-0.11	0.00	25.00	
		3/27/2006	4.11	3.04	0.05	0.01	NR	
		4/28/2006	4.03	3.12	0.08	0.00		
		6/27/2006	4.45	2.70	-0.42	0.01		
		7/31/2006	4.60	2.55	-0.15	0.02		
		8/29/2006	4.84	2.31	-0.24	0.01		
		9/28/2006	4.96	2.19	-0.12	0.03		
		10/27/2006	4.98	2.17	-0.02	0.00		
		11/22/2006	4.58	2.57	0.40	0.00		
		12/26/2006	4.22	2.93	0.36	0.02		
		1/25/2007	4.44	2.71	-0.22	0.00	NR	
		2/16/2007	4.13	3.02	0.31	0.00		
		3/19/2007	4.30	2.85	-0.17	0.01	NR	
		4/26/2007	4.17	2.98	0.13	0.03		
		5/29/2007	4.42	2.73	-0.25	0.01	25.00	
		6/28/2007	5.16	1.99	-0.74	0.01	25.00	
		7/30/2007	4.71	2.44	0.45	0.00		
		8/30/2007	4.94	2.21	-0.23	0.03		
		9/25/2007	5.06	2.09	-0.12	0.01	25.00	
		10/29/2007	4.75	2.40	0.31	0.01	25.00	
		11/29/2007	4.69	2.46	0.06	0.00	NR	
		12/28/2007	4.35	2.80	0.34	0.00	NR	
		1/24/2008	4.08	3.07	0.27	0.00	NR	
		2/21/2008	3.97	3.18	0.11	0.01	25.00	
		3/28/2008	4.18	2.97	-0.21	0.00		
		4/30/2008	4.40	2.75	-0.22	0.00	NR	
		5/29/2008	4.58	2.57	-0.18	0.01	20.00	
		6/25/2008	4.58	2.57	0.00	0.00	NR	
		7/29/2008	4.85	2.30	-0.27	0.00		
		8/27/2008	4.89	2.26	-0.04	0.01	25.00	
		9/30/2008	5.14	2.01	-0.25	0.04	98.00	
		10/31/2008	5.23	1.92	-0.09	0.03	NR	
		11/26/2008	4.74	2.41	0.49	0.04		
		12/3/2008	4.33	2.82	0.41	0.01	25.00	
		1/23/2009	4.45	2.70	-0.12	0.01	25.00	
		5/5/2010	4.03	5.60	2.90	0.13		
		10/29/2010	4.98	4.65	-0.95	0.08		
		2/25/2011	3.73	5.90	1.25	0.00	NR	

**TABLE 1  
HISTORICAL GROUNDWATER ELEVATION SUMMARY**

UPS-OAKLAND HUB  
8400 PARDEE DRIVE  
OAKLAND, CALIFORNIA  
STATE ID # 583

Monitoring Well	Reference Elevation	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Change in Measurement (ft)	Product Thickness (ft)	Volume Product Recovered (mL)
MW-3	7.42	8/28/1990	3.88	3.54	--	0.00	
		9/20/1990	3.99	3.43	-0.11	0.00	
		6/19/1991	3.49	3.93	0.50	0.00	
		7/23/1991	3.71	3.71	-0.22	0.00	
		8/26/1991	3.94	3.48	-0.23	0.00	
		11/18/1991	4.23	3.19	-0.29	0.00	
		2/3/1992	4.01	3.41	0.22	0.00	
		6/29/1992	3.40	4.02	0.61	0.00	
		6/23/1993	2.75	4.67	0.65	0.00	
		10/11/1993	3.84	3.58	-1.09	0.00	
		1/4/1994	3.40	4.02	0.44	0.00	
		5/10/1994	2.25	5.17	1.15	0.00	
		2/1/1995	2.43	4.99	-0.18	0.00	
		8/2/1995	3.20	4.22	-0.77	0.00	
		10/16/1995	3.72	3.70	-0.52	0.00	
		12/28/1995	3.56	3.66	0.16	0.00	
		6/4/1997	3.20	4.22	0.36	0.00	
		6/3/1998	NM	--	--	0.00	
		9/30/1999	3.72	3.70	-0.52	0.00	
		10/11/2000	3.88	3.54	-0.16	0.00	
		9/3/2002	3.75	3.67	0.13	0.00	
		12/23/2002	3.50	3.92	0.25	0.00	NR
		3/28/2003	3.56	3.86	-0.06	0.00	NR
		5/30/2003	3.38	4.04	0.18	0.00	NR
		6/20/2003	3.52	3.90	-0.14	0.00	
		7/14/2003	3.65	3.77	-0.13	0.00	
		8/25/2003	3.99	3.43	-0.34	0.00	NR
		9/9/2003	3.99	3.43	0.00	0.00	
		9/25/2003	4.06	3.36	-0.07	0.00	NR
		10/28/2003	4.15	3.27	-0.09	0.00	NR
		11/18/2003	4.28	3.14	-0.13	0.00	
		12/2/2003	4.31	3.11	-0.03	0.00	
		1/27/2004	3.85	3.57	0.46	0.00	
		2/24/2004	3.70	3.72	0.15	0.00	
		3/29/2004	3.47	3.95	0.23	0.00	
		4/19/2004	3.55	3.87	-0.08	0.00	NR
		5/20/2004	3.65	3.77	-0.10	0.00	
		6/22/2004	3.83	3.59	-0.18	0.00	NR
		7/27/2004	3.98	3.44	-0.15	0.00	NR
		8/24/2004	4.14	3.28	-0.16	0.00	
		9/29/2004	4.30	3.12	-0.16	0.00	NR
		10/25/2004	3.85	3.57	0.45	0.00	
		12/15/2004	3.16	4.26	0.69	0.00	NR
		1/24/2005	2.65	4.77	0.51	0.00	
		2/23/2005	2.50	4.92	0.15	0.00	NR
		3/23/2005	2.48	4.94	0.02	0.00	NR
		4/29/2005	2.59	4.83	-0.11	0.00	NR
		5/27/2005	2.75	4.67	-0.16	0.00	NR
		6/29/2005	3.05	4.37	-0.30	0.00	NR
		7/20/2005	3.10	4.32	-0.05	0.00	NR
		8/24/2005	3.45	3.97	-0.35	0.00	NR
		9/27/2005	3.71	3.71	-0.26	0.00	NR
		10/19/2005	3.73	3.69	-0.02	0.00	NR
		11/29/2005	3.75	3.67	-0.02	0.00	
		12/29/2005	3.08	4.34	0.67	0.00	
		1/31/2006	2.99	4.43	0.09	0.00	
		2/28/2006	2.95	4.47	0.04	0.00	NR
		3/27/2006	2.60	4.82	0.35	0.00	NR
		4/28/2006	2.90	4.52	-0.30	0.00	
		6/27/2006	3.01	4.41	-0.11	0.00	
		7/31/2006	4.33	3.09	-1.32	0.00	
		8/29/2006	3.62	3.80	0.71	0.00	
		9/28/2006	3.80	3.62	-0.18	0.00	
		10/27/2006	3.90	3.52	-0.10	0.00	
		11/20/2006	3.80	3.62	0.30	0.00	
		12/26/2006	3.07	4.35	0.53	0.00	
		1/25/2007	3.25	4.17	-0.18	0.00	NR
		2/16/2007	3.09	4.33	0.16	0.00	
		3/19/2007	2.83	4.59	0.26	0.00	NR
		4/26/2007	2.94	4.48	-0.11	0.00	
		5/29/2007	3.18	4.24	-0.24	0.00	NR
		6/28/2007	3.41	4.01	-0.23	0.00	NR
		7/30/2007	3.62	3.80	-0.21	0.00	
		8/30/2007	3.84	3.58	-0.22	0.00	
		9/25/2007	4.03	3.39	-0.19	0.00	NR
		10/29/2007	4.06	3.36	-0.03	0.00	NR
		11/29/2007	4.10	3.32	-0.04	0.00	NR
12/28/2007	3.78	3.64	0.32	0.00	NR		
1/24/2008	3.16	4.27	0.63	0.00	NR		
2/21/2008	2.41	5.02	0.75	0.00	NR		
3/28/2008	2.94	4.48	-0.54	0.00			
4/30/2008	3.08	4.34	-0.14	0.00	NR		
5/29/2008	3.24	4.18	-0.16	0.00	NR		
6/25/2008	3.30	4.12	-0.06	0.00	NR		
7/29/2008	3.50	3.92	-0.20	0.00			
8/27/2008	3.84	3.58	-0.34	0.00	NR		
9/30/2008	4.03	3.39	-0.19	0.00	NR		
10/31/2008	4.20	3.22	-0.17	0.00	NR		
11/26/2008	4.23	3.19	-0.03	0.00			
12/30/2008	3.96	3.46	0.27	0.00	NR		
1/22/2009	3.96	3.46	0.00	0.00	NR		
5/5/2010	3.13	6.76	3.30	0.02			
10/29/2010	4.70	5.19	-1.57	0.00			
2/25/2011	1.54	8.35	3.16	0.02	NR		
5/5/2010	2.96	6.81	--	0.00			
10/29/2010	4.53	5.24	-1.57	0.00			
2/25/2011	1.34	8.43	3.19	0.00	NR		
5/5/2010	2.56	5.66	--	0.00			
10/29/2010	4.39	3.83	-1.83	0.00			
2/25/2011	2.69	5.53	1.70	0.00	NR		
5/5/2010	6.28	8.35	--	0.00			
10/29/2010	6.28	8.35	0.00	0.00			
2/25/2011	5.55	9.08	0.73	0.00	NR		
5/5/2010	8.28	1.40	--	0.00			
10/29/2010	8.27	1.41	0.01	0.00			
2/25/2011	4.45	5.23	3.82	0.00	NR		
5/5/2010	7.21	2.28	--	0.00			
10/29/2010	6.83	2.66	0.38	0.00			
2/25/2011	2.83	6.66	4.00	0.00	NR		



**TABLE 1  
HISTORICAL GROUNDWATER ELEVATION SUMMARY**

UPS-OAKLAND HUB  
8400 PARDEE DRIVE  
OAKLAND, CALIFORNIA  
STATE ID # 583

Monitoring Well	Reference Elevation	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	Change in Measurement (ft)	Product Thickness (ft)	Volume Product Recovered (mL)
OW-1	N/A	6/4/1997	7.22	NC	--	0.01	
		9/30/1999	8.35	NC	1.13	0.01	
		10/11/2000	6.90	NC	-1.45	0.09	
		2/12/2002	5.23	NC	-1.67	0.01	38.00
		9/27/2002	7.02	NC	1.79	0.14	345.78
		10/22/2002	7.34	NC	0.32	0.01	40.00
		12/23/2002	5.17	NC	-2.17	0.03	167.00
		1/16/2003	4.97	NC	-0.20	0.01	40.00
		2/12/2003	5.23	NC	0.26	0.01	38.00
		3/28/2003	5.16	NC	-0.07	0.01	25.00
		5/30/2003	4.41	NC	-0.75	0.02	77.00
		6/20/2003	4.93	NC	0.52	0.01	
		7/14/2003	5.33	NC	0.40	0.00	
		8/25/2003	5.85	NC	0.52	0.00	NR
		9/3/2003	6.33	NC	0.48	0.00	
		9/25/2003	6.52	NC	0.19	0.01	25.00
		10/28/2003	7.26	NC	0.74	0.03	176.00
		11/18/2003	7.29	NC	0.03	0.00	
		12/2/2003	7.23	NC	-0.06	0.03	
		1/27/2004	7.96	NC	0.73	0.01	
		2/24/2004	6.26	NC	-1.70	0.02	
		3/29/2004	6.08	NC	-0.18	0.02	
		4/19/2004	6.29	NC	0.21	0.03	116.00
		5/20/2004	6.16	NC	-0.13	0.00	
		6/22/2004	6.37	NC	0.21	0.00	NR
		7/27/2004	5.67	NC	-0.70	0.04	225.00
		8/24/2004	6.81	NC	1.14	0.00	
		9/29/2004	7.08	NC	0.27	0.04	153.00
		10/25/2004	6.74	NC	-0.34	0.04	
		12/15/2004	5.33	NC	-1.41	0.04	155.00
		1/24/2005	3.98	NC	-1.35	0.00	
		2/23/2005	3.44	NC	-0.54	0.01	NR <sup>5</sup>
		3/23/2005	3.34	NC	-0.10	0.02	77.00
		4/29/2005	6.89	NC	3.55	0.13	501.00
		5/27/2005	7.18	NC	0.29	0.11	425.00
		6/29/2005	7.12	NC	-0.06	0.10	450.00
		7/20/2005	7.20	NC	0.08	0.10	556.00
		8/24/2005	7.15	NC	-0.05	0.06	249.00
		9/27/2005	7.43	NC	0.28	0.12	450.00
		10/19/2005	7.48	NC	0.05	0.11	425.00
		11/29/2005	7.00	NC	-0.48	0.04	
		12/29/2005	5.22	NC	-1.78	0.00	
		1/31/2006	5.64	NC	0.42	0.00	
		2/28/2006	6.53	NC	0.89	0.01	39.00
		3/27/2006	5.80	NC	-0.73	0.01	NR
		4/28/2006	6.39	NC	0.59	0.00	
		6/27/2006	7.82	NC	1.43	0.06	
		7/31/2006	5.82	NC	-2.00	0.05	
		8/29/2006	7.05	NC	1.23	0.07	
		9/28/2006	7.10	NC	0.05	0.02	
		10/27/2006	7.27	NC	0.17	0.02	
		11/22/2006	7.05	NC	-0.22	0.02	
		12/26/2006	6.73	NC	-0.32	0.03	
		1/25/2007	7.15	NC	0.42	0.00	NR
		2/16/2007	7.71	NC	0.56	0.01	
		3/19/2007	6.77	NC	-0.94	0.02	NR
		4/26/2007	6.66	NC	-0.11	0.01	
		5/29/2007	6.86	NC	0.20	0.02	76.00
		6/28/2007	6.97	NC	0.11	0.20	75.00
		7/30/2007	7.06	NC	0.09	0.01	
		8/30/2007	7.25	NC	0.19	0.03	
		9/25/2007	7.25	NC	0.00	0.03	115.00
		10/29/2007	7.43	NC	0.18	0.02	78.00
		11/29/2007	7.37	NC	-0.06	0.00	NR
		12/28/2007	7.28	NC	-0.09	0.01	40.00
		1/24/2008	6.61	NC	-0.67	0.01	38.00
		2/21/2008	6.33	NC	-0.28	0.01	37.00
		3/28/2008	6.80	NC	0.47	0.01	
		4/30/2008	7.44	NC	0.64	0.03	166.90
		5/29/2008	7.09	NC	-0.35	0.01	38.00
6/25/2008	7.07	NC	-0.02	0.02	112.00		
7/29/2008	7.34	NC	0.27	0.00			
8/27/2008	7.28	NC	-0.06	0.02	78.00		
9/30/2008	7.82	NC	0.54	0.03	167.00		
10/31/2008	7.31	NC	-0.51	0.01	NR		
11/26/2008	6.93	NC	-0.38	0.01			
12/30/2008	7.25	NC	0.32	0.02	112.00		
1/22/2009	7.05	NC	-0.20	0.01	56.00		
5/5/2010	7.08	2.47	--	0.06			
10/29/2010	7.37	2.18	-0.29	0.08			
2/25/2011	6.17	3.38	1.20	0.05	NR		

Notes:  
1. Reference elevation surveyed relative to mean sea level by Geraghty and Miller (Geraghty and Miller, Inc., 1990)  
2. Depth to groundwater measured from notch/mark on north edge of well casing  
3. Sources: Geraghty and Miller, 1996; BBL  
4. NM = Not measured; NC = Not calculated; N/A= Not Available; NR = No Recovery  
5. SPH detected but amount insufficient to bail  
Volume of product recovered on 9/27/02 and 3/23/05 calculated based on measurements from field data sheets

**TABLE 2**  
**HISTORICAL GROUNDWATER MONITORING RESULTS SUMMARY**

UPS-OAKLAND HUB  
8400 PARDEE DRIVE  
OAKLAND, CALIFORNIA  
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	EDB µg/L	1,2-DCA µg/L	Naphthalene µg/L	TDS (mg/L)
MW-1	8/28/1990	3.00	1.40	4.00	2.40	NA	NA	21,000	NA				
	6/19/1991	1.70	0.70	0.50	0.90	NA	NA	7,100	NA				
	7/23/1991	1.60	1.10	0.50	1.50	NA	NA	220	NA				
	8/26/1991	180.00	120.00	31.00	160.00	NA	NA	2,800	NA				
	11/18/1991	1.10	0.40	0.50	< 0.3	NA	NA	6,600	NA				
	2/3/1992	0.90	< 0.3	0.80	0.70	NA	NA	2,200	NA				
	6/29/1992	0.80	0.40	0.40	0.90	NA	NA	2,100	NA				
	6/23/1993	0.66	< 0.5	0.50	< 0.5	NA	NA	3,200	NA				
	10/11/1993	1.30	< 0.5	< 0.5	< 0.5	NA	NA	9,600	NA				
	1/4/1994	2.10	0.65	1.30	2.10	NA	NA	12,000	NA				
	5/10/1994	0.54	0.53	< 0.5	1.10	NA	NA	6,400	NA				
	2/1/1995	< 1.0	< 1.0	1.00	< 1.0	NA	510	10,000	NA				
	8/2/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	510	8,700	NA				
	10/16/1995	2.80	< 0.5	< 0.5	< 0.5	NA	830	15,000	NA				
	12/28/1995	2.10	< 0.5	< 0.5	< 0.5	NA	560	15,000	NA				
	6/4/1997	NA	NA	NA	NA	NA	NA	28,000	0.76				
	9/30/1999	< 0.5	0.60	< 0.5	1.80	<3.0	1,600	28,000	9.90				
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5	260	21,000	0.39				
	9/3/2002	<0.5	<0.5	<0.5	0.50	<0.5	1.00	38,000	NA				
	3/28/2003	<5	<5	<5	<10	<5.0	250	35,000	NM				
	9/9/2003	<0.5	<0.5	<0.5	<1.0	0.60	440	11,000	NM				
	4/19/2004	3.20	<2.5	<2.5	<5.0	<2.5	280	24,000ndp	NM				
	9/29/2004	<1.0	<1.0	<1.0	<2.0	2.10	1,400 g	150,000 ndp	NM				
3/23/2005	<1.0	<1.0	<1.0	<2.0	<1.0	550 Q1	15,000 Q2	NM					
11/29/2005	< 0.50	< 0.50	< 0.50	<1.0	0.94	310	7800	NM					
3/27/2006	< 0.50	< 0.50	< 0.50	<1.0	0.62	420	11000	NM					
9/28/2006	< 0.50	< 0.50	< 0.50	<1.0	0.87	220	28000	NM					
3/19/2007	< 0.50	< 0.50	< 0.50	<1.0	<1.0	940	11000	NM					
9/25/2007	<0.50	<0.50	<0.50	1.1	<0.50	240	9700	NM					
3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	55	13000	NM					
9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	280	9800	NM					
5/5/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
2/25/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

**Notes:**

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MW-2	8/28/1990	0.60	0.40	0.60	0.70	NA	NA	3,500	NA				
	6/19/1991	0.50	< 0.3	< 0.3	< 0.3	NA	NA	<500	NA				
	7/23/1991	0.70	< 0.3	< 0.3	< 0.3	NA	NA	<500	NA				
	8/26/1991	0.70	< 0.3	< 0.3	< 0.3	NA	NA	<500	NA				
	11/18/1991	0.80	< 0.3	< 0.3	< 0.3	NA	NA	3,200	NA				
	2/3/1992	0.70	< 0.3	< 0.3	0.50	NA	NA	400	NA				
	6/29/1992	0.60	< 0.3	< 0.3	< 0.3	NA	NA	250	NA				
	6/23/1993	0.55	< 0.5	< 0.5	< 0.5	NA	NA	11,000	NA				
	10/11/1993	1.20	< 0.5	< 0.5	1.30	NA	NA	1,400	NA				
	1/4/1994	0.72	< 0.5	< 0.5	1.10	NA	NA	3,700	NA				
	5/10/1994	0.74	< 0.5	< 0.5	0.70	NA	NA	2,300	NA				
	2/1/1995	2.10	< 1.0	< 1.0	< 1.0	NA	<100	2,100	NA				
	8/2/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	210	3,600	NA				
	10/16/1995	0.73	< 0.5	< 0.5	< 0.5	NA	130	1,400	NA				
	12/28/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	210	2,800	NA				
	6/12/1996	NS	NS	NS	NS	NS	NS	--	NS				
	6/4/1997	NA	NA	NA	NA	NA	NA	3,300	0.52				
	9/30/1999	< 0.5	< 0.5	< 0.5	< 1.0	< 3.0	220	6,300	9.50				
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	170	4,400	0.43				
	9/27/2002	0.7J	<2.5	<2.5	<2.5	<2.5	17000	67,000	NM				
	3/28/2003	<25	<25	<25	<50	<25	1600	10,000	NM				
	9/25/2003	0.52	<0.50	<0.50	<1.0	<0.50	150	12,000	NM				
	3/29/2004	0.51	<0.50	<0.50	<1.0	<0.50	84 g	7,800 ndp	NM				
	9/29/2004	<0.50	<0.50	<0.50	<1.0	<0.50	630 g	10,000 ndp	NM				
	1/24/2005	<0.50	<0.50	<0.50	<1.0	<0.50	2,300 Q1	15,000 Q2	NM				
	11/29/2005	<1.0	<1.0	<1.0	<2.0	<1.0	1,900	22,000	NM				
3/27/2006	<1.0	<1.0	<1.0	<2.0	<1.0	710	8,900	NM					
9/28/2006	<0.50	<0.50	<0.50	<1.0	<0.50	62	7,500	NM					
3/19/2007	<0.50	<0.50	<0.50	<1.0	<0.50	<50	11,000	NM					
9/25/2007	<0.50	<0.50	<0.50	<1.0	<0.50	55	8,700	NM					
3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	210	6,200	NM					
9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	220	23,000	NM					
5/5/2010	NA	NA	NA	NA	NA	<50	3,700	NM	<0.5	<0.6	<1.0	2,800	
2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<b>360</b>	<b>37,000</b>	NM					
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

**Notes:**

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The 9/96, 10/96 BBL reports revealed concentrations reported as TPH as diesel did not resemble the diesel chromatogram standard, containing > C-26.

J - Estimated value between MDL and PQL.

g - Hydrocarbon reported in the gasoline range does not match laboratory gasoline standard.

ndp - Hydrocarbon reported does not match the pattern of laboratory Diesel standard.

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Q2 = Quantity of unknown hydrocarbon(s) in sample based on diesel.

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MW-3	8/28/1990	0.50	0.80	4.30	2.30	NA	NA	18,000	NA				
	6/19/1991	0.40	0.40	1.70	1.40	NA	NA	1,300	NA				
	7/23/1991	0.30	< 0.3	1.50	0.50	NA	NA	6,800	NA				
	8/26/1991	13.00	13.00	5.80	26.00	NA	NA	<50	NA				
	11/18/1991	0.60	< 0.3	< 0.3	< 0.3	NA	NA	2,500	NA				
	2/3/1992	0.40	< 0.3	1.30	0.60	NA	NA	1,100	NA				
	6/29/1992	< 0.3	< 0.3	1.30	0.30	NA	NA	3,200	NA				
	6/23/1993	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	8,100	NA				
	10/11/1993	1.00	< 0.5	1.50	2.40	NA	NA	7,100	NA				
	1/4/1994	< 0.5	< 0.5	1.60	< 0.5	NA	NA	7,400	NA				
	5/10/1994	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	5,700	NA				
	2/1/1995	< 1.0	< 1.0	2.70	4.10	NA	810	10,000	NA				
	8/2/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	1200	6,500	NA				
	10/16/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	930	9,800	NA				
	12/28/1995	< 0.5	< 0.5	< 0.5	< 0.5	NA	690	11,000	NA				
	6/4/1997	NA	NA	NA	NA	NA	NA	34,000	0.84				
	9/30/1999	< 0.5	0.60	0.70	1.20	< 3.0	1300	8,700	8.60				
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	430	20,000	0.51				
	9/3/2002	<0.5	<0.5	<0.5	<0.5	<0.5	2,300	14,000	NA				
	3/28/2003	<25	<25	<25	<50	<25	2,500	19,000	NM				
	9/9/2003	<0.5	<0.5	<0.5	<1.0	<0.5	700	73,000	NM				
	4/19/2004	<0.50	<0.50	<0.50	<1.0	<0.50	99	14,000 ndp	NM				
	9/29/2004	<2.5	<2.5	<2.5	<5.0	<2.5	390 g	10,000 ndp	NM				
	1/24/2005	<2.5	<2.5	<2.5	<5.0	<2.5	330 Q1	14,000 Q2	NM				
	11/29/2005	< 1.0	< 1.0	<1.0	< 2.0	< 1.0	1,200	8,300	NM				
	3/27/2006	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	430	13,000	NM				
9/28/2006	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	370	17,000	NM					
3/19/2007	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	510	26,000	NM					
9/25/2007	<1.0	<1.0	<1.0	<2.0	<1.0	390	11,000	NM					
3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	280	21,000	NM					
9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	270	9,500	NM					
5/5/2010	NA	NA	NA	NA	NA	<150	24,000	NM	<0.50	<0.50	2.2	910	
2/25/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

**Notes:**

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MW-4	5/5/2010	NA	NA	NA	NA	NA	<50	5200	NM	<5.0	<5.0	<1.0	1,100
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	150	2000	NM	NM	NM	<1.0	NM
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<b>250</b>	<b>24,000</b>	NM	NM	NM	NM	NM
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

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MW-8	5/5/2010	NA	NA	NA	NA	NA	<50	70	NM	<0.50	<0.50	<1.0	2,900
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	<50	1100	NM	NM	NM	<1.0	NM
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<b>280</b>	NM	NM	NM	NM	NM
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

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MW-9	5/5/2010	NA	NA	NA	NA	NA	<50	110	NM	<0.50	<0.50	<1.0	6,200
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<b>580</b>	NM	NM	NM	NM	NM
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non- Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

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MW-10	5/5/2010	NA	NA	NA	NA	NA	<50	110	NM	<0.50	<0.50	<1.0	2,100
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	<50	650	NM	NM	NM	<1.0	NM
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<b>5,600</b>	NM	NM	NM	NM	NM
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

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STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	EDB µg/L	1,2-DCA µg/L	Naphthalene µg/L	TDS (mg/L)
MW-11	5/5/2010	NA	NA	NA	NA	NA	<50	430	NM	<0.50	<0.50	<1.0	10,000
	10/29/2010	<0.5	<0.5	<0.5	<1.0	<0.5	<50	7200	NM	NM	NM	<1.0	NM
	2/25/2011	<0.50	<0.50	<0.50	<1.0	<0.50	<50	<b>1,900</b>	NM	NM	NM	NM	NM
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

**Notes:**

(µg/L) = are micrograms per liter and mg/L are milligrams per liter.

NA = Not Analyzed; NS = Not Sampled; NM = Not Measured

TPH = Total petroleum hydrocarbons; MTBE = Methyl tertiary butyl ether.

Title 22 of the California Code of Regulations, California Maximum Contaminant Levels (MCLs) for drinking water.

D.O. = Dissolved Oxygen measured in the field.

Results collected between the dates of 8/28/90 and 12/28/95 are based on prior reporting by Geraghty & Miller, Inc. (1996).

Bold values indicate analytical detections above MCL.

The 9/96, 10/96 BBL reports revealed concentrations reported as TPH as diesel did not resemble the diesel chromatogram standard, containing > C-26.

J - Estimated value between MDL and PQL.

ndp - Hydrocarbon reported does not match the pattern of laboratory Diesel standard.

\* = Not an MCL; Odor and taste threshold per the California Regional Water Quality Control Board regulations

Q2 = Quantity of unknown hydrocarbon(s) in sample based on diesel.

Q1 = Quantity of unknown hydrocarbon(s) in sample based on gasoline.

RWQCB ESLs = Regional Water Quality Control Board ESLs for Environmental Concerns at Sites with Contaminated Soil and Groundwater INTERIM FINAL - November 2007 (Revised May 2008) San Francisco Bay Region, CA

**TABLE 2**  
**HISTORICAL GROUNDWATER MONITORING RESULTS SUMMARY**

UPS-OAKLAND HUB  
8400 PARDEE DRIVE  
OAKLAND, CALIFORNIA  
STATE ID # 583

Monitoring Well	Date	Benzene µg/L	Toluene µg/L	Ethyl- benzene µg/L	Total Xylenes µg/L	MTBE µg/L	TPH as gasoline µg/L	TPH as diesel µg/L	D.O. (mg/L)	EDB µg/L	1,2-DCA µg/L	Naphthalene µg/L	TDS (mg/L)
OW-1	6/23/1993	< 0.5	< 0.5	< 0.5	31.00	NA	NA	34,000,000	NA				
	6/4/1997	NS	NS	NS	NS	NS	NS	NS	NS				
	9/30/1999	< 2.0	< 2.0	< 2.0	4.20	< 12.0	8,300	28,000,000	9.70				
	9/30/1999	< 1.0	< 1.0	1.90	8.90	< 6.0	2,900	340,000	--				
	10/11/2000	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	2,100	58,000	0.74				
	9/27/2002	0.6J	<2.5	<2.5	<2.5	<2.5	17,000	23,000	NA				
	3/28/2003	<50	<50	<50	<100	<50	820	81,000	NM				
	9/25/2003	<50	530.00	500.00	6200.00	<50	220	91,000	NM				
	3/29/2004	<0.50	<0.50	<0.50	<1.0	<0.50	510	280,000 ndp	NM				
	9/29/2004	<2.5	<2.5	<2.5	<5.0	<2.5	2,800 g	440,000 ndp	NM				
	1/24/2005	<0.50	<0.50	<0.50	<1.0	<0.50	220 Q1	16,000 Q2	NM				
	11/29/2005	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	650	30,000	NM				
	3/27/2006	<13	<13	<13	<25	<13	<1,300	58,000	NM				
	9/28/2006	<2.5	<2.5	<2.5	<5.0	<2.5	820	130,000	NM				
	3/19/2007	<2.5	<2.5	<2.5	<5.0	<2.5	460	76,000	NM				
	9/25/2007	<2.0	<2.0	<2.0	<4.0	<2.0	<200	42,000	NM				
3/28/2008	<0.50	<0.50	<0.50	<1.0	<0.50	1,700	120,000	NM					
9/30/2008	<0.50	<0.50	<0.50	<1.0	<0.50	340	180,000	NM					
5/5/2010	NA	NA	NA	NA	NA	74	7,000	NM	<0.50	<0.50	<1.0	1,800	
2/25/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MCL	--	1.00	150.00	300.00	1750.00	13.00	--	100*	--	--	--	--	--
ESL - Drinking Water	--	1	40	30	20	5	100	100	--	0.05	6	17	NA
ESL - Non-Drinking Water	--	46	100	43	100	1800	210	210	--	150	200	24	NA

**Notes:**

(µg/L) = are micrograms per liter and mg/L are milligrams per liter.

NA = Not Analyzed; NS = Not Sampled; NM = Not Measured

TPH = Total petroleum hydrocarbons; MTBE = Methyl tertiary butyl ether.

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Results collected between the dates of 8/28/90 and 12/28/95 are based on prior reporting by Geraghty & Miller, Inc. (1996).

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The 9/96, 10/96 BBL reports revealed concentrations reported as TPH as diesel did not resemble the diesel chromatogram standard, containing > C-26.

J - Estimated value between MDL and PQL.

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Q2 = Quantity of unknown hydrocarbon(s) in sample based on diesel.

Q1 = Quantity of unknown hydrocarbon(s) in sample based on gasoline.

RWQCB ESLs = Regional Water Quality Control Board ESLs for Environmental Concerns at Sites with Contaminated Soil and Groundwater INTERIM FINAL -

November 2007 (Revised May 2008) San Francisco Bay Region, CA

ARCADIS

## **Appendix A**

UPS – Oakland Hub  
Groundwater Parameters and Field Notes

## WELL GAUGING DATA

Project # 110225-WWI Date 2/25/11 Client ARCADIS

Site 8400 PARDEE DR, OAKLAND, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or <u>FOC</u>	Notes	
MW-2	0833	4	ODOR	—		5	3.73	14.27	↓	SOLR REPLACED	
MW-3	0754	4	ODOR SHEEN	1.52	0.02		1.54	—		SOLR PLACED	
MW-4	0849	2		—			1.34	17.26			
MW-8	0808	2		—			2.69	12.27			
MW-9	0814	2		—			5.55	13.25			
MW-10	0910	2		—			4.45	12.21			
MW-11	0826	2		—			2.83	12.47			
OW-1	0745	6	ODOR SHEEN	6.12	0.05		6.17	—			SOLR REPLACED

# WELLHEAD INSPECTION CHECKLIST

Date 2/25/11 Client ARCADIS

Site Address 8400 PARDEE DR. OAKLAND, CA

Job Number 110225-MW1 Technician MW

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-2							X	
MW-3							X	
MW-4	X	X						
MW-8	X	X						
MW-9	X	X						
MW-10	X							
MW-11		X					X	
DW-1		X					X	

NOTES: DW-1: 2/2 TABS STRIPPED. CRACK IN APRON. 1/2 BOLTS MISSING (5/16").  
MISSING RIM SEAL. MW-3: MISSING RIM SEAL. MW-11: CRACKED APRON.  
MW-2: 1/2 BOLTS MISSING (5/16")

# WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>MW-2</b>	Well Diameter: 2 3 <b>4</b> 6 8
Total Well Depth (TD): <b>14.27</b>	Depth to Water (DTW): <b>3.73</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>5.84</b>	

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

<b>6.9</b> (Gals.) X	<b>3</b>	= <b>20.7</b> Gals.
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1029	14.4	7.25	1113	69	6.9	
WELL DEWATERED			@ 13.5	GALS		
1205	15.1	8.03	3236	133	—	odor

Did well dewater?  Yes No      Gallons actually evacuated: **13.5**

Sampling Date: **2/25/11**      Sampling Time: **1205**      Depth to Water: **5.84**

Sample I.D.: **MW-2**      Laboratory: Kiff CalScience Other **TA-SF**

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

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

## WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>MW-3</b>	Well Diameter: 2 3 4 6 8 <u>    </u>
Total Well Depth (TD):	Depth to Water (DTW): <b>1.54</b>
Depth to Free Product: <b>1.52</b>	Thickness of Free Product (feet): <b>0.02</b>
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

_____ (Gals.) X	<b>3</b>	=		_____ Gals.
1 Case Volume	Specified Volumes			Calculated Volume

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

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
						<b>* SPH detected</b>
						<b>NO SAMPLE TAKEN</b>
						<b>sock replaced</b>

Did well dewater? Yes No	Gallons actually evacuated: _____
Sampling Date: <b>2/25/11</b>	Sampling Time: _____
Depth to Water: _____	
Sample I.D.: <b>W-</b>	Laboratory: Kiff CalScience Other <b>TA-SF</b>
Analyzed for: <b>TPH-G BTEX MTBE TPH-D</b>	Oxygenates (5) Other: _____
EB I.D. (if applicable): _____ @ _____ Time	Duplicate I.D. (if applicable): _____
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other: _____
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

# WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>MW-4</b>	Well Diameter: <b>2</b> 3 <del>4</del> 6 8
Total Well Depth (TD): <b>17.26</b>	Depth to Water (DTW): <b>1.34</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>4.52</b>	

Purge Method: Bailer      Waterra      Sampling Method: Bailer  
Disposable Bailer      Peristaltic      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
 Electric Submersible      Other \_\_\_\_\_      Dedicated Tubing  
 Other: \_\_\_\_\_

$\frac{2.5 \text{ (Gals.)} \times 3}{\text{Specified Volumes}} = \frac{7.5 \text{ Gals.}}{\text{Calculated Volume}}$	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1037	15.3	7.24	<del>1935</del> 1935	141	2.5	
1042	16.5	7.15	1979	703	5	
1045	16.8	7.18	2006	988	7.5	

Did well dewater? Yes  No  Gallons actually evacuated: **7.5**

Sampling Date: **2/25/11** Sampling Time: **1050** Depth to Water: **1.44**

Sample I.D.: **MW-4** Laboratory: Kiff CalScience Other **TA-SF**

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

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



## WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>MW-8</b>	Well Diameter: <b>2</b> 3 4 6 8 _____
Total Well Depth (TD): <b>12.27</b>	Depth to Water (DTW): <b>2.69</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>4.61</b>	

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

$1.5 \text{ (Gals.)} \times 3 = 4.5 \text{ Gals.}$ 1 Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1112	13.6	7.14	6018	154	1.5	
1115	15.3	7.04	9379	121	3	
1118	16.3	7.08	10.31 mS	>1000	4.5	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <b>4.5</b>
Sampling Date: <b>2/25/11</b>	Sampling Time: <b>1305</b> Depth to Water: <b>4.58</b>
Sample I.D.: <b>MW-8</b>	Laboratory: Kiff CalScience Other <b>TA-SF</b>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u> Oxygenates (5) Other:	
EB I.D. (if applicable): @ _____ Time Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV	

# WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>MW-9</b>	Well Diameter: <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8 <input type="radio"/> _____
Total Well Depth (TD): <b>13.25</b>	Depth to Water (DTW): <b>5.55</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="radio"/> PVC <input type="radio"/> Grade	D.O. Meter (if req'd):    YSI    HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>7.09</b>	

Purge Method: Bailer <input checked="" type="radio"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="radio"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
---------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------

1.2	(Gals.) X 3	= 3.6 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1056	15.1	7.01	6065 mS	256	1.2	
1100	16.5	6.84	12.29 mS	100	2.4	
1103	17.5	6.75	12.65 mS	565	3.6	

Did well dewater?    Yes <input checked="" type="radio"/> No	Gallons actually evacuated: <b>3.6</b>
Sampling Date: <b>2/25/11</b>	Sampling Time: <b>1225</b> Depth to Water: <b>7.09</b>
Sample I.D.: <b>MW-9</b>	Laboratory:    Kiff    CalScience    Other <b>TA-SF</b>
Analyzed for: <input checked="" type="checkbox"/> TPH-G <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MTBE <input checked="" type="checkbox"/> TPH-D	Oxygenates (5)    Other:
EB I.D. (if applicable): _____ @ _____ Time	Duplicate I.D. (if applicable):
Analyzed for:    TPH-G    BTEX    MTBE    TPH-D	Oxygenates (5)    Other:
D.O. (if req'd):    Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd):    Pre-purge: _____ mV	Post-purge: _____ mV

# WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>MW-10</b>	Well Diameter: <b>(2)</b> 3 4 6 8 _____
Total Well Depth (TD): <b>12.21</b>	Depth to Water (DTW): <b>4.45</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>6.00</b>	

Purge Method: Bailer      Waterra      Sampling Method: Bailer

Disposable Bailer       Peristaltic       Disposable Bailer  
 Positive Air Displacement       Extraction Pump       Extraction Port  
 Electric Submersible      Other \_\_\_\_\_       Dedicated Tubing

Other: \_\_\_\_\_

$1.2$ (Gals.) X $3$ = $3.6$ Gals. I Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
0934	13.7	7.24	3421	305	1.2	
0936	15.0	7.25	3439	673	2.4	
0938	15.5	7.24	3508	>1000	3.6	

Did well dewater? Yes  No  Gallons actually evacuated: **3.6**

Sampling Date: **2/25/11**      Sampling Time: **0945**      Depth to Water: **4.45**

Sample I.D.: **MW-10**      Laboratory: Kiff CalScience Other: **TA-SF**

Analyzed for: **TPH-G BTEX MTBE TPH-D**      Oxygenates (5)      Other:

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

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

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

## WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>MW-11</b>	Well Diameter: <b>2</b> 3 4 6 8
Total Well Depth (TD): <b>12.47</b>	Depth to Water (DTW): <b>2.83</b>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>4.76</b>	

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

$1.5 \text{ (Gals.)} \times 3 = 4.5 \text{ Gals.}$ <p>1 Case Volume      Specified Volumes      Calculated Volume</p>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Well Diameter</th> <th style="text-align: left;">Multiplier</th> <th style="text-align: left;">Well Diameter</th> <th style="text-align: left;">Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1004	12.7	7.30	3138	659	1.5	
1006	14.8	7.32	478	623	3	
1008	15.5	7.02	525	>1000	4.5	

Did well dewater? Yes  No  Gallons actually evacuated: **4.5**

Sampling Date: **2/25/11**      Sampling Time: **1300**      Depth to Water: **4.76**

Sample I.D.: **MW-11**      Laboratory: Kiff    CalScience    Other **TA-SF**

Analyzed for: TPH-G BTEX MTBE TPH-D    Oxygenates (5)    Other: \_\_\_\_\_

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

Analyzed for: TPH-G BTEX MTBE TPH-D    Oxygenates (5)    Other: \_\_\_\_\_

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

# WELL MONITORING DATA SHEET

Project #: <b>110225-WW1</b>	Client: <b>ARCADIS</b>
Sampler: <b>WW</b>	Date: <b>2/25/11</b>
Well I.D.: <b>0W-1</b>	Well Diameter: 2 3 4 6 8 <u>    </u>
Total Well Depth (TD): <u>    </u>	Depth to Water (DTW): <b>6.17</b>
Depth to Free Product: <b>6.12</b>	Thickness of Free Product (feet): <b>0.05</b>
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

(Gals.) X <u>3</u> = <u>    </u> Gals. 1 Case Volume      Specified Volumes      Calculated Volume	<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Well Diameter</th> <th style="text-align: left;">Multiplier</th> <th style="text-align: left;">Well Diameter</th> <th style="text-align: left;">Multiplier</th> </tr> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
						<b>* SPH detected</b>
						<b>- NO SAMPLE TAKEN</b>
						<b>- sock replaced</b>

Did well dewater? Yes No	Gallons actually evacuated: <u>    </u>
Sampling Date: <b>2/25/11</b>	Sampling Time: <u>    </u> Depth to Water: <u>    </u>
Sample I.D.: <b>0W-1</b>	Laboratory: Kiff CalScience Other <b>TA-SF</b>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Oxygenates (5) Other: <u>    </u>
EB I.D. (if applicable): <u>    </u> @ <u>    </u> Time	Duplicate I.D. (if applicable): <u>    </u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other: <u>    </u>
D.O. (if req'd): Pre-purge: <u>    </u> mg/L	Post-purge: <u>    </u> mg/L
O.R.P. (if req'd): Pre-purge: <u>    </u> mV	Post-purge: <u>    </u> mV



ARCADIS

## **Appendix B**

UPS – Oakland Hub  
Laboratory Analytical Results

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

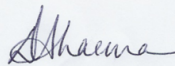
## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica San Francisco  
1220 Quarry Lane  
Pleasanton, CA 94566  
Tel: (925)484-1919

TestAmerica Job ID: 720-33596-1  
Client Project/Site: UPS-Oakland

For:  
ARCADIS  
975 Cobb Place Blvd NW  
Suite 311  
Kennesaw, Georgia 30144-4817

Attn: Hugh B. Devery



Authorized for release by:  
03/03/2011 02:55:41 PM

Dimple Sharma  
Project Manager I  
[dimple.sharma@testamericainc.com](mailto:dimple.sharma@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

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# Qualifier Definition/Glossary

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

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## Qualifiers

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### GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

---

## Glossary

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Glossary	Glossary Description
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.

---

- 1
- 2
- 3
- 4
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- 7
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- 10
- 11
- 12
- 13
- 14

# Case Narrative

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

---

**Job ID: 720-33596-1**

---

**Laboratory: TestAmerica San Francisco**

---

**Narrative**

**Job Narrative**  
720-33596-1

**Comments**

No additional comments.

**Receipt**

All samples were received in good condition within temperature requirements.

**GC/MS VOA**

No analytical or quality issues were noted.

**GC Semi VOA**

Method 8015B: Due to the level of dilution required for the following sample, surrogate recoveries are not reported: MW-2 (720-33596-1), MW-4 (720-33596-2).

No other analytical or quality issues were noted.

**Organic Prep**

No analytical or quality issues were noted.

- 1
- 2
- 3
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- 10
- 11
- 12
- 13
- 14

# Detection Summary

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Client Sample ID: MW-2

Lab Sample ID: 720-33596-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C5-C12	360		50		ug/L	1		8260B/CA_LUFTM	Total/NA
Diesel Range Organics [C10-C28]	37000		1000		ug/L	20		8015B	Total/NA

## Client Sample ID: MW-4

Lab Sample ID: 720-33596-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Gasoline Range Organics (GRO) -C5-C12	250		50		ug/L	1		8260B/CA_LUFTM	Total/NA
Diesel Range Organics [C10-C28]	24000		500		ug/L	10		8015B	Total/NA

## Client Sample ID: MW-8

Lab Sample ID: 720-33596-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	280		50		ug/L	1		8015B	Total/NA

## Client Sample ID: MW-9

Lab Sample ID: 720-33596-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	580		51		ug/L	1		8015B	Total/NA

## Client Sample ID: MW-10

Lab Sample ID: 720-33596-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	5600		150		ug/L	3		8015B	Total/NA

## Client Sample ID: MW-11

Lab Sample ID: 720-33596-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1900		50		ug/L	1		8015B	Total/NA

# Analytical Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

**Client Sample ID: MW-2**

**Lab Sample ID: 720-33596-1**

Date Collected: 02/25/11 12:05

Matrix: Water

Date Received: 02/25/11 17:10

**Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 14:56	1
Benzene	ND		0.50		ug/L			02/28/11 14:56	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 14:56	1
Toluene	ND		0.50		ug/L			02/28/11 14:56	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 14:56	1
<b>Gasoline Range Organics (GRO) -C5-C12</b>	<b>360</b>		50		ug/L			02/28/11 14:56	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		67 - 130		02/28/11 14:56	1
1,2-Dichloroethane-d4 (Surr)	103		67 - 130		02/28/11 14:56	1
Toluene-d8 (Surr)	105		70 - 130		02/28/11 14:56	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics [C10-C28]</b>	<b>37000</b>		1000		ug/L		03/01/11 13:45	03/02/11 13:41	20

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	0	D	23 - 156	03/01/11 13:45	03/02/11 13:41	20

**Client Sample ID: MW-4**

**Lab Sample ID: 720-33596-2**

Date Collected: 02/25/11 10:50

Matrix: Water

Date Received: 02/25/11 17:10

**Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 15:25	1
Benzene	ND		0.50		ug/L			02/28/11 15:25	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 15:25	1
Toluene	ND		0.50		ug/L			02/28/11 15:25	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 15:25	1
<b>Gasoline Range Organics (GRO) -C5-C12</b>	<b>250</b>		50		ug/L			02/28/11 15:25	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		67 - 130		02/28/11 15:25	1
1,2-Dichloroethane-d4 (Surr)	108		67 - 130		02/28/11 15:25	1
Toluene-d8 (Surr)	105		70 - 130		02/28/11 15:25	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics [C10-C28]</b>	<b>24000</b>		500		ug/L		03/01/11 13:45	03/02/11 14:06	10

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	0	D	23 - 156	03/01/11 13:45	03/02/11 14:06	10

# Analytical Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

**Client Sample ID: MW-8**

**Lab Sample ID: 720-33596-3**

**Date Collected: 02/25/11 13:05**

**Matrix: Water**

**Date Received: 02/25/11 17:10**

**Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 15:54	1
Benzene	ND		0.50		ug/L			02/28/11 15:54	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 15:54	1
Toluene	ND		0.50		ug/L			02/28/11 15:54	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 15:54	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/02/11 13:52	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		67 - 130		02/28/11 15:54	1
4-Bromofluorobenzene	92		67 - 130		03/02/11 13:52	1
1,2-Dichloroethane-d4 (Surr)	111		67 - 130		02/28/11 15:54	1
1,2-Dichloroethane-d4 (Surr)	121		67 - 130		03/02/11 13:52	1
Toluene-d8 (Surr)	105		70 - 130		02/28/11 15:54	1
Toluene-d8 (Surr)	93		70 - 130		03/02/11 13:52	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	280		50		ug/L		03/01/11 13:45	03/02/11 12:53	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
p-Terphenyl	68		23 - 156		03/01/11 13:45	03/02/11 12:53	1

**Client Sample ID: MW-9**

**Lab Sample ID: 720-33596-4**

**Date Collected: 02/25/11 12:25**

**Matrix: Water**

**Date Received: 02/25/11 17:10**

**Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 16:52	1
Benzene	ND		0.50		ug/L			02/28/11 16:52	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 16:52	1
Toluene	ND		0.50		ug/L			02/28/11 16:52	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 16:52	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			02/28/11 16:52	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		67 - 130		02/28/11 16:52	1
1,2-Dichloroethane-d4 (Surr)	116		67 - 130		02/28/11 16:52	1
Toluene-d8 (Surr)	104		70 - 130		02/28/11 16:52	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	580		51		ug/L		03/01/11 13:45	03/01/11 21:56	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	
p-Terphenyl	91		23 - 156		03/01/11 13:45	03/01/11 21:56	1

# Analytical Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

**Client Sample ID: MW-10**

**Lab Sample ID: 720-33596-5**

**Date Collected: 02/25/11 09:45**

**Matrix: Water**

**Date Received: 02/25/11 17:10**

**Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 22:53	1
Benzene	ND		0.50		ug/L			02/28/11 22:53	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 22:53	1
Toluene	ND		0.50		ug/L			02/28/11 22:53	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 22:53	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			02/28/11 22:53	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		67 - 130		02/28/11 22:53	1
1,2-Dichloroethane-d4 (Surr)	113		67 - 130		02/28/11 22:53	1
Toluene-d8 (Surr)	100		70 - 130		02/28/11 22:53	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	5600		150		ug/L		03/01/11 13:45	03/02/11 14:30	3

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	66		23 - 156	03/01/11 13:45	03/02/11 14:30	3

**Client Sample ID: MW-11**

**Lab Sample ID: 720-33596-6**

**Date Collected: 02/25/11 13:00**

**Matrix: Water**

**Date Received: 02/25/11 17:10**

**Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 23:22	1
Benzene	ND		0.50		ug/L			02/28/11 23:22	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 23:22	1
Toluene	ND		0.50		ug/L			02/28/11 23:22	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 23:22	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			02/28/11 23:22	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		67 - 130		02/28/11 23:22	1
1,2-Dichloroethane-d4 (Surr)	111		67 - 130		02/28/11 23:22	1
Toluene-d8 (Surr)	104		70 - 130		02/28/11 23:22	1

**Method: 8015B - Diesel Range Organics (DRO) (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1900		50		ug/L		03/01/11 13:45	03/02/11 13:17	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
p-Terphenyl	51		23 - 156	03/01/11 13:45	03/02/11 13:17	1

# Quality Control Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS

**Lab Sample ID: MB 720-86890/4**

**Matrix: Water**

**Analysis Batch: 86890**

**Client Sample ID: MB 720-86890/4**

**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 10:49	1
Benzene	ND		0.50		ug/L			02/28/11 10:49	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 10:49	1
Toluene	ND		0.50		ug/L			02/28/11 10:49	1
m-Xylene & p-Xylene	ND		1.0		ug/L			02/28/11 10:49	1
o-Xylene	ND		0.50		ug/L			02/28/11 10:49	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 10:49	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			02/28/11 10:49	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
4-Bromofluorobenzene	101		67 - 130		02/28/11 10:49	1
1,2-Dichloroethane-d4 (Surr)	110		67 - 130		02/28/11 10:49	1
Toluene-d8 (Surr)	101		70 - 130		02/28/11 10:49	1

**Lab Sample ID: LCS 720-86890/5**

**Matrix: Water**

**Analysis Batch: 86890**

**Client Sample ID: LCS 720-86890/5**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	25.0	24.8		ug/L		99	82 - 127
Ethylbenzene	25.0	26.6		ug/L		106	86 - 135
Toluene	25.0	24.2		ug/L		97	83 - 129
m-Xylene & p-Xylene	50.0	56.0		ug/L		112	70 - 142
o-Xylene	25.0	27.8		ug/L		111	89 - 136

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene	104		67 - 130
1,2-Dichloroethane-d4 (Surr)	108		67 - 130
Toluene-d8 (Surr)	104		70 - 130

**Lab Sample ID: LCS 720-86890/7**

**Matrix: Water**

**Analysis Batch: 86890**

**Client Sample ID: LCS 720-86890/7**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene	105		67 - 130
1,2-Dichloroethane-d4 (Surr)	111		67 - 130
Toluene-d8 (Surr)	105		70 - 130



# Quality Control Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

**Lab Sample ID: LCSD 720-86890/6**

**Matrix: Water**

**Analysis Batch: 86890**

**Client Sample ID: LCSD 720-86890/6**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
Methyl tert-butyl ether	25.0	26.9		ug/L		107	62 - 130	6	20
Benzene	25.0	24.8		ug/L		99	82 - 127	0	20
Ethylbenzene	25.0	26.3		ug/L		105	86 - 135	1	20
Toluene	25.0	23.9		ug/L		96	83 - 129	1	20
m-Xylene & p-Xylene	50.0	55.4		ug/L		111	70 - 142	1	20
o-Xylene	25.0	27.8		ug/L		111	89 - 136	0	20

Surrogate	LCSD	LCSD	Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene	104		67 - 130
1,2-Dichloroethane-d4 (Surr)	111		67 - 130
Toluene-d8 (Surr)	103		70 - 130

**Lab Sample ID: LCSD 720-86890/8**

**Matrix: Water**

**Analysis Batch: 86890**

**Client Sample ID: LCSD 720-86890/8**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline Range Organics (GRO) -C5-C12	500	392		ug/L		78	62 - 117	0	20

Surrogate	LCSD	LCSD	Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene	106		67 - 130
1,2-Dichloroethane-d4 (Surr)	113		67 - 130
Toluene-d8 (Surr)	105		70 - 130

**Lab Sample ID: 720-33596-4 MS**

**Matrix: Water**

**Analysis Batch: 86890**

**Client Sample ID: MW-9**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	% Rec	% Rec. Limits
	Result	Qualifier		Result	Qualifier				
Methyl tert-butyl ether	ND		25.0	29.1		ug/L		117	60 - 138
Benzene	ND		25.0	25.5		ug/L		101	60 - 140
Ethylbenzene	ND		25.0	25.8		ug/L		103	60 - 140
Toluene	ND		25.0	24.3		ug/L		95	60 - 140
m-Xylene & p-Xylene	ND		50.0	54.2		ug/L		108	60 - 140
o-Xylene	ND		25.0	27.5		ug/L		110	60 - 140

Surrogate	MS	MS	Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene	104		67 - 130
1,2-Dichloroethane-d4 (Surr)	113		67 - 130
Toluene-d8 (Surr)	105		70 - 130

**Lab Sample ID: 720-33596-4 MSD**

**Matrix: Water**

**Analysis Batch: 86890**

**Client Sample ID: MW-9**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
Methyl tert-butyl ether	ND		25.0	29.1		ug/L		116	60 - 138	0	20
Benzene	ND		25.0	26.0		ug/L		103	60 - 140	2	20

TestAmerica San Francisco

# Quality Control Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

**Lab Sample ID: 720-33596-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 86890**

**Client Sample ID: MW-9**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethylbenzene	ND		25.0	26.4		ug/L		106	60 - 140	2	20
Toluene	ND		25.0	24.8		ug/L		97	60 - 140	2	20
m-Xylene & p-Xylene	ND		50.0	55.4		ug/L		111	60 - 140	2	20
o-Xylene	ND		25.0	28.1		ug/L		112	60 - 140	2	20

Surrogate	MSD % Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	103		67 - 130
1,2-Dichloroethane-d4 (Surr)	109		67 - 130
Toluene-d8 (Surr)	106		70 - 130

**Lab Sample ID: MB 720-86934/4**  
**Matrix: Water**  
**Analysis Batch: 86934**

**Client Sample ID: MB 720-86934/4**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			02/28/11 19:31	1
Benzene	ND		0.50		ug/L			02/28/11 19:31	1
Ethylbenzene	ND		0.50		ug/L			02/28/11 19:31	1
Toluene	ND		0.50		ug/L			02/28/11 19:31	1
m-Xylene & p-Xylene	ND		1.0		ug/L			02/28/11 19:31	1
o-Xylene	ND		0.50		ug/L			02/28/11 19:31	1
Xylenes, Total	ND		1.0		ug/L			02/28/11 19:31	1
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			02/28/11 19:31	1

Surrogate	MB % Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		67 - 130		02/28/11 19:31	1
1,2-Dichloroethane-d4 (Surr)	109		67 - 130		02/28/11 19:31	1
Toluene-d8 (Surr)	101		70 - 130		02/28/11 19:31	1

**Lab Sample ID: LCS 720-86934/5**  
**Matrix: Water**  
**Analysis Batch: 86934**

**Client Sample ID: LCS 720-86934/5**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Methyl tert-butyl ether	25.0	26.9		ug/L		108	62 - 130
Benzene	25.0	25.2		ug/L		101	82 - 127
Ethylbenzene	25.0	26.2		ug/L		105	86 - 135
Toluene	25.0	24.3		ug/L		97	83 - 129
m-Xylene & p-Xylene	50.0	55.3		ug/L		111	70 - 142
o-Xylene	25.0	27.7		ug/L		111	89 - 136

Surrogate	LCS % Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	102		67 - 130
1,2-Dichloroethane-d4 (Surr)	107		67 - 130
Toluene-d8 (Surr)	104		70 - 130

# Quality Control Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

**Lab Sample ID: LCS 720-86934/7**

**Matrix: Water**

**Analysis Batch: 86934**

**Client Sample ID: LCS 720-86934/7**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS	LCS	Unit	D	% Rec	% Rec. Limits
		Result	Qualifier				
Gasoline Range Organics (GRO) -C5-C12	500	378		ug/L		76	62 - 117
<b>Surrogate</b>	<b>% Recovery</b>	<b>LCS</b>	<b>Qualifier</b>	<b>Limits</b>			
4-Bromofluorobenzene	106			67 - 130			
1,2-Dichloroethane-d4 (Surr)	112			67 - 130			
Toluene-d8 (Surr)	105			70 - 130			

**Lab Sample ID: LCSD 720-86934/6**

**Matrix: Water**

**Analysis Batch: 86934**

**Client Sample ID: LCSD 720-86934/6**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
Methyl tert-butyl ether	25.0	26.6		ug/L		106	62 - 130	1	20
Benzene	25.0	25.2		ug/L		101	82 - 127	0	20
Ethylbenzene	25.0	26.4		ug/L		106	86 - 135	1	20
Toluene	25.0	24.4		ug/L		98	83 - 129	0	20
m-Xylene & p-Xylene	50.0	55.5		ug/L		111	70 - 142	0	20
o-Xylene	25.0	28.0		ug/L		112	89 - 136	1	20
<b>Surrogate</b>	<b>% Recovery</b>	<b>LCSD</b>	<b>Qualifier</b>	<b>Limits</b>					
4-Bromofluorobenzene	104			67 - 130					
1,2-Dichloroethane-d4 (Surr)	108			67 - 130					
Toluene-d8 (Surr)	104			70 - 130					

**Lab Sample ID: LCSD 720-86934/8**

**Matrix: Water**

**Analysis Batch: 86934**

**Client Sample ID: LCSD 720-86934/8**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD	LCSD	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline Range Organics (GRO) -C5-C12	500	371		ug/L		74	62 - 117	2	20
<b>Surrogate</b>	<b>% Recovery</b>	<b>LCSD</b>	<b>Qualifier</b>	<b>Limits</b>					
4-Bromofluorobenzene	104			67 - 130					
1,2-Dichloroethane-d4 (Surr)	110			67 - 130					
Toluene-d8 (Surr)	104			70 - 130					

**Lab Sample ID: MB 720-87019/4**

**Matrix: Water**

**Analysis Batch: 87019**

**Client Sample ID: MB 720-87019/4**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	ND		0.50		ug/L			03/02/11 10:36	1
Benzene	ND		0.50		ug/L			03/02/11 10:36	1
Ethylbenzene	ND		0.50		ug/L			03/02/11 10:36	1
Toluene	ND		0.50		ug/L			03/02/11 10:36	1
m-Xylene & p-Xylene	ND		1.0		ug/L			03/02/11 10:36	1
o-Xylene	ND		0.50		ug/L			03/02/11 10:36	1
Xylenes, Total	ND		1.0		ug/L			03/02/11 10:36	1

# Quality Control Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Method: 8260B/CA\_LUFTMS - 8260B / CA LUFT MS (Continued)

**Lab Sample ID: MB 720-87019/4**

**Matrix: Water**

**Analysis Batch: 87019**

**Client Sample ID: MB 720-87019/4**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		50		ug/L			03/02/11 10:36	1
Surrogate	% Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	90		67 - 130					03/02/11 10:36	1
1,2-Dichloroethane-d4 (Surr)	114		67 - 130					03/02/11 10:36	1
Toluene-d8 (Surr)	91		70 - 130					03/02/11 10:36	1

**Lab Sample ID: LCS 720-87019/8**

**Matrix: Water**

**Analysis Batch: 87019**

**Client Sample ID: LCS 720-87019/8**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	500	455		ug/L		91	62 - 117
Surrogate	% Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	102		67 - 130				
1,2-Dichloroethane-d4 (Surr)	116		67 - 130				
Toluene-d8 (Surr)	102		70 - 130				

**Lab Sample ID: LCSD 720-87019/9**

**Matrix: Water**

**Analysis Batch: 87019**

**Client Sample ID: LCSD 720-87019/9**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	500	450		ug/L		90	62 - 117	1	20
Surrogate	% Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	101		67 - 130						
1,2-Dichloroethane-d4 (Surr)	113		67 - 130						
Toluene-d8 (Surr)	101		70 - 130						

## Method: 8015B - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 720-86986/1-A**

**Matrix: Water**

**Analysis Batch: 86950**

**Client Sample ID: MB 720-86986/1-A**

**Prep Type: Total/NA**

**Prep Batch: 86986**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		50		ug/L		03/01/11 13:45	03/01/11 20:41	1
Surrogate	% Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
p-Terphenyl	94		23 - 156				03/01/11 13:45	03/01/11 20:41	1

# Quality Control Data

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: LCS 720-86986/2-A**

**Matrix: Water**

**Analysis Batch: 86950**

**Client Sample ID: LCS 720-86986/2-A**

**Prep Type: Total/NA**

**Prep Batch: 86986**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Diesel Range Organics [C10-C28]	2500	1870		ug/L		75	40 - 150
<b>Surrogate</b>		<b>LCS % Recovery</b>	<b>LCS Qualifier</b>				<b>Limits</b>
<i>p-Terphenyl</i>		103					23 - 156

**Lab Sample ID: LCSD 720-86986/3-A**

**Matrix: Water**

**Analysis Batch: 86950**

**Client Sample ID: LCSD 720-86986/3-A**

**Prep Type: Total/NA**

**Prep Batch: 86986**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	2500	1910		ug/L		76	40 - 150	2	35
<b>Surrogate</b>		<b>LCSD % Recovery</b>	<b>LCSD Qualifier</b>				<b>Limits</b>		
<i>p-Terphenyl</i>		108					23 - 156		

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# QC Association Summary

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## GC/MS VOA

### Analysis Batch: 86890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-33596-1	MW-2	Total/NA	Water	8260B/CA_LUF TMS	
720-33596-2	MW-4	Total/NA	Water	8260B/CA_LUF TMS	
720-33596-3	MW-8	Total/NA	Water	8260B/CA_LUF TMS	
720-33596-4	MW-9	Total/NA	Water	8260B/CA_LUF TMS	
720-33596-4 MS	MW-9	Total/NA	Water	8260B/CA_LUF TMS	
720-33596-4 MSD	MW-9	Total/NA	Water	8260B/CA_LUF TMS	
MB 720-86890/4	MB 720-86890/4	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-86890/5	LCS 720-86890/5	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-86890/6	LCSD 720-86890/6	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-86890/7	LCS 720-86890/7	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-86890/8	LCSD 720-86890/8	Total/NA	Water	8260B/CA_LUF TMS	

### Analysis Batch: 86934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-33596-5	MW-10	Total/NA	Water	8260B/CA_LUF TMS	
720-33596-6	MW-11	Total/NA	Water	8260B/CA_LUF TMS	
MB 720-86934/4	MB 720-86934/4	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-86934/5	LCS 720-86934/5	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-86934/6	LCSD 720-86934/6	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-86934/7	LCS 720-86934/7	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-86934/8	LCSD 720-86934/8	Total/NA	Water	8260B/CA_LUF TMS	

### Analysis Batch: 87019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-33596-3	MW-8	Total/NA	Water	8260B/CA_LUF TMS	
MB 720-87019/4	MB 720-87019/4	Total/NA	Water	8260B/CA_LUF TMS	
LCS 720-87019/8	LCS 720-87019/8	Total/NA	Water	8260B/CA_LUF TMS	
LCSD 720-87019/9	LCSD 720-87019/9	Total/NA	Water	8260B/CA_LUF TMS	

## GC Semi VOA

### Analysis Batch: 86949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-33596-4	MW-9	Total/NA	Water	8015B	86986

### Analysis Batch: 86950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-86986/2-A	LCS 720-86986/2-A	Total/NA	Water	8015B	86986
LCSD 720-86986/3-A	LCSD 720-86986/3-A	Total/NA	Water	8015B	86986
MB 720-86986/1-A	MB 720-86986/1-A	Total/NA	Water	8015B	86986

# QC Association Summary

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## GC Semi VOA (Continued)

### Prep Batch: 86986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-86986/1-A	MB 720-86986/1-A	Total/NA	Water	3510C	
720-33596-1	MW-2	Total/NA	Water	3510C	
720-33596-2	MW-4	Total/NA	Water	3510C	
720-33596-3	MW-8	Total/NA	Water	3510C	
720-33596-4	MW-9	Total/NA	Water	3510C	
720-33596-5	MW-10	Total/NA	Water	3510C	
LCS 720-86986/2-A	LCS 720-86986/2-A	Total/NA	Water	3510C	
720-33596-6	MW-11	Total/NA	Water	3510C	
LCSD 720-86986/3-A	LCSD 720-86986/3-A	Total/NA	Water	3510C	

### Analysis Batch: 87020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-33596-1	MW-2	Total/NA	Water	8015B	86986
720-33596-2	MW-4	Total/NA	Water	8015B	86986
720-33596-5	MW-10	Total/NA	Water	8015B	86986
720-33596-3	MW-8	Total/NA	Water	8015B	86986
720-33596-6	MW-11	Total/NA	Water	8015B	86986

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# Lab Chronicle

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

## Client Sample ID: MW-2

Date Collected: 02/25/11 12:05

Date Received: 02/25/11 17:10

## Lab Sample ID: 720-33596-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	86890	02/28/11 14:56	JZ	TestAmerica San Francisco
Total/NA	Prep	3510C			86986	03/01/11 13:45	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		20	87020	03/02/11 13:41	DH	TestAmerica San Francisco

## Client Sample ID: MW-4

Date Collected: 02/25/11 10:50

Date Received: 02/25/11 17:10

## Lab Sample ID: 720-33596-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	86890	02/28/11 15:25	JZ	TestAmerica San Francisco
Total/NA	Prep	3510C			86986	03/01/11 13:45	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		10	87020	03/02/11 14:06	DH	TestAmerica San Francisco

## Client Sample ID: MW-8

Date Collected: 02/25/11 13:05

Date Received: 02/25/11 17:10

## Lab Sample ID: 720-33596-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	86890	02/28/11 15:54	JZ	TestAmerica San Francisco
Total/NA	Analysis	8260B/CA_LUF TMS		1	87019	03/02/11 13:52	JZ	TestAmerica San Francisco
Total/NA	Prep	3510C			86986	03/01/11 13:45	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		1	87020	03/02/11 12:53	DH	TestAmerica San Francisco

## Client Sample ID: MW-9

Date Collected: 02/25/11 12:25

Date Received: 02/25/11 17:10

## Lab Sample ID: 720-33596-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	86890	02/28/11 16:52	JZ	TestAmerica San Francisco
Total/NA	Prep	3510C			86986	03/01/11 13:45	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		1	86949	03/01/11 21:56	DH	TestAmerica San Francisco

## Client Sample ID: MW-10

Date Collected: 02/25/11 09:45

Date Received: 02/25/11 17:10

## Lab Sample ID: 720-33596-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B/CA_LUF TMS		1	86934	02/28/11 22:53	LL	TestAmerica San Francisco
Total/NA	Prep	3510C			86986	03/01/11 13:45	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		3	87020	03/02/11 14:30	DH	TestAmerica San Francisco



# Lab Chronicle

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

**Client Sample ID: MW-11**

**Date Collected: 02/25/11 13:00**

**Date Received: 02/25/11 17:10**

**Lab Sample ID: 720-33596-6**

**Matrix: Water**

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared Or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260B/CA_LUF TMS		1	86934	02/28/11 23:22	LL	TestAmerica San Francisco
Total/NA	Prep	3510C			86986	03/01/11 13:45	RU	TestAmerica San Francisco
Total/NA	Analysis	8015B		1	87020	03/02/11 13:17	DH	TestAmerica San Francisco

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# Certification Summary

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

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Laboratory	Authority	Program	EPA Region	Certification ID	* Expiration Date
TestAmerica San Francisco	California	State Program	9	2496	01/31/12

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Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

\* Any expired certifications in this list are currently pending renewal and are considered valid.

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# Method Summary

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

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Method	Method Description	Protocol	Laboratory
8260B/CA_LUFT MS	8260B / CA LUFT MS	SW846	TAL SF
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL SF

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

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# Sample Summary

Client: ARCADIS  
Project/Site: UPS-Oakland

TestAmerica Job ID: 720-33596-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-33596-1	MW-2	Water	02/25/11 12:05	02/25/11 17:10
720-33596-2	MW-4	Water	02/25/11 10:50	02/25/11 17:10
720-33596-3	MW-8	Water	02/25/11 13:05	02/25/11 17:10
720-33596-4	MW-9	Water	02/25/11 12:25	02/25/11 17:10
720-33596-5	MW-10	Water	02/25/11 09:45	02/25/11 17:10
720-33596-6	MW-11	Water	02/25/11 13:00	02/25/11 17:10

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720-33596

129916  
DHS #

# BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE  
SAN JOSE, CALIFORNIA 95112-1105  
FAX (408) 573-7771  
PHONE (408) 573-0555

CONDUCT ANALYSIS TO DETECT

TA - SF

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

- EPA
- LIA
- OTHER
- RWQCB REGION \_\_\_\_\_

CHAIN OF CUSTODY  
BTS # 110225-ww1

CLIENT  
ARCADIS U.S., Inc.

SITE  
UPS

8400 Pardee Drive

Oakland, CA

C = COMPOSITE ALL CONTAINERS

TPH-Gro, BTEX, MTBE (8260)

TPH-D (8015)

SPECIAL INSTRUCTIONS

Invoice and Report to : Arcadis U.S., Inc.  
Attn: Hugh Devery [hugh.devery@arcadis-us.com](mailto:hugh.devery@arcadis-us.com)  
770-428-9009

**Low Detection levels requested**

SAMPLE I.D.	DATE	TIME	MATRIX S=SOIL W=H <sub>2</sub> O	CONTAINERS TOTAL														ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #		
MW-2	2/25/11	1205	W	5	3 HCL Voas 2 HCL Amber																		
MW-4		1050	W	5	3 HCL Voas 2 HCL Amber																		
MW-8		1305	W	5	3 HCL Voas 2 HCL Amber																		
MW-9		1225	W	5	3 HCL Voas 2 HCL Amber																		
MW-10		0945	W	5	3 HCL Voas 2 HCL Amber																		
MW-11		1300	W	5	3 HCL Voas 2 HCL Amber																		
			W	5	3 HCL Voas 2 HCL Amber																		
			W	5	3 HCL Voas 2 HCL Amber																		

SAMPLING COMPLETED DATE 2/25/11 TIME 1305 SAMPLING PERFORMED BY *William Wong* RESULTS NEEDED NO LATER THAN As contracted

RELEASED BY *[Signature]* DATE 2/25/11 TIME 1439 RECEIVED BY *[Signature]* DATE 2/25/11 TIME 1439

RELEASED BY *[Signature] (Sample Custodian)* DATE 2/25/11 TIME 1600 RECEIVED BY *Betty L. Jensen* DATE 2/25/11 TIME 1600

RELEASED BY *Betty L. Jensen* DATE 2/25/11 TIME 5:10 RECEIVED BY *[Signature]* DATE 2-25-11 TIME 1710

SHIPPED VIA DATE SENT TIME SENT COOLER # 2.6°

## Login Sample Receipt Check List

Client: ARCADIS

Job Number: 720-33596-1

**Login Number: 33596**

**Creator: Martinez, Edmundo**

**List Number: 1**

**List Source: TestAmerica San Francisco**

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

