R0402

Alameda-Contra Costa Transit District

July 13, 2005

Mr. Amir Gholani
Alameda County Health Division
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, Second Floor
Alameda, CA 94502

Dear Mr. Amir:

Subject: Quarterly Groundwater Monitoring Report – May 2005 Sampling
AC Transit, 1177 47th Street, Emeryville

AC Transit hereby submits the enclosed Groundwater Monitoring Report for the AC Transit facility located at 1177 47th Street in Emeryville. This report was prepared by our consultant, Cameron-Cole, LLC, and contain the results of the May 2005 sampling event.

The quarterly groundwater monitoring included collecting groundwater samples from monitoring wells MW-11 and MW-12 and measuring depth to water in all monitoring wells. A groundwater sample was not collected from MW-13 due to the presence of a free phase hydrocarbon layer. These samples were analyzed for total petroleum hydrocarbons (TPH) using modified EPA Method 8015 and benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-butyl ether (MTBE) using EPA Method 8021B. TPH as degraded diesel was detected in well MW-12 at a concentration of 360 ppb. TPH as degraded gasoline was detected in well MW-12at a concentration of 576 ppb. MTBE, ethylbenzene, toluene, and xylenes were detected in MW-12 at concentrations of 11.1 ppb, 3.4 ppb, 1.5 ppb, and 2.2 ppb, respectively.

If you have any questions or comments regarding the enclosed report, please call me at (510) 577-8869.

Sincerely,

Suzanne Chaewsky

Suzanne Chaewsky, P.E.
Environmental Engineer
enclosure

GROUNDWATER MONITORING REPORT FOR THE AC TRANSIT FACILITY LOCATED AT 1177 47th STREET, EMERYVILLE, CALIFORNIA

July 2005

Prepared For:
Ms. Suzanne Chaewsky
AC Transit
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Oakland, California 94603

Prepared By:
Cameron-Cole
101 W. Atlantic Avenue
Building 90
Alameda, California 94501

CAMERON-COLE

Project No: 2016

GROUNDWATER MONITORING REPORT FOR THE AC TRANSIT FACILITY LOCATED AT 1177 47th STREET, EMERYVILLE, CALIFORNIA

July 2005

Prepared For:

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Project No: 2016

Reviewed By
Brad Wright, RG, CHG
Principle Hydrogeologist

Written By
Mark Duffy
Geologist

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INTRODUCTION

This report presents the results from the May 2005 sampling event for the AC Transit facility located at 1177 47th Street, Emeryville, California (Site). Groundwater sampling of monitor wells MW-11 through MW-13 was conducted in accordance with directives from Alameda County Health Care Services (ACHCS). In a letter dated November 7, 2001, ACHCS requested quarterly groundwater sampling for monitor wells MW-11, MW-12 and MW-13 and semi-annual groundwater sampling of other Site monitor wells. AC Transit retained Cameron-Cole to perform this work.

GROUNDWATER MONITORING

Work performed during this sampling event included measuring depth to water in all monitor wells and collecting groundwater samples from monitor wells MW-11 and MW-12. Groundwater samples were analyzed for total extractable petroleum hydrocarbons (TEPH) using Environmental Protection Agency (EPA) Method 8015 Modified and benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) by EPA Method 8021B. A groundwater sample was not collected from MW-13 due to the presence of a free phase hydrocarbon layer. However, the free phase hydrocarbon layer was purged from MW-13.

A site map displaying the monitor well locations is presented as Figure 1. Chain-of-custody documents, field data sheets and certified analytical reports are included in Appendix A.

Groundwater Elevations and Flow Direction

On May 9, 2005, all 16 Site monitor wells were inspected and measured for the presence of free phase hydrocarbons and depth to groundwater. Measurements of depths to groundwater are presented on Table 1 and were used to construct the groundwater elevation contours shown in Figure 2. As shown, groundwater flow is to the west at a gradient of 0.033 feet/foot. A free phase hydrocarbon layer measuring 0.63 feet was detected in MW-13.

Groundwater Sampling Activities

The monitor wells were purged a minimum of three casing volumes using a centrifugal pump and samples were collected using disposable polyethylene bailers. During well purging, field parameters for pH, electrical conductivity, dissolved oxygen, oxidation-reduction potential, ferrous iron and temperature were monitored using calibrated field meters.

Groundwater samples were collected in 40-milliliter glass vials preserved with hydrochloric acid and one-liter non-preserved amber glass containers and placed in an ice-filled cooler for shipment under chain-of-custody to a State of California certified laboratory. A trip blank was submitted for analysis by EPA Method 8021B.

Groundwater Analytical Results

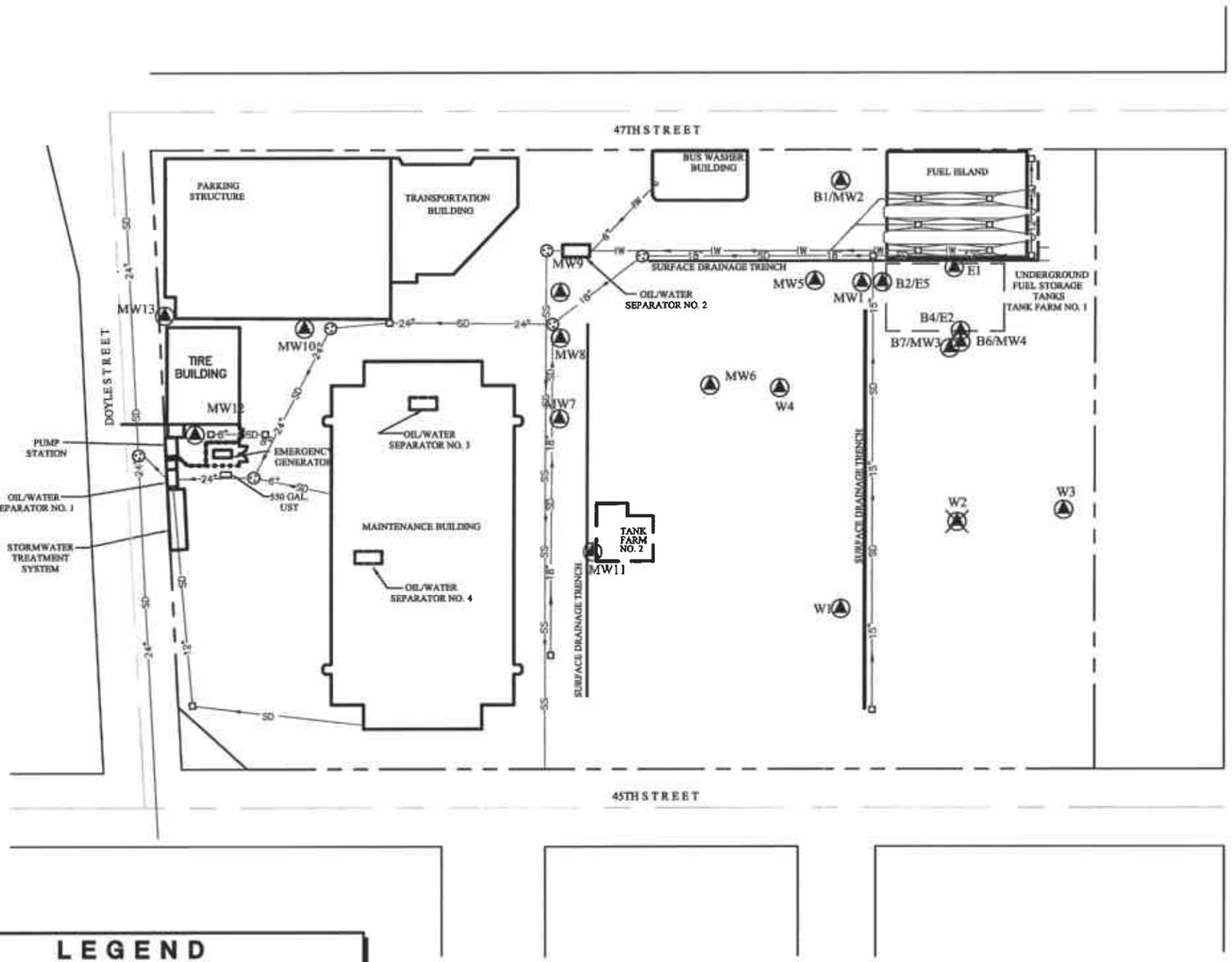
Table 2 presents groundwater analytical results for the May 2005 sampling event. TPH as degraded diesel was detected in monitor well MW-12 at 360 parts per billion (ppb). TPH as degraded gasoline was detected in monitor well MW-12 at concentrations of 576 ppb. MTBE, ethylbenzene, toluene, and xylenes were detected in MW-12 at concenttrations of 11.1 ppb, 3.4 ppb, 1.5 ppb and 2.2 ppb, respectively. No analytes were detected in the trip blank or method blank. A lab control spike and lab control spike duplicate passed the EPA's criteria for acceptance.

SUMMARY OF RESULTS

- Groundwater flow is to the west at a gradient of 0.033 feet/foot.
- TPH as degraded diesel was detected in MW-12 at 360 ppb.
- TPH as degraded gasoline was detected in MW-12 at 576 ppb.
- MTBE, ethylbenzene, toluene, and xylenes were detected in MW-12 at 11.1 ppb, 3.4 ppb, 1.5 ppb, and 2.2 ppb, respectively.

PROJECTED WORK AND RECOMMENDATIONS

- Semi-annual groundwater monitoring of all monitor wells including removal of the free product layer in MW-13 is scheduled for August 2005. This event will include site-wide depth to groundwater level measurements, and sample collection and analysis of ten site monitor wells



LEGEND

- MANHOLE
- CATCH BASIN
- MONITORING WELL
- ABANDONED MONITORING WELL
- SD — STORM DRAIN PIPELINE
- SS — SANITARY SEWER PIPELINE
- IW — INDUSTRIAL WASTE PIPELINE
- CHAIN LINK FENCE

	BY	DATE
DRAWN	WRB	10/25/02
CHECKED		
APPROVED		
APPROVED		
APPROVED		

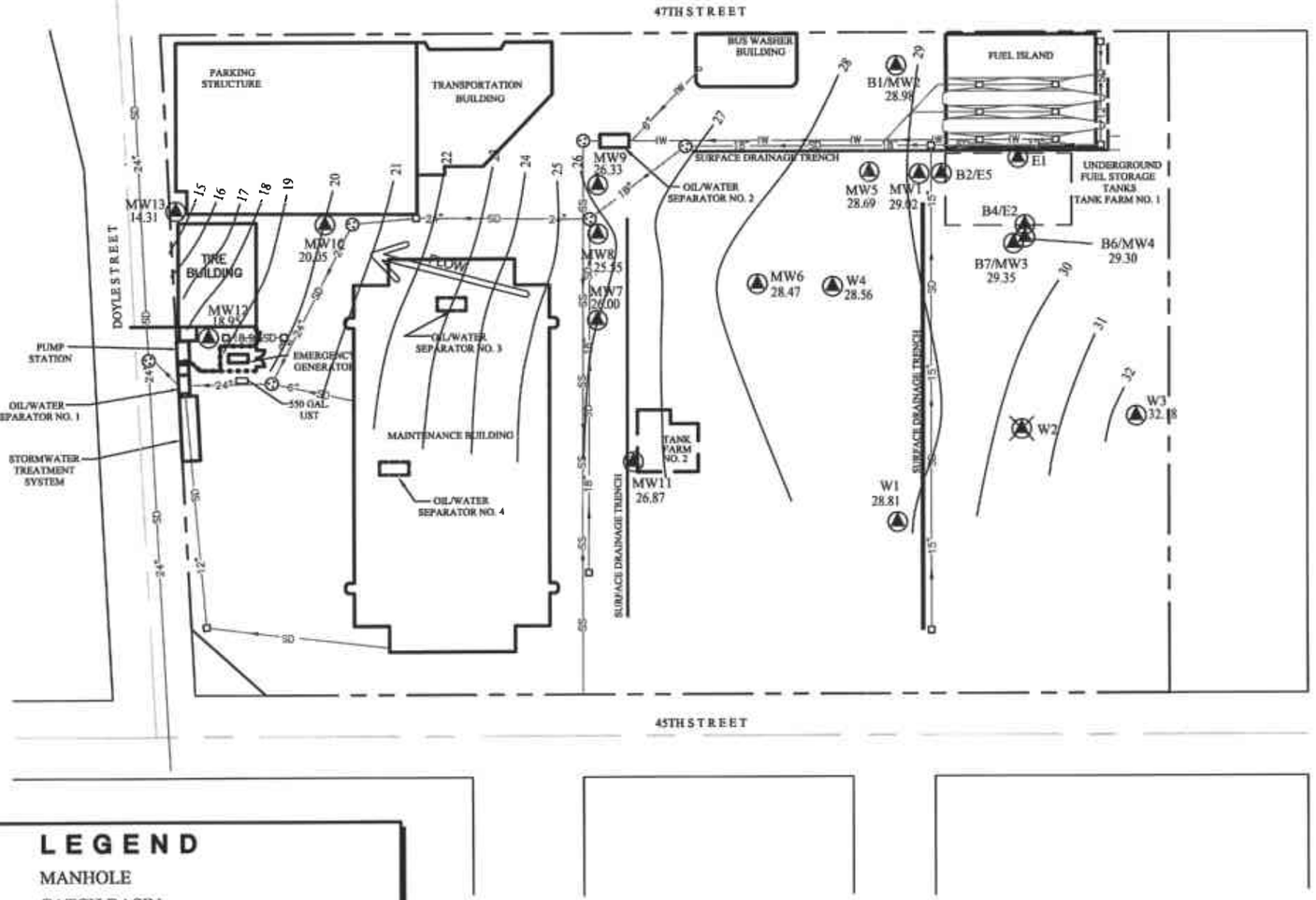
CAMERON-COLE

EMERYVILLE FACILITY - OAKLAND, CALIFORNIA

FIGURE 1
AC TRANSIT - MONITORING WELL LOCATION MAP

SCALE: 1" = 100'

DWG. NO.: 2015-01



LEGEND

- MANHOLE
- CATCH BASIN
- MONITORING WELL
- ABANDONED MONITORING WELL
- 26.53 — POTENTIOMETRIC SURFACE ELEVATION
- POTENTIOMETRIC SURFACE CONTOUR
- SD — STORM DRAIN PIPELINE
- SS — SANITARY SEWER PIPELINE
- IW — INDUSTRIAL WASTE PIPELINE
- CHAIN LINK FENCE

BY	DATE
DRAWN SPS	5/31/05
CHECKED	
APPROVED	
APPROVED	
APPROVED	

CAMERON-COLE

FIGURE 2

EMERYVILLE FACILITY - OAKLAND, CALIFORNIA

AC TRANSIT - POTENTIOMETRIC SURFACE MAP
MAY 2005

SCALE: 1" = 100'

DWG. NO.: 2015-21

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
MW-1	8/31/1999	32.56	None	3.24	29.32	NA
	11/23/1999		None	4.55	28.01	NA
	3/1/2000		None	3.65	28.91	NA
	5/17/2000		None	4.08	28.48	NA
	8/30/2000		None	5.18	27.38	NA
	12/18/2000		None	4.86	27.7	NA
	3/20/2001		None	4.22	28.34	NA
	6/7/2001		None	4.88	27.68	NA
	9/20/2001		None	4.97	27.59	NA
	12/14/2001		None	3.59	28.97	NA
	2/27/2002		None	4.03	28.53	NA
	5/16/2002		None	4.32	28.24	NA
	9/18/2002		None	4.61	27.95	NA
	10/30/2002		None	4.74	27.82	NA
	2/6/2003		None	4.08	28.48	NA
	5/1/2003		None	3.68	28.88	NA
	8/26/2003		None	4.64	27.92	NA
	11/20/2003		None	4.57	27.99	NA
	2/10/2004		None	3.95	28.61	NA
	5/18/2004		None	4.45	28.11	NA
	8/30/2004		None	5.14	27.42	NA
	11/17/2004		None	4.2	28.36	NA
	2/23/2005		None	3.55	29.01	NA
	5/9/2005		None	3.54	29.02	NA
MW-2	8/31/1999	32.12	None	5.24	26.88	NA
	11/23/1999		None	4.03	28.09	NA
	3/1/2000		None	3.11	29.01	NA
	5/17/2000		None	3.66	28.46	NA
	8/30/2000		None	4.65	27.47	NA
	12/18/2000		None	4.06	28.06	NA
	3/20/2001		None	3.91	28.21	NA
	6/7/2001		None	4.40	27.72	NA
	9/20/2001		None	4.45	27.67	NA
	12/14/2001		None	3.19	28.93	NA
	2/27/2002		None	3.45	28.67	NA
	5/16/2002		None	3.74	28.38	NA
	9/18/2002		None	4.20	27.92	NA
	10/30/2002		None	4.23	27.89	NA
	2/6/2003		None	3.70	28.42	NA
	5/1/2003		None	3.59	28.53	NA
	8/26/2003		None	4.24	27.88	NA
	11/20/2003		None	4.35	27.77	NA
	2/10/2004		None	3.61	28.51	NA
	5/18/2004		None	3.91	28.21	NA
	8/30/2004		None	4.62	27.50	NA
	11/17/2004		None	3.91	28.21	NA
	2/23/2005		None	3.05	29.07	NA
	5/9/2005		None	3.24	28.88	NA

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
MW-3	8/31/1999	34.06	None	6.15	27.91	NA
	11/23/1999		None	5.78	28.28	NA
	3/1/2000		None	4.82	29.24	NA
	5/17/2000		None	5.29	28.77	NA
	8/30/2000		None	6.20	27.86	NA
	12/18/2000		None	5.65	28.41	NA
	3/20/2001		None	5.18	28.88	NA
	6/7/2001		None	6.01	28.05	NA
	9/20/2001		None	5.9	28.16	NA
	12/14/2001		None	4.66	29.40	NA
	2/27/2002		None	5.00	29.06	NA
	5/16/2002		None	5.21	28.85	NA
	9/18/2002		None	5.61	28.45	NA
	10/30/2002		None	5.72	28.34	NA
	2/6/2003		None	4.97	29.09	NA
	5/1/2003		None	4.89	29.17	NA
	8/26/2003		None	5.82	28.24	NA
	11/20/2003		None	5.92	28.14	NA
	2/10/2004		None	4.99	29.07	NA
	5/18/2004		None	5.52	28.54	NA
	8/30/2004		None	6.25	27.81	NA
	11/17/2004		None	5.25	28.81	NA
	2/23/2005		None	4.80	29.26	NA
	5/9/2005		None	4.71	29.35	NA
MW-4	8/31/1999	34.11	None	6.22	27.89	NA
	11/23/1999		None	6.01	28.10	NA
	3/1/2000		None	4.74	29.37	NA
	5/17/2000		None	5.33	28.78	NA
	8/30/2000		None	6.26	27.85	NA
	12/18/2000		None	5.66	28.45	NA
	3/20/2001		None	5.46	28.65	NA
	6/7/2001		None	6.02	28.09	NA
	9/20/2001		None	6.06	28.05	NA
	12/14/2001		None	5.39	28.72	NA
	2/27/2002		None	5.28	28.83	NA
	5/16/2002		None	5.39	28.72	NA
	9/18/2002		None	5.61	28.50	NA
	10/30/2002		None	5.70	28.41	NA
	2/6/2003		None	5.39	28.72	NA
	5/1/2003		None	5.25	28.86	NA
	8/26/2003		None	5.88	28.23	NA
	11/20/2003		None	5.84	28.27	NA
	2/10/2004		None	5.10	29.01	NA
	5/18/2004		None	5.58	28.53	NA
	8/30/2004		None	6.30	27.81	NA
	11/17/2004		None	5.34	28.77	NA
	2/23/2005		None	4.75	29.36	NA
	5/9/2005		None	4.71	29.40	NA

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
MW-5	8/31/1999	31.70	None	4.51	27.19	NA
	11/23/1999		None	4.00	27.70	NA
	3/1/2000		None	3.31	28.39	NA
	5/17/2000		None	3.59	28.11	NA
	8/30/2000		None	4.53	27.17	NA
	12/18/2000		None	3.97	27.73	NA
	3/20/2001		None	3.68	28.02	NA
	6/7/2001		None	4.37	27.33	NA
	9/20/2001		None	4.46	27.24	NA
	12/14/2001		None	3.23	28.47	NA
	2/27/2002		None	3.44	28.26	NA
	5/16/2002		None	3.68	28.02	NA
	9/18/2002		None	4.04	27.66	NA
	10/30/2002		None	4.21	27.49	NA
	2/6/2003		None	3.61	28.09	NA
	5/1/2003		None	3.15	28.55	NA
	8/26/2003		None	4.00	27.70	NA
	11/20/2003		None	4.20	27.50	NA
	2/10/2004		None	3.38	28.32	NA
	5/18/2004		None	3.75	27.95	NA
	8/30/2004		None	4.55	27.15	NA
	11/17/2004		None	3.62	28.08	NA
	2/23/2005		None	2.98	28.72	NA
	5/9/2005		None			NA
MW-6	8/31/1999	31.02	None	4.40	26.62	NA
	11/23/1999		None	3.81	27.21	NA
	3/1/2000		None	2.88	28.14	NA
	5/17/2000		None	3.44	27.58	NA
	8/30/2000		None	4.40	26.62	NA
	12/18/2000		None	3.61	27.41	NA
	3/20/2001		None	3.16	27.86	NA
	6/7/2001		None	4.18	26.84	NA
	9/20/2001		Sheen	4.22	26.80	NA
	12/14/2001		None	3.62	27.40	NA
	2/27/2002		None	2.94	28.08	NA
	5/16/2002		None	3.53	27.49	NA
	9/18/2002		None	3.97	27.05	NA
	10/30/2002		None	3.96	27.06	NA
	2/6/2003		None	2.97	28.05	NA
	5/1/2003		None	3.98	27.04	NA
	8/26/2003		None	3.82	27.20	NA
	11/20/2003		None	3.78	27.24	NA
	2/10/2004		None	2.94	28.08	NA
	5/18/2004		None	3.47	27.55	NA
	8/30/2004		None	4.22	26.80	NA
	11/17/2004		None	3.19	27.83	NA
	2/23/2005		None	2.32	28.70	NA
	5/9/2005		Sheen	3.55		NA

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
MW-7	8/31/1999	29.62	None	5.47	24.15	NA
	11/23/1999		None	4.93	24.69	NA
	3/1/2000		None	4.06	25.56	NA
	5/17/2000		None	4.69	24.93	NA
	8/30/2000		None	5.50	24.12	NA
	12/18/2000		None	5.78	23.84	NA
	3/20/2001		None	4.83	24.79	NA
	6/7/2001		None	4.80	24.82	NA
	9/20/2001		None	5.19	24.43	NA
	12/14/2001		None	4.68	24.94	NA
	2/27/2002		None	4.53	25.09	NA
	5/16/2002		None	4.34	25.28	NA
	9/18/2002		None	5.28	24.34	NA
	10/30/2002		None	5.51	24.11	NA
	2/6/2003		None	4.36	25.26	NA
	5/1/2003		None	4.76	24.86	NA
	8/26/2003		None	5.25	24.37	NA
	11/20/2003		None	5.26	24.36	NA
	2/10/2004		None	4.31	25.31	NA
	5/18/2004		None	4.46	25.16	NA
	8/30/2004		None	5.61	24.01	NA
	11/17/2004		None	4.82	24.80	NA
	2/23/2005		None	4.14	25.48	NA
	[redacted]					
MW-8	8/31/1999	29.43	None	5.35	24.08	NA
	11/23/1999		None	4.75	24.68	NA
	3/1/2000		None	4.48	24.95	NA
	5/17/2000		None	4.78	24.65	NA
	8/30/2000		None	5.02	24.41	NA
	12/18/2000		None	5.23	24.20	NA
	3/20/2001		None	4.70	24.73	NA
	6/7/2001		None	5.13	24.30	NA
	9/20/2001		None	5.68	23.75	NA
	12/14/2001		None	4.26	25.17	NA
	2/27/2002		None	4.18	25.25	NA
	5/16/2002		None	4.58	24.85	NA
	9/18/2002		None	4.96	24.47	NA
	10/30/2002		None	4.99	24.44	NA
	2/6/2003		None	4.41	25.02	NA
	5/1/2003		None	4.29	25.14	NA
	8/26/2003		None	4.58	24.85	NA
	11/20/2003		None	4.69	24.74	NA
	2/10/2004		None	4.22	25.21	NA
	5/18/2004		None	4.52	24.91	NA
	8/30/2004		None	4.79	24.64	NA
	11/17/2004		None	4.56	24.87	NA
	2/23/2005		None	4.08	25.35	NA
	[redacted]					

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
MW-9	8/31/1999	29.18	None	4.15	25.03	NA
	11/23/1999		None	3.93	25.25	NA
	3/1/2000		None	3.69	25.49	NA
	5/17/2000		None	3.56	25.62	NA
	8/30/2000		None	4.64	24.54	NA
	12/18/2000		None	4.02	25.16	NA
	3/20/2001		None	3.92	25.26	NA
	6/7/2001		None	4.28	24.90	NA
	9/20/2001		None	5.12	24.06	NA
	12/14/2001		None	3.87	25.31	NA
	2/27/2002		None	4.48	24.70	NA
	5/16/2002		None	5.13	24.05	NA
	9/18/2002		None	4.48	24.70	NA
	10/30/2002		None	3.90	25.28	NA
	2/6/2003		None	3.65	25.53	NA
	5/1/2003		None	4.50	24.68	NA
	8/26/2003		None	4.33	24.85	NA
	11/20/2003		None	3.83	25.35	NA
	2/10/2004		None	3.17	26.01	NA
	5/18/2004		None	3.42	25.76	NA
	8/30/2004		None	3.45	25.73	NA
	11/17/2004		None	3.44	25.74	NA
	2/23/2005		None	3.28	25.90	NA
	5/9/2005		None	[illegible]	26.33	[illegible]
MW-10	8/31/1999	29.13	None	9.59	19.54	NA
	11/23/1999		None	9.44	19.69	NA
	3/1/2000		None	9.06	20.07	NA
	5/17/2000		None	9.31	19.82	NA
	8/30/2000		None	9.68	19.45	NA
	12/18/2000		None	9.41	19.72	NA
	3/20/2001		None	9.23	19.90	NA
	6/7/2001		None	9.60	19.53	NA
	9/20/2001		None	9.70	19.43	NA
	12/14/2001		None	8.83	20.30	NA
	2/27/2002		None	9.15	19.98	NA
	5/16/2002		None	9.45	19.68	NA
	9/18/2002		None	9.65	19.48	NA
	10/30/2002		None	9.73	19.40	NA
	2/6/2003		None	9.34	19.79	NA
	5/1/2003		None	9.14	19.99	NA
	8/26/2003		None	9.69	19.44	NA
	11/20/2003		None	9.62	19.51	NA
	2/10/2004		None	9.20	19.93	NA
	5/18/2004		None	9.58	19.55	NA
	8/30/2004		None	9.85	19.28	NA
	11/17/2004		None	9.26	19.87	NA
	2/23/2005		None	8.60	20.53	NA
	5/9/2005		None	[illegible]	20.08	[illegible]

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
MW-11	9/20/2001	28.93	None	4.41	24.52	NA
	12/14/2001		None	1.82	27.11	NA
	2/27/2002		None	2.39	26.54	NA
	5/16/2002		None	2.98	25.95	NA
	9/18/2002		None	4.00	24.93	NA
	10/30/2002		None	4.14	24.79	NA
	2/6/2003		None	2.59	26.34	NA
	5/1/2003		None	2.26	26.67	NA
	8/26/2003		None	3.79	25.14	NA
	11/20/2003		None	3.66	25.27	NA
	2/10/2004		None	2.40	26.53	NA
	5/18/2004		None	3.20	25.73	NA
	8/30/2004		None	4.43	24.50	NA
	11/17/2004		None	2.36	26.57	NA
	2/23/2005		None	2.05	26.88	NA
	5/9/2005		None	2.06	26.87	NA
MW-12	9/20/2001	28.68	None	10.41	18.27	NA
	12/14/2001		None	9.62	19.06	NA
	2/27/2002		None	10.09	18.59	NA
	5/16/2002		None	10.04	18.64	NA
	9/18/2002		None	10.66	18.02	NA
	10/30/2002		None	10.62	18.06	NA
	2/6/2003		None	9.97	18.71	NA
	5/1/2003		None	9.78	18.90	NA
	8/26/2003		None	10.70	17.98	NA
	11/20/2003		None	10.53	18.15	NA
	2/10/2004		None	9.80	18.88	NA
	5/18/2004		None	10.13	18.55	NA
	8/30/2004		None	10.32	18.36	NA
	11/17/2004		None	9.91	18.77	NA
	2/23/2005		None	9.29	19.39	NA
	5/9/2005		None	9.73	18.95	NA
MW-13	9/20/2001	22.715	None	8.83	13.89	NA
	12/14/2001		None	7.95	14.77	NA
	2/27/2002		None	7.64	15.08	NA
	5/16/2002		None	8.43	14.29	NA
	9/18/2002		6.86	15.09	7.63	13.11
	10/30/2002		6.04	14.29	8.43	13.26
	2/6/2003		0.09	8.25	14.47	14.54
	5/1/2003		0.24	7.29	15.43	15.62
	8/26/2003		0.39	9.70	13.02	13.33
	11/20/2003		0.85	9.85	12.87	13.55
	2/10/2004		0.88	10.59	12.13	12.83
	5/18/2004		0.92	10.70	12.02	12.75
	8/30/2004		1.06	9.36	13.36	14.20
	11/17/2004		0.25	9.74	12.98	13.18
	2/23/2005		0.07	6.49	16.23	16.28
	5/9/2005		0.63	8.41	14.31	14.71

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
W-1	3/2/2000	33.43	None	4.08	29.35	NA
	5/17/2000		None	5.41	28.02	NA
	8/30/2000		None	6.71	26.72	NA
	12/18/2000		None	5.73	27.70	NA
	3/20/2001		None	5.16	28.27	NA
	6/7/2001		None	6.10	27.33	NA
	9/20/2001		None	6.58	26.85	NA
	12/14/2001		None	4.69	28.74	NA
	2/27/2002		None	4.94	28.49	NA
	5/16/2002		None	5.54	27.89	NA
	9/18/2002		None	6.08	27.35	NA
	10/30/2002		None	6.24	27.19	NA
	2/6/2003		None	5.17	28.26	NA
	5/1/2003		None	4.71	28.72	NA
	8/26/2003		None	6.14	27.29	NA
	11/20/2003		None	6.19	27.24	NA
	2/10/2004		None	4.95	28.48	NA
	5/18/2004		None	5.70	27.73	NA
	8/30/2004		None	6.64	26.79	NA
	11/17/2004		None	5.36	28.07	NA
	2/23/2005		None	4.26	29.17	NA
	5/9/2005		None	4.62	28.81	NA
W-2	5/17/2000	34.21	None	5.60	28.61	NA
	8/30/2000		None	7.37	26.84	NA
	12/18/2000		None	6.44	27.77	NA
	1/23/2001					abandoned
W-3	5/17/2000	37.46	None	6.38	31.08	NA
	8/30/2000		None	8.16	29.30	NA
	12/18/2000		None	7.19	30.27	NA
	3/20/2001		None	5.70	31.76	NA
	6/7/2001		None	7.51	29.95	NA
	9/20/2001		None	7.83	29.63	NA
	12/14/2001		None	4.76	32.70	NA
	2/27/2002		None	5.32	32.14	NA
	5/16/2002		None	6.45	31.01	NA
	9/18/2002		None	7.10	30.36	NA
	10/30/2002		None	7.30	30.16	NA
	2/6/2003		None	5.69	31.77	NA
	5/1/2003		None	4.97	32.49	NA
	8/26/2003		None	7.52	29.94	NA
	11/20/2003		None	7.58	29.88	NA
	2/10/2004		None	5.63	31.83	NA
	5/18/2004		None	6.20	31.26	NA
	8/30/2004		None	8.39	29.07	NA
	11/17/2004		None	6.57	30.89	NA
	2/23/2005		None	4.24	33.22	NA
	5/9/2005		None	5.28	32.18	NA

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	Top of Casing Elevation (ft-msl)	Product Thickness (feet)	DTW (feet)	Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected from Product Thickness* (ft-msl)
W-4	3/2/2000	31.72	None	3.34	28.38	NA
	5/17/2000		None	3.86	27.86	NA
	8/30/2000		None	4.99	26.73	NA
	12/18/2000		None	4.20	27.52	NA
	3/20/2001		None	3.75	27.97	NA
	6/7/2001		None	4.67	27.05	NA
	9/20/2001		None	4.80	26.92	NA
	12/14/2001		None	3.22	28.50	NA
	2/27/2002		None	3.58	28.14	NA
	5/16/2002		None	3.89	27.83	NA
	9/18/2002		None	4.24	27.48	NA
	10/30/2002		None	4.56	27.16	NA
	2/6/2003		None	3.67	28.05	NA
	5/1/2003		None	2.61	29.11	NA
	8/26/2003		None	4.47	27.25	NA
	11/20/2003		None	4.42	27.30	NA
	2/10/2004		None	3.54	28.18	NA
	5/18/2004		None	4.11	27.61	NA
	8/30/2004		None	4.85	26.87	NA
	11/17/2004		None	3.81	27.91	NA
	2/23/2005		None	2.97	28.75	NA
	[redacted]		None	3.16	28.56	NA

Notes:
* used 0.8 specific gravity of product
ft-msl: feet mean sea level
DTW: Depth to water
NA: not applicable

TABLE 2
ANALYTICAL RESULTS GROUNDWATER SAMPLES
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	TPH-8015 (diesel)	TPH-8015 (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	300	1750	13
MW-1	8/31/1999	310	NA	<1.0	2.4	1	1.6	NA
	11/23/1999	250	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	310	62	<1.0	<1.0	<1.0	<2.0	687
	5/17/2000	390	63	<1.0	<1.0	<1.0	<2.0	74
	8/31/2000	180	<50	<1.0	<1.0	<1.0	<2.0	49
	12/18/2000	310	<50	<1.0	<1.0	<1.0	<2.0	44
	3/21/2001	240	<50	<1.0	<1.0	<1.0	<2.0	17
	6/7/2001	540	<50	<1.0	<1.0	<1.0	<2.0	32
	9/20/2001	290	<50	<1.0	<1.0	<1.0	<2.0	29
	2/27/2002	<250	<50	<1.0	<1.0	<1.0	<2.0	14
	9/18/2002	230	<50	<1.0	<1.0	<1.0	<2.0	30
	2/6/2003	82	<50	<0.5	<0.5	<0.5	<1.0	17
	8/26/2003	200	<50	<0.5	<0.5	<0.5	<1.0	9.8
	2/10/2004	4,800	<50	<0.5	<0.5	<0.5	<1.0	6.6
	8/30/2004	<56	<50	<0.5	<0.5	<0.5	<1.5	4.2
	2/23/2005	<50	<50	<0.5	<0.5	<0.5	<1.0	6.1
MW-2	8/31/1999	180	NA	<1.0	<1.0	<1.0	1.2	NA
	11/23/1999	120	NA	<1.0	<1.0	<1.0	<5.0	NA
	3/1/2000	510	<50	<1.0	<1.0	<1.0	<2.0	81
	5/17/2000	1,100	<50	<1.0	<1.0	<1.0	<2.0	87
	8/31/2000	620	<50	<1.0	<1.0	<1.0	<2.0	65
	12/19/2000	830	<50	<1.0	<1.0	<1.0	<2.0	70
	3/21/2001	900	<50	<2.0	<2.0	<2.0	<4.0	33
	6/7/2001	810	<50	<1.0	<1.0	<1.0	<2.0	43
	9/20/2001	1,200	<50	<1.0	<1.0	<1.0	<2.0	35
	2/27/2002	<250	<50	<1.0	<1.0	<1.0	<2.0	19
	9/18/2002	180	<50	<1.0	<1.0	<1.0	<2.0	17
	2/6/2003	58	<50	<0.5	<0.5	<0.5	<1.0	18
	8/26/2003	150	<50	<0.5	<0.5	<0.5	<1.0	15
	2/11/2004	<50	<50	<0.5	<0.5	<0.5	<1.0	5.2
	8/30/2004	<56	<50	<0.5	<0.5	<0.5	<1.5	6.3
	2/23/2005	<50	<50	<0.5	<0.5	<0.5	<1.0	8.4
MW-3	8/31/1999	2,700	NA	<1.0	<1.0	<1.0	<1.0	NA
	11/23/1999	640	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	620	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	1,800	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	NA	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/21/2001	1,700	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	770	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	9/21/2001	260	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	2/27/2002	560	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	9/18/2002	340	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	2/6/2003	<50	<50	<0.5	<0.5	<0.5	<1.0	3.9
	8/26/2003	5,800	<50	<0.5	<0.5	<0.5	<1.0	4.9
	2/11/2004	<50	<50	<0.5	<0.5	<0.5	<1.0	3.4
	8/30/2004	<56	<50	<0.5	<0.5	<0.5	1.5	4
	2/23/2005	<50	<50	<0.5	<0.5	<0.5	<1.0	5.4

TABLE 2
ANALYTICAL RESULTS GROUNDWATER SAMPLES
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	TPH-8015 (diesel)	TPH-8015 (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	300	1750	13
MW-4	8/31/1999	<50	NA	<1.0	<1.0	<1.0	1.6	NA
	11/23/1999	<50	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	80	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
MW-5	8/31/1999	250	NA	<1.0	<1.0	<1.0	1	NA
	11/23/1999	300	NA	<1.0	<1.0	<1.0	<5.0	NA
	3/1/2000	340	<50	<1.0	<1.0	<1.0	<2.0	100
	5/17/2000	230	<50	<1.0	<1.0	<1.0	<2.0	86
	8/31/2000	220	<50	<1.0	<1.0	<1.0	<2.0	59
	12/18/2000	360	<50	<1.0	<1.0	<1.0	<2.0	57
	3/20/2001	250	<50	<5.0	<5.0	<5.0	<10	87
	6/7/2001	600	<50	<1.0	<1.0	<1.0	<2.0	74
MW-6	8/31/1999	140,000	NA	77	18	31	49	NA
	11/23/1999	6,100	NA	45	14	6.9	48	NA
	3/1/2000	22,000	2800	6.8	<2.0	<2.0	<10	<5.0
	5/17/2000	1,800	6200	77	16	39	37	<5.0
	8/31/2000	76,000	5300	60	13	43	45.7	<5.0
	12/19/2000	6,300	1300	26.0	4.9	8.4	11.5	<5.0
	3/21/2001	5,100	1900	49.0	9.5	13	12	<10
	6/7/2001	14,000	2600	47.0	10	13	19	<10
	9/21/2001	15,000	4000	180	14	24	40	<50
	2/27/2002	43,000	5000	68	16	52	41.8	<25
	9/18/2002	320,000	2000	74	7.3	22	25	<5.0
	2/6/2003	4,300	2600	63	8.2	18	15	<1.0
	8/26/2003	68,000	6500	110	16	44	42	<10
	2/10/2004	19,000	3500	37	4.9	24	15	<5
	8/30/2004	<56	<50	86	7.8	15	27	<5
	2/23/2005	4,930	687	7.9	2	0.9	4.3	<0.5
MW-7	8/31/1999	1,400	NA	<1.0	2.9	2.3	2.7	NA
	11/23/1999	530	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	640	860	<1.0	<1.0	<1.0	<2.0	<20
	5/17/2000	430	410	<1.0	<1.0	<1.0	<2.0	9.5
	8/31/2000	950	1100	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	1,100	820	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	770	1000	<1.0	1.4	<1.0	<2.0	<5.0
	6/7/2001	1,400	870	<1.0	<1.0	<1.0	<2.0	<5.0
	9/21/2001	940	1000	<1.0	<1.0	<2.0	<5.0	<5.0
	2/27/2002	430	930	<1.0	<1.0	<1.0	<2.0	<5.0
	9/18/2002	440	870	<1.0	<1.0	<1.0	<2.0	<5.0
	2/6/2003	230	890	<0.5	<0.5	<0.5	<1.0	1.6
	8/26/2003	470	590	<0.5	<0.5	<0.5	<1.0	1.5
	2/11/2004	140	690	<0.5	1.9	0.57	1.0	1.1
	8/30/2004	<56	200	<0.5	<0.5	<0.5	<1.5	1.5
	2/23/2005	290	283	<0.5	<0.5	<0.5	<1.0	1.1

TABLE 2
ANALYTICAL RESULTS GROUNDWATER SAMPLES
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	TPH-8015 (diesel)	TPH-8015 (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	300	1750	13
MW-8	8/31/1999	230	NA	<1.0	<1.0	1.2	<1.0	NA
	11/23/1999	220	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	260	150	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	660	310	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	460	300	<1.0	<1.0	<1.0	1.4	<5.0
	12/18/2000	370	230	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	1,700	64	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	1,300	180	<1.0	<1.0	<1.0	<2.0	<5.0
MW-9	8/31/1999	2,800	NA	<1.0	<1.0	<1.0	1.1	NA
	11/23/1999	1,300	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	510	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/17/2000	990	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	1,100	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	1,900	<50	<1.0	<1.0	<1.0	<2.0	5.9
	3/20/2001	1,500	<50	<1.0	<1.0	<1.0	<2.0	5.5
	6/7/2001	590	<50	<1.0	<1.0	<1.0	<2.0	8.1
	9/20/2001	790	<50	<1.0	<1.0	<1.0	<2.0	8.5
	2/27/2002	650	<50	<1.0	<1.0	<1.0	<2.0	9.5
	9/18/2002	480	<50	<1.0	<1.0	<1.0	<2.0	6.2
	2/6/2003	54	<50	<0.5	<0.5	<0.5	<1.0	5.5
	8/26/2003	1,300	<50	<0.5	<0.5	<0.5	<1.0	6.6
	2/10/2004	6,200	250	<0.5	<0.5	<0.5	<1.0	4.4
	8/30/2004	<50	<50	<0.5	<0.5	<0.5	<1.5	3.6
	2/23/2005	<0.5	<50	<0.5	<0.5	<0.5	<1.0	6.0
MW-10	8/31/1999	1,100	NA	<1.0	1.2	2.0	<1.0	NA
	11/23/1999	1,200	NA	<1.0	<1.0	<1.0	<1.0	NA
	3/1/2000	1,300	540	<1.0	<1.0	<1.0	<2.0	NA
	5/17/2000	990	460	<1.0	<1.0	<1.0	<2.0	6.9
	8/31/2000	840	320	<1.0	<1.0	<1.0	<2.0	25
	12/18/2000	900	290	<1.0	<1.0	<1.0	<2.0	<9.0
	3/21/2001	620	220	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	1,300	360	<1.0	<1.0	<1.0	<2.0	15
	9/20/2001	1,000	350	<1.0	<1.0	<1.0	<2.0	44
	2/27/2002	610	150	<1.0	<1.0	<1.0	<2.0	<5.0
	9/18/2002	850	240	<1.0	1.2	<1.0	<2.0	20
	2/6/2003	510	200	<0.5	<0.5	<0.5	<1.0	2.8
	8/26/2003	1,100	250	<0.5	<0.5	<0.5	<1.0	14
	2/10/2004	260	190	<0.5	<0.5	<0.5	<1.0	1.6
	8/30/2004	310	240	<0.5	<0.5	<0.5	<1.5	6.7
	2/23/2005	310	207	<0.5	0.7	1.4	1.3	<0.5
MW-11	9/20/2001	460	88	<1.0	<1.0	<1.0	<2.0	<5.0
	12/14/2002	320	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	2/27/2002	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	5/16/2002	380	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	9/18/2002	250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	10/30/2002	260	<50	<0.5	<0.5	<0.5	<1.5	<2.5
	2/6/2003	250	<50	<0.5	<0.5	<0.5	<1.0	<1.0
	5/1/2003	220	<50	<0.5	<0.5	<0.5	<1.0	<1.0
	8/26/2003	300	<50	<0.5	<0.5	<0.5	<1.0	<1.0
	11/20/2003	77	<50	<0.5	<0.5	<0.5	<1.0	<1.0
	5/18/2004	<50	<50	<0.5	<0.5	<0.5	<1.0	<1.0
	8/30/2004	<56	<50	<0.5	<0.5	<0.5	<1.5	<1.0
	11/17/2004	<50	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	2/23/2005	<50	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	[illegible]	<50	<50	<0.5	<0.5	<0.5	<1.0	<0.5

TABLE 2
ANALYTICAL RESULTS GROUNDWATER SAMPLES
AC TRANSIT
1177 47TH STREET, EMERYVILLE, CALIFORNIA

Well	Date	TPH-8015 (diesel)	TPH-8015 (gas)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MCL (ppb)		None	None	1.0	150	300	1750	13
MW-12	9/20/2001	540	960	<1.0	<1.0	<2.0	<5.0	11
	12/14/2002	170	670	<1.0	<1.0	<1.0	<2.0	9.4
	2/27/2002	350	950	<1.0	<1.0	<1.0	<2.0	11
	5/16/2002	500	1100	<1.0	<1.0	<1.0	<2.0	6.7
	9/18/2002	1,600	570	<1.0	<1.0	<1.0	<3.0	7.1
	10/30/2002	440	420	<0.5	<0.5	<0.5	<1.5	<2.5
	2/6/2003	190	340	<0.5	<0.5	<0.5	<1.0	6.8
	5/1/2003	580	950	<2.5	<2.5	3.7	9.0	8.8
	8/26/2003	110	260	<0.5	<0.5	<0.5	<1.0	11
	11/20/2003	100	160	<0.5	<0.5	<0.5	<1.0	8.9
	2/10/2004	210	490	<0.5	0.6	<0.5	<1.0	6.7
	5/18/2004	190	620	<0.5	<0.5	0.8	<1.0	5.6
	8/30/2004	<56	430	<0.5	<0.5	<0.5	<1.5	5.6
	11/17/2004	320	186	<0.5	0.5	0.5	<1.0	10.8
	2/23/2005	340	790	3.0	6.9	1.4	4.2	6.2
	5/9/2005	560	576	<0.5	1.5	3.4	[illegible]	10
MW-13	9/21/2001	<250	<50	<1.0	<1.0	<1.0	<2.0	7.4
	12/14/2002	160	<50	<1.0	<1.0	<1.0	<2.0	11
	2/27/2002	1,100	450	<1.0	<5.0	<1.0	<2.0	9.9
W-1	5/16/2002	520	150	<1.0	<1.0	<1.0	<2.0	8.7
	3/2/2000	1,800	3400	20.0	5.3	30	23.8	<5.0
	5/17/2000	1,100	7300	35.0	11	59	45	<1.0
	8/31/2000	2,200	6200	20.0	7.9	36	38.2	<10
	12/19/2000	1,700	5600	20.0	8.4	30	35.6	<5.0
	3/20/2001	2,100	7200	32.0	13	56	40	<10
	6/7/2001	2,100	7300	26.0	18	42	38.3	<10
	9/21/2001	1,800	7100	27	<10	48	40	<10
	2/27/2002	1,800	7100	24	9	52	34	<25
	2/6/2003	990	5300	11	4.7	27	24	<1.0
	8/26/2003	1,700	5800	7.5	5.4	24	25	<10
	2/10/2004	940	6000	16.0	4.9	20	21	<1.0
	8/30/2004	<56	2500	8.6	3.6	11	18	<1.30
	2/23/2005	1,910	3900	74.1	12.2	64.4	48.2	<0.5
W-2	9/18/2002	1,000	5900	11	<22	23	22	<5.0
	5/17/2000	19,000	870	<2.0	<1.0	<2.0	<4.0	<5.0
	8/31/2000	7,400	2200	4.6	2.5	3.8	11	<5.0
W-3	12/19/2000	10,000	290	8.8	3.4	8.6	17.4	<5.0
	5/17/2000	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	<50	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/18/2000	<250	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/20/2001	630	<50	<1.0	<1.0	<1.0	<2.0	<5.0
W-4	6/7/2001	1,200	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/2/2000	190	<50	1.1	<1.0	<1.0	<2.0	<5.0
	5/17/2000	230	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	8/31/2000	240	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	12/19/2000	320	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	3/21/2001	220	<50	<1.0	<1.0	<1.0	<2.0	<5.0
	6/7/2001	430	<50	<1.0	<1.0	<1.0	<2.0	<5.0

Notes:
ppb: parts per billion
TPH: Total Petroleum Hydrocarbons
MTBE: methyl tert butylether
MCL: Maximum Contaminant Level
NA: not analyzed

APPENDIX A

CHAIN-OF-CUSTODY DOCUMENTATION
FIELD DATA SHEETS
CERTIFIED ANALYTICAL REPORTS

North State Labs

815 Dubuque Avenue, South San Francisco, CA 94080
Phone: (650) 266-4563 Fax: (650) 266-4560

Chain of Custody / Request for Analysis
Lab Job No.:_____ Page___ of___

Client: North State Labs	**Report to:** Angie Adamo	**Phone:**	**Turnaround Time** ~~Std~~ 2-DAY*
Mailing Address:	**Billing to:**	**Fax:**	
		email:	**Date:**
		PO# 05-0688	**Sampler:**

Project / Site Address / Global ID: 05-0688

Analysis Requested

EDF ☐ PDF ☐

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	N. Trate	Sulfate					Field Point ID
MW-11	Water	1/250 ml P.	–	5/9/05 / 1055	X				43485-001		
↓	↓	↓	–	↓ / ↓		X				11	*Note: 48-HR
MW-12	↓	↓	–	↓ / 1150	X					-002	Hold time for
↓	↓	↓	–	↓ / ↓		X				4	N. trate & Sulfate
											Analysis

2 DAYS

Relinquished by:	**Date:** 5/10/05	**Time:** 0842	**Received by:**	**Lab Comments/ Hazards**
Relinquished by:	**Date:**	**Time:**	**Received by:**	
Relinquished by:	**Date:**	**Time:**	**Received by:**	

TERMS: NET 30 OAC

Enclosure

05-0688

North State Labs
815 Dubuque Avenue, South San Francisco, CA 94080
Phone: (650) 266-4563 Fax: (650) 266-4560

Chain of Custody / Request for Analysis
Lab Job No.: ______ **Page** 1 **of** 1

Client: Cameron - Cole	Report to: Emily Waters	Phone: 510 769 3570	Turnaround Time: Std.
Mailing Address: 101 W. Atlantic St. Bldg #90 Alameda CA 94501	Billing to: Same	Fax: 510 337 3994	
		email:	Date: 5/9/05
		PO# 2016	Sampler: SS/AW

Project / Site Address / Global ID: AC Transit - Emeryville

Analysis Requested

EDF ☐ PDF ☒

Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	8021B	TPH G's 8015M	TPH diesel 8015M	Nitrate	Sulfate			Field Point ID
TB-01	Water	3 voas	HCl	5/9/05 / 1030	X							
MW-11	↓	↓	↓	1055	X							
↓	↓	↓	↓	↓		X						
↓	↓	2 amber	N/A	↓			X					
↓	↓	1 poly	↓	↓				X				
↓	↓	↓	↓	↓					X			
MW-12	↓	3 voas	HCl	1150	X							
↓	↓	↓	↓	↓		X						
↓	↓	2 ambers	N/A	↓			X					
↓	↓	1 poly	↓	↓				X				
↓	↓	↓	↓	↓					X			

(Margin brackets: 2 beside MW-11 rows; 3 beside MW-12 rows)

Relinquished by: [signature]	Date: 5/9/05	Time: 1530	Received by: Angi Adamo	Lab Comments/ Hazards
Relinquished by: Angi Adamo	Date: 5/9/05	Time: 4:15	Received by: [signature]	
Relinquished by:	Date:	Time:	Received by:	

TERMS: NET 30 OAC

North State Labs
CA ELAP # 1753
815 Dubuque Avenue • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

SAMPLE RECEIPT CHECKLIST

Client Name: Cameron-Cole Ref/Job No: 05-0688 Date:

Checked By:

Matrix: Soil: Water: Other:

If Received via Shipment (If dropped off in person this section does not apply):

Carrier Name:

Shipping Container/Cooler In Good Condition?	Y	N	
Custody Seals Intact on Shipping Container?	Y	N	N/A
No. of coolers:	Temperature of Cooler:		In Range? Y N
Custody Seals intact on sample containers?	(Y)	N	N/A
Chain of Custody present?	(Y)	N	
Chain of Custody Signatures & Date/Time correct?	(Y)	N	
Chain of custody agrees with sample labels?	(Y)	N	
Samples in proper containers?	(Y)	N	
Sample containers Intact?	(Y)	N	
Sufficient sample volume for indicated tests?	(Y)	N	
All Samples received within holding times?	(Y)	N	
Temperature Blank present? Record Temp if present.	Y	(N)	Temp:
For water samples- VOAS have zero headspace?	(Y)	N	N/A
Samples received in bottles with proper preservative?	(Y)	N	N/A

pH adjusted - Preservative used: HNO3: HCl: H2SO4: NaOH: ZnOAc:
Supplier: Lot:

For water samples for the analysis of total recoverable metals not digested - pH <2? See attached sheet

Corrective Action Record:

Client Contacted: Date Contacted: Person Contacted:

Contacted by: Regarding:

Comments:

Corrective Action:

North State Labs
CA ELAP#1753
815 Dubuque Avenue • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

Case Narrative

Client: Cameron-Cole, LLC
Project: AC TRANSIT EMERYVILLE
Lab No: 05-0688
Date Received: 05/09/2005 Date reported: 05/18/2005

Three water samples were analyzed for gasoline and diesel range organics by method 8015B, and BTEX and MTBE by method 8021B. QC/QA results met acceptance criteria for the diesel range analysis by 8015B. No MS/MSD were analyzed for diesel due to lack of sample volume supplied; the batch was accepted by and reported with the LCS/LCSD results. The MSD results did not meet acceptance criteria for the analysis of gasoline, BTEX, and MTBE (spiked sample 05-0688-02; the batch was accepted and reported with the LCS/LCSD results. All other analyses were subcontracted to a state certified laboratory.

Erin Cunniffe
Laboratory Director

North State Labs
CA ELAP # 1753
815 Dubuque Avenue • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 05-0688
Client: Cameron-Cole, LLC
Project: AC TRANSIT EMERYVILLE

Date Reported: 05/18/2005

Gasoline,BTEX and MTBE by Methods 8015B/8021B
Diesel Range Hydrocarbons by Method 8015B

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 05-0688-01 Client ID: TB-01				05/09/2005	W
Benzene	SW8020F	ND<0.5	UG/L		05/16/2005
Ethylbenzene	SW8020F	ND<0.5	UG/L		05/16/2005
Methyl-tert-butyl ether	SW8020F	ND<0.5	UG/L		05/16/2005
SUR-a,a,a-Trifluorotoluene	SW8020F	95	PERCENT		05/16/2005
Toluene	SW8020F	ND<0.5	UG/L		05/16/2005
Xylenes	SW8020F	ND<1.0	UG/L		05/16/2005
Sample: 05-0688-02 Client ID: MW-11				05/09/2005	W
Benzene	SW8020F	ND<0.5	UG/L		05/16/2005
Ethylbenzene	SW8020F	ND<0.5	UG/L		05/16/2005
Gasoline Range Organics	SW8020F	ND<50	UG/L		05/16/2005
Methyl-tert-butyl ether	SW8020F	ND<0.5	UG/L		05/16/2005
SUR-a,a,a-Trifluorotoluene	SW8020F	95	PERCENT		05/16/2005
Toluene	SW8020F	ND<0.5	UG/L		05/16/2005
Xylenes	SW8020F	ND<1.0	UG/L		05/16/2005
Diesel Fuel #2	CATFH	ND<0.05	MG/L		05/17/2005
Sample: 05-0688-03 Client ID: MW-12				05/09/2005	W
Benzene	SW8020F	ND<0.5	UG/L		05/16/2005
Ethylbenzene	SW8020F	3.4	UG/L		05/16/2005
Gasoline Range Organics	SW8020F	576	UG/L		05/16/2005
Methyl-tert-butyl ether	SW8020F	**11.1	UG/L		05/16/2005
SUR-a,a,a-Trifluorotoluene	SW8020F	90	PERCENT		05/16/2005

*Does not match diesel pattern;**Confirmed by GC/MS 8260B

North State Labs
CA ELAP # 1753
815 Dubuque Avenue • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 05-0688
Client: Cameron-Cole, LLC
Project: AC TRANSIT EMERYVILLE

Date Reported: 05/18/2005

Gasoline,BTEX and MTBE by Methods 8015B/8021B
Diesel Range Hydrocarbons by Method 8015B

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 05-0688-03 Client ID: MW-12				05/09/2005	W
Toluene	SW8020F	1.5	UG/L		05/16/2005
Xylenes	SW8020F	2.2	UG/L		05/16/2005
Diesel Fuel #2	CATFH	*0.36	MG/L		05/17/2005

*Does not match diesel pattern;**Confirmed by GC/MS 8260B

North State Labs
CA ELAP # 1753
815 Dubuque Avenue • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Quality Control/Quality Assurance

Lab Number: 05-0688
Client: Cameron-Cole, LLC
Project: AC TRANSIT EMERYVILLE

Date Reported: 05/18/2005
Gasoline,BTEX and MTBE by Methods 8015B/8021B
Diesel Range Hydrocarbons by Method 8015B

Analyte	Method	Reporting Limit	Unit	Blank	LCS/LCSD Recovery	RPD
Gasoline Range Organics	SW8020F	50	UG/L	ND	105/106	1
Benzene	SW8020F	0.5	UG/L	ND	81/99	20
Toluene	SW8020F	0.5	UG/L	ND	94/95	1
Ethylbenzene	SW8020F	0.5	UG/L	ND	84/85	1
Xylenes	SW8020F	1.0	UG/L	ND	98/99	1
Methyl-tert-butyl ether	SW8020F	0.5	UG/L	ND	101/96	5
SUR-a,a,a-Trifluorotoluene	SW8020F		PERCENT	95	94/94	0
Diesel Fuel #2	CATFH	0.05	MG/L	ND	104/107	3

ELAP Certificate NO:1753
Reviewed and Approved

Erin Cunniffe, Laboratory Director

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Angie Adams
North State Environmental Labs
815 Dubuque Avenue
South San Francisco, CA 94080

Certificate ID: 43485 - 5/12/2005 12:59:34 AM

Order Number: 43485

Date Received: 5/10/2005 10:58:48 AM
P.O. Number: 05-0688

Project Number: 05-0688

Certificate of Analysis - Final Report

On May 10, 2005, samples were received under chain of custody for analysis. Entech analyzes samples "as received" unless

Matrix	Test	Method	Comments
Liquid	Wet Chemistry	EPA 300.0	

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,

Laurie Glantz-Murphy
Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

North State Environmental Labs
815 Dubuque Avenue
South San Francisco, CA 94080
Attn: Angie Adams

Project ID: 05-0688
Date Received: 5/10/2005
P.O. Number: 05-0688
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab # : 43485-001 **Sample ID:** MW-11 **Matrix:** Liquid **Sample Date:** 5/9/2005 10:55 AM

EPA 300.0

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Nitrate as N	ND		1	0.2	mg/L	N/A	N/A	5/10/2005	WIC050510
Sulfate	36		1	0.5	mg/L	N/A	N/A	5/10/2005	WIC050510

Analyzed by: Equeja
Reviewed by: DQueja

Detection Limit = Detection Limit for Reporting.
DF = Dilution and/or Prep Factor including sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
B = Analyte found in associated Method Blank.

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

North State Environmental Labs
815 Dubuque Avenue
South San Francisco, CA 94080
Attn: Angie Adams

Project ID: 05-0688
Date Received: 5/10/2005
P.O. Number: 05-0688
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab # : 43485-002 **Sample ID: MW-12** **Matrix:** Liquid **Sample Date:** 5/9/2005 11:50 AM

EPA 300.0

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Nitrate as N	ND		1	0.2	mg/L	N/A	N/A	5/10/2005	WIC050510
Sulfate	36		1	0.5	mg/L	N/A	N/A	5/10/2005	WIC050510

Analyzed by: Equeja
Reviewed by: DQueja

Detection Limit = Detection Limit for Reporting.
DF = Dilution and/or Prep Factor including sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
B = Analyte found in associated Method Blank.

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Quality Control - Method Blank
Liquid

QC Batch ID: WIC050510

Validated by: DQueja - 05/11/05

QC Batch ID Analysis Date: 5/10/2005

Method Blank **Method: EPA 300.0**

Parameter	Result	DF	PQLR	Units
Nitrate as N	ND	1	0.20	mg/L
Sulfate	ND	1	0.50	mg/L

Quality Control - Laboratory Control Spike / Duplicate Results
Liquid

QC Batch ID: WIC050510

Reviewed by: DQueja - 05/11/05

QC Batch ID Analysis Date: 5/10/2005

Method: EPA 300.0 **Conc. Units:** mg/L

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Nitrate as N	<0.01	2.3	2.4	LCS	107			75 - 125
Sulfate	<0.06	15	16	LCS	109			75 - 125

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Nitrate as N	<0.01	2.3	2.5	LCSD	112	4.4	25.0	75 - 125
Sulfate	<0.06	15	16	LCSD	110	0.55	25.0	75 - 125

Quality Control - Matrix Spike / Duplicate Results
Liquid

Reviewed by: DQueja - 05/11/05

QC Batch ID: WIC050510

Analysis Date: 5/10/2005

Method EPA 300.0 **Conc. Units: mg/L**

Parameter	Sample Result	Spike Amount	Spike Result	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
MS SampleNumber: 43485-001									
Nitrate as N	ND	4.0	4.02	MS	5/10/2005	100			75 - 125
Sulfate	35.7	20	53.1	MS	5/10/2005	87.0			75 - 125
MSD SampleNumber: 43485-001									
Nitrate as N	ND	4.0	3.97	MSD	5/10/2005	99.3	1.2	25	75 - 125
Sulfate	35.7	20	53.2	MSD	5/10/2005	87.7	0.3	25	75 - 125

CAMERON-COLE

SAMPLING EVENT DATA SHEET

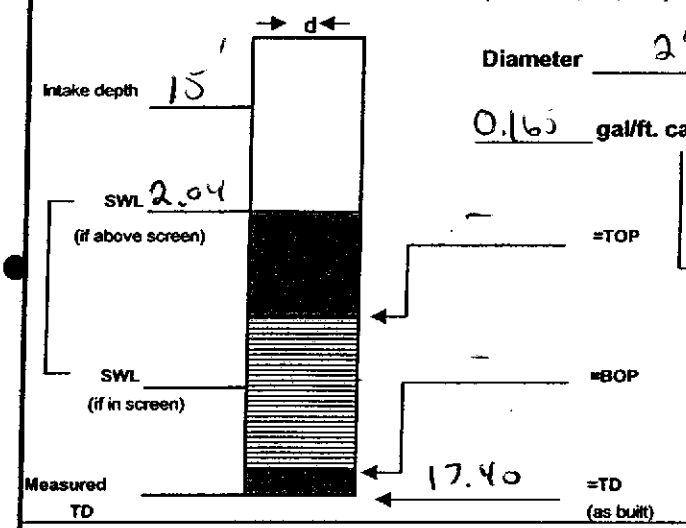
WELL OR LOCATION MU-11

PROJECT Emeryville EVENT Quarterly SAMPLER MW DATE 5/9/05

Well type MU
(MW, EW, PZ, etc.)

Diameter 2"

0.165 gal/ft. casing



ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	1044	0.9	
	1047		2.28
Stop	1049		
Sampled	1055		
Final IWL	1105		2.25

PURGE CALCULATION

0.165 gal/ft. * 15.36 ft. (SWL to TD) = 2.53 gals. (one volume) X 3 = 7.60 gals. (purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Decription of Event:

Cent. Pump to Purge

Actual gallons purged 9

Actual volumes purged 3.56

Well Yield ⊕ HY

COC #

Sample I.D.	Analysis	Lab
MW-11	8021 B	North Jtr
	TPH gas	
	TPH diesel	
	Nitrate	
	Sulfate	

Additional Comments:

Trip Blank collected @ 1030
(TB-01)

	Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other
1.	2	23.2	521	7.87	–	DO = 0.97 mg/L
2.	4	23.6	514	7.80	–	ORP = -047 mV
3.	6	23.4	518	7.84	–	Fe = 0 mg/L
4.						
5.						

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returing later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

CAMERON-COLE

SAMPLING EVENT DATA SHEET

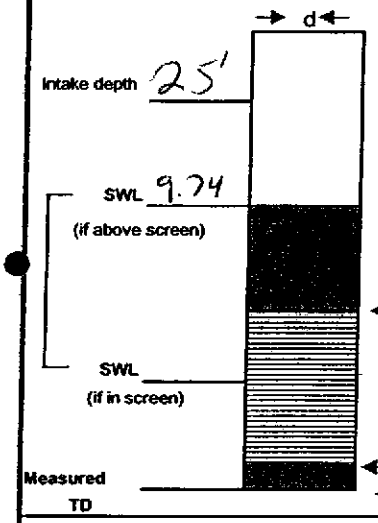
WELL OR LOCATION MW-12

PROJECT Emeryville EVENT Quarterly SAMPLER (SS) AV DATE 5/9/05

Well type MW
(MW, EW, PZ, etc.)

Diameter 2"

0.165 gal/ft. casing



ACTION	TIME	PUMP RATE (gpm)	DTW
Start Pump / Begin	1128	0.78	
	1129	↓	13.32
	1133		14.34
Stop	1142	↓	
Sampled	1150		
Final IWL	1200		9.92

PURGE CALCULATION

0.165 gal/ft. * 20.13 ft. = 3.32 gals. X 3 = 9.96 gals.
(SWL to TD) (one volume) (purge volume - 3 casings)

2" = 0.165 gal/ft. 4" = 0.65 gal/ft. 6" = 1.47 gal/ft.

Equipment Used / Sampling Method / Decription of Event:

Cent. Pump to Purge
Disp. Bailer to Sample

Actual gallons purged 11

Actual volumes purged 3.31

Well Yield ⊕ HY

COC #

Additional Comments:

Sample I.D.	Analysis	Lab
MW-12	8021 B	North State
↓	TPH gas	↓
	TPH diesel	
	Nitrate	
	Sulfate	

Gallons Purged *	Temp °C	EC (us / cm)	pH	Turbidity (NTU)	Other	
1. 2	24.8	658	6.93	-	Fe =	
2. 5	24.1	651	6.90	-	DO = 0.81 mg/L	
3. 8	24.7	656	6.85	-	ORP = -126 mV	
4.						
5.						

*Take measurement at approximately each casing volume purged. ⊕ HY-Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump LY - Able to purge 3 volumes by returing later or next day. VLY - Minimal recharge - unable to purge 3 volumes.