



Alameda-Contra Costa Transit District

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Alameda County
Environmental Health

August 2, 2007

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

Dear Mr. Plunkett:

Subject: Groundwater Monitoring Report – May 2007
AC Transit, 1177 47th Street, Emeryville

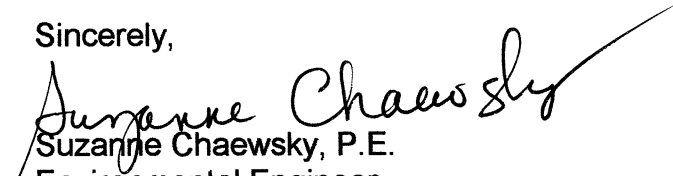
AC Transit hereby submits the enclosed groundwater monitoring report for the AC Transit facility located at 1177 47th Street in Emeryville. The report was prepared by our consultant, Esseltech, and contains the results of groundwater monitoring performed on May 27, 2007, of 15 on-site monitoring wells.

Results of laboratory analyses indicated that gasoline-range hydrocarbons were detected in eight of the 15 wells sampled at concentrations ranging from 140 ppb (MW-8) to 5,200 ppb (MW-6). Diesel-range hydrocarbons were detected in 12 of 15 wells at concentrations ranging from 65 ppb (MW-1) to 2,500 ppb (MW-6). BTEX compounds were detected in wells MW-6 and W-1 at concentrations ranging from 5.1 ppb to 110 ppb.

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

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

Sincerely,


Suzanne Chaewsky, P.E.
Environmental Engineer
enclosure



**GROUND-WATER MONITORING
IN
MAY 2007
ALAMEDA CONTRA COSTA
TRANSIT DISTRICT FACILITY
1177 47TH STREET
EMERYVILLE, CALIFORNIA**

Prepared for

**Alameda Contra Costa Transit District
10626 International Boulevard
Oakland, California 94603**

Prepared by

**Essel Technology Services, Inc.
9778 Broadmoor Drive
San Ramon, California 94583
(925) 833-7977**

Project No. 07-36

June 2007



**GROUND-WATER MONITORING
IN
MAY 2007
ALAMEDA CONTRA COSTA
TRANSIT DISTRICT FACILITY
1177 47TH STREET
EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION

The Alameda Contra Costa Transit District (AC Transit) has contracted with Essel Technology Services, Inc. (Essel Tech) to perform ground-water monitoring and sampling at the AC Transit Division 2 facility in Emeryville, California. This report presents the results of monitoring and sampling performed in May 2007.

1.1 Site Location and Description

The Division 2 facility is located at 1177 47th Street in Emeryville, California and occupies nearly the entire city block that is bounded by 47th Street on the north, 45th Street on the south, San Pablo Avenue on the east, and Doyle Street on the west, as shown on Plate 1. The facility is used for storage and maintenance of AC Transit buses. The primary site feature is a maintenance building that is located in the southwestern portion of the site. Other facilities include a parking garage, a transportation building, and a bus washing structure that are located along the northern property line adjacent to 47th Street; and a tire building, an emergency generator building, a pump station, and storm water treatment facilities that are located at the western edge of the site next to Doyle Street. The site also contains underground storage tanks (USTs). The existing USTs, referred to as Tank Farm No. 1, are located near the northeastern corner of the property and just south of fuel dispenser islands. Former USTs, referred to as Tank Farm No. 2, were located near the center of the property and a short distance east of the present maintenance building. These tanks were removed in 1999. A 550-gallon UST that provides fuel for an emergency generator is located next to the southern side of the emergency generator building.

Sixteen wells used for ground-water monitoring are presently installed at the site. Thirteen of the wells (MW-1 through MW-10, MW-12, MW-13, and W-4) are spaced across the northern half of the site and monitor the ground water near and to the west (approximately downgradient) of Tank Farm No 1 and the fuel dispenser islands. Well MW-12 also serves to monitor the ground water at a location northwest of the 550-gallon emergency generator UST. Three of the 16 wells are located in the southeastern quadrant of the property. Well W-3 is at the eastern edge of the property at a location that is upgradient of Tank Farm No. 1, well W-1 is located approximately 220 feet south of Tank Farm No. 1, and MW-11 is near the southwestern corner of Tank Farm No. 2. Three additional wells, that are not part of the ground-water-monitoring program, are located adjacent to Tank Farm No. 1. These wells are referred to as E-1, E-2, and E-5. Plate 2 is a Site Plan that shows the relative locations of the AC Transit facilities, the 16 ground-water-monitoring wells, and the three additional wells.

2.0 FIELD AND LABORATORY WORK

2.1 Field Procedures

Essel Tech personnel visited the site on May 27, 2007 to measure the water level in the 16 wells, to measure the thickness of any free-phase petroleum product in the wells, and to purge the wells for ground-water sampling. The depths to free-phase petroleum product and the static ground-water surface in each well were measured to the nearest 0.1-foot using an electronic oil-water interface probe. Following water-level measurements, 15 of the 16 wells were purged of water using a submersible pump and discharge hose. Approximately three casing volumes of water were pumped from each well. Field measurements of temperature, pH, electrical conductivity, dissolved oxygen, oxygen reduction potential, and ferrous iron were monitored during pumping. Measurements were recorded on field well purging and sampling forms, which are included in Appendix A.

To minimize the potential for inadvertently introducing contaminants, wells were purged in order from least contaminated to most contaminated using the analytical results from the previous monitoring event. In addition, the purge pump and attached discharge hose were cleaned before use in each well by washing the equipment in a soap solution followed by rinsing twice with clean tap water. Discharge water from well purging was directed into 55-gallon drums, which were then emptied into the maintenance building steam bay.

Essel Tech personnel collected water samples from wells MW-1 through MW-12 and W-1, W-3, and W-4 on May 27, 2007. Downgradient well MW-13 was not sampled because of the presence of free-phase petroleum product in the well. A clean, disposable polyethylene bailer was lowered partly through the air-water interface in each well and retrieved to collect the samples. The retrieved water samples were then slowly transferred from the bailer to clean, 40-milliliter volatile organic analysis (VOA) glass vials containing hydrochloric acid as a preservative and to clean, 1-liter brown glass liter bottles containing sulfuric acid as a preservative. The various containers were filled completely to eliminate air bubbles, sealed with caps, labeled, and placed in ice storage for transport to an analytical laboratory.

2.2 Laboratory Analyses

Essel Tech personnel prepared Chain-of-Custody forms for the ground-water samples collected and these forms accompanied the samples to the laboratory. Copies of the Chain-of-Custody forms are included in Appendix B. The water samples were delivered to McCampbell Analytical, Inc. (McCampbell) in Pittsburg, California for analysis. McCampbell analyzed the samples for total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd) using Environmental Protection Agency (EPA) modified Method 8015C, and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) using EPA Method 8021B.

3.0 RESULTS OF MONITORING AND SAMPLING

3.1 Ground-Water Monitoring

Free-phase petroleum product was measured at 0.03-foot-thick in well MW-6, located near the center of the facility and was measured at 0.45-foot-thick in well MW-13, located at the downgradient edge of the facility. The measured depth to the static ground-water surface in wells ranged from 2.78 to 10.88 feet below the tops of the three well casings on May 27, 2007. Essel Tech used wellhead elevation data and the depth-to-water measurements made on May 27 to calculate the elevation of the ground-water surface in the wells, which varied from 13.63 to 30.73 feet above mean sea level. Water-level measurements show the ground-water surface both rose and fell in wells at the site between the November 2006 and May 2007 monitoring events. The ground-water surface fell from 0.08- to 0.45-foot (average 0.23-foot) in wells MW-2, MW-4, MW-10, MW-12, and W-1 and fell 1.14 and 1.54 feet in wells MW-5 and MW-1, respectively. In contrast, the ground-water surface rose between 0.07- and 0.62-foot (average 0.20-foot) in wells MW-3, MW-6, MW-8, MW-9, MW-11, W-3, and W-4, and rose 1.16 feet in well MW-7. In general, the water level fell in wells located in the eastern, northeastern, and western portions of the site and rose in the central portion of the site. The ground-water surface was lower in May 2007 than in May 2006 in 11 wells located in the eastern and western portions of the site and was higher in May 2007 than in May 2006 in five wells located in the central portion of the site. Based on the range of elevations calculated from water levels measured on May 27, 2007, ground water beneath the site is estimated to flow toward the west at a gradient of 0.024 (2.4 feet vertical distance per 100 feet horizontal distance). Table 1 presents data since November 2005 on product thickness, depth to ground water, and ground-water elevation for the 16 wells. Plate 3 is a contour map of the shallow ground-water surface interpreted from water-level data collected on May 27, 2007.

3.2 Laboratory Analyses

Results of laboratory analyses show gasoline-range hydrocarbons (i.e., TPHg) were detected in eight of the 15 wells sampled. The highest detected concentrations were found in wells MW-6 (5,200 parts per billion [ppb]) and W-1 (4,200 ppb), located near the center of the site. Lower concentrations of TPHg were detected in samples from wells MW-7 (700 ppb), MW-8 (140 ppb), MW-10 (330 ppb), and MW-12 (340 ppb) located in the northwestern portion of the site. In wells MW-5 and W-4, TPHg was not detected during three semiannual monitoring events performed between November 2005 and November 2006, but was found at 140 and 99 ppb in the two respective wells during the latest monitoring event. No TPHg was detected in wells MW-1 through MW-4 (northeastern portion of the site), MW-9, MW-11, or W-3. Concentrations of TPHg were generally higher in May 2007 than in November 2006. The aromatic hydrocarbons BTEX were each detected in wells MW-6 and W-1 during the latest monitoring event at concentrations ranging from 5.1 to 110 ppb. In wells MW-7, MW-9, MW-12, and W-4, trace to very low levels (0.89- to 2.0 ppb) of one or two of the compounds were detected and in other wells at the site, no BTEX was found in water samples. The fuel oxygenate MTBE was not detected in any of the 15 wells sampled during the May 2007 monitoring event. Table 2 presents the cumulative results since November 2005 of analyses of water samples for TPHg, BTEX, and MTBE and Appendix B contains a copy of the laboratory report.

Diesel-range hydrocarbons (i.e., TPHd) were detected in 12 of the 15 wells sampled at concentrations ranging from 65 to 2,500 ppb. The highest concentrations were found in wells MW-6 (2,500 ppb), W-1 (1,200 ppb), and MW-9 (1,000 ppb), located in the central portion of the site. In northeastern

wells MW-1, MW-2, MW-5, and W-4, concentrations of TPHd were 65, 75, 180 ppb, and 180 ppb, respectively; in central wells MW-7, MW-8, MW-10, and MW-11, TPHd was found at 220, 140, 850, and 61 ppb, respectively, and in downgradient, western well MW-12, TPHd was detected at 140 ppb. No TPHd was detected in eastern, upgradient wells MW-3, MW-4, and W-3. The levels of TPHd in wells at the site were both higher and lower relative to levels detected in the wells in November 2006. A notable increase occurred in well MW-9, where 470, 190, and 65 ppb TPHd were detected between November 2005 and November 2006 and 1,000 ppb was found in this well in May 2007. Table 2 presents the cumulative results since November 2005 of analyses of water samples for TPHd and Appendix B contains a copy of the laboratory report.

4.0 RECOMMENDATION

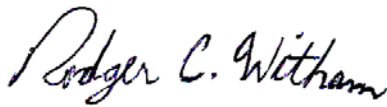
Essel Tech recommends that ground-water monitoring and sampling continue on a quarterly basis. The next sampling event should be scheduled for August 2007 and would include measuring depth to water and product thickness in the 16 ground-water-monitoring wells (MW-1 through MW-13, W-1, W-3, and W-4) and purging and sampling wells MW-11, MW-12, and MW-13 for laboratory analysis.

Please call if you have any questions.

Sincerely;
Essel Technology Services, Inc.



Samhita Lahiri
Project Manager



Rodger C. Witham, P.G., C.E.G
Senior Hydrogeologist

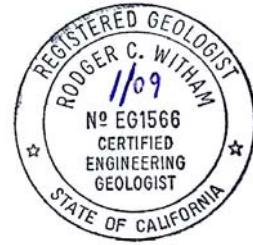


Table 1: Well Monitoring Data

Table 2: Results of Laboratory Analyses of Ground-Water Samples

Plate 1: Site Vicinity Map

Plate 2: Site Plan

Plate 3: Ground-Water-Surface Map

Appendix A: Field Purging and Sampling Forms

Appendix B: Chain-of-Custody Records and Laboratory Report

TABLE 1
WELL MONITORING DATA
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well Number	Date	Top of Casing	Product Thickness	Depth to Ground Water	Ground-Water-Surface Elevation	Ground-Water-Surface Elevation Corrected for Product Thickness#
MW-1	11/02/05	32.56	0.00	5.14	27.42	27.42
	05/28/06	32.56	0.00	4.05	28.51	28.51
	11/12/06	32.56	0.00	3.36	29.20	29.20
	05/27/07	32.56	0.00	4.90	27.66	27.66
MW-2	11/02/05	32.12	0.00	4.65	27.47	27.47
	05/28/06	32.12	0.00	3.55	28.57	28.57
	11/16/06	32.12	0.00	3.6	28.52	28.52
	05/27/07	32.12	0.00	3.73	28.39	28.39
MW-3	11/02/05	34.06	0.00	6.21	27.85	27.85
	05/28/06	34.06	0.00	4.95	29.11	29.11
	11/16/06	34.06	0.00	5.5	28.56	28.56
	05/27/07	34.06	0.00	5.28	28.78	28.78
MW-4	11/02/05	34.11	0.00	6.30	27.81	27.81
	05/28/06	34.11	0.00	5.15	28.96	28.96
	11/16/06	34.11	0.00	5.4	28.71	28.71
	05/27/07	34.11	0.00	5.61	28.50	28.50
MW-5	11/02/05	31.70	0.00	4.55	27.15	27.15
	05/28/06	31.70	0.00	3.62	28.08	28.08
	11/12/06	31.70	0.00	2.5	29.20	29.20
	05/27/07	31.70	0.00	3.64	28.06	28.06
MW-6	11/02/05	31.02	0.00	4.21	26.81	26.81
	05/28/06	31.02	0.00	3.00	28.02	28.02
	11/16/06	31.02	0.00	3.3	27.72	27.72
	05/27/07	31.02	0.03	3.20	27.82	27.84
MW-7	11/02/05	29.62	0.00	5.50	24.12	24.12
	05/28/06	29.62	0.00	4.25	25.37	25.37
	11/16/06	29.62	0.00	5.7	23.92	23.92
	05/27/07	29.62	0.00	4.54	25.08	25.08
MW-8	11/02/05	29.43	0.00	5.05	24.38	24.38
	05/28/06	29.43	0.00	4.95	24.48	24.48
	11/12/06	29.43	0.00	4.7	24.73	24.73
	05/27/07	29.43	0.00	4.08	25.35	25.35
MW-9	11/02/05	29.18	0.00	4.26	24.92	24.92
	05/28/06	29.18	0.00	3.70	25.48	25.48
	11/12/06	29.18	0.00	3.5	25.68	25.68
	05/27/07	29.18	0.00	3.43	25.75	25.75
MW-10	11/02/05	29.13	0.00	9.81	19.32	19.32
	05/28/06	29.13	0.00	9.55	19.58	19.58
	11/16/06				Well not accessible	
	02/24/07	29.13	0.00	9.0	20.13	20.13
	05/27/07	29.13	0.00	9.45	19.68	19.68
MW-11	11/02/05	29.93	0.00	4.30	25.63	25.63
	02/22/06	29.93	0.00	2.50	27.43	27.43
	05/28/06	29.93	0.00	2.85	27.08	27.08
	08/27/06	29.93	0.00	3.00	26.93	26.93
	11/12/06	29.93	0.00	3.02	26.91	26.91
	02/24/07	29.93	0.00	2.15	27.78	27.78
	05/27/07	29.93	0.00	2.78	27.15	27.15

See notes on page 2 of 2.

TABLE 1
WELL MONITORING DATA
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well Number	Date	Top of Casing	Product Thickness	Depth to Ground Water	Ground-Water-Surface Elevation	Ground-Water-Surface Elevation Corrected for Product Thickness#
MW-12	11/02/05	28.68	0.00	10.76	17.92	17.92
	02/22/06	28.68	0.00	10.50	18.18	18.18
	05/28/06	28.68	0.00	10.82	17.86	17.86
	08/27/06	28.68	0.00	10.50	18.18	18.18
	11/16/06	28.68	0.00	10.8	17.88	17.88
	02/24/07	28.68	0.00	10.3	18.38	18.38
	05/27/07	28.68	0.00	10.88	17.80	17.80
MW-13	11/02/05	22.72	0.063	9.10	13.62	13.67
	02/22/06	22.72	0.167	NM	NM	NM
	05/28/06	22.72	NM	NM	NM	NM
	11/16/06	22.72	0.017	NM	NM	NM
	05/27/07	22.72	0.45	9.45	13.27	13.63
W-1	11/02/05	33.43	0.00	6.59	26.84	26.84
	05/28/06	33.43	0.00	5.15	28.28	28.28
	11/16/06	33.43	0.00	5.5	27.93	27.93
	05/27/07	33.43	0.00	5.80	27.63	27.63
W-3	11/02/05	37.46	0.00	8.24	29.22	29.22
	05/28/06	37.46	0.00	6.32	31.14	31.14
	11/16/06	37.46	0.00	6.8	30.66	30.66
	05/27/07	37.46	0.00	6.73	30.73	30.73
W-4	11/02/05	31.72	0.00	4.70	27.02	27.02
	05/28/06	31.72	0.00	4.50	27.22	27.22
	11/16/06	31.72	0.00	3.9	27.82	27.82
	05/27/07	31.72	0.00	3.82	27.90	27.90

Top of casing in feet above mean sea level.

Product thickness in feet.

Depth to ground water in feet below the top of the well casing.

Ground-water surface elevation in feet above mean sea level.

NM = not measured

#Multiply product thickness by specific gravity of 0.8 and add to ground-water surface elevation.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-1	11/03/05	<50	70	NA	<0.5	<0.5	<0.5	<0.5	4.5	<100	56,000	2,330	0
	5/29/06	<50	89	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	5,400	0
	11/12/06	<50	65	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	6,520	0
	5/27/07	<50	65	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	50	1,280
MW-2	11/03/05	<50	110	NA	<0.5	<0.5	<0.5	<0.5	4.9	430	53,000	2,090	130
	5/29/06	<50	70	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	6,800	60
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	8,300	10
	5/27/07	<50	75	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	90	1,540
MW-3	11/03/05	<50	180	NA	<0.5	<0.5	<0.5	<0.5	3.2	3,500	67,000	1,850	0
	5/29/06	<50	180	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,600	0
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	360	630
	5/27/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	100	1,480
MW-4	11/03/05	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	4.1	3,500	67,000	1,860	60
	5/29/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,900	0
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	1,500	1,060
	5/27/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	400	1,360
MW-5	11/03/05	<50	1,500	NA	<0.5	<0.5	<0.5	<0.5	5.7	<100	62,000	1,930	150
	5/29/06	<50	200	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,900	40
	11/12/06	<50	130	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,500	2,170
	5/27/07	140	180	NA	<0.5	<0.5	<0.5	<0.5	<10	NA	NA	220	1,350
MW-6	11/03/05	750	2,000	NA	13	1.9	2.9	4.6	1.4	<100	16,000	1,570	3,300
	5/29/06	2,700	12,000	NA	55	5.7	16	26	<15	NA	NA	4,900	20
	11/16/06	530	2,100	NA	12	0.82	0.58	2.8	<5.0	NA	NA	3,600	2,370
	5/27/07	5,200	2,500	NA	110	5.1	23	17	<60	NA	NA	50	3,300
MW-7	11/03/05	310	140	NA	<0.5	<0.5	<0.5	<0.5	2.3	<100	3,100	3,190	30
	5/29/06	260	120	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	Anomalous	60
	11/12/06	120	96	NA	<0.5	<0.5	<0.5	0.76	<5.0	NA	NA	1,100	23
	5/27/07	700	220	NA	<0.5	<0.5	1.0	2.0	<5.0	NA	NA	170	1,090
MW-8	11/03/05	150	280	NA	<0.5	<0.5	<0.5	<0.5	0.69	<100	24,000	1,630	860
	5/29/06	<50	150	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	8,300	40
	11/12/06	95	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	3,810	860
	5/27/07	140	140	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	390	1,770

See notes on page 3 of 3.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-9	11/03/05	<50	470	NA	<0.5	<0.5	<0.5	<0.5	4.8	110	28,000	1,720	450
	5/29/06	<50	190	NA	<0.5	<0.5	<0.5	<0.5	5.2	NA	NA	8,600	0
	11/12/06	<50	65	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	2,470	570
	5/27/07	<50	1,000	NA	<0.5	0.92	<0.5	<0.5	<5.0	NA	NA	290	1,140
MW-10	11/03/05	300	600	NA	<0.5	<0.5	<0.5	<0.5	4.1	<100	780	2,350	2,670
	5/29/06	140	540	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	5,600	10
	11/16/06	Well Not Accessible											
	2/24/07	190	970	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	3,460	1,060
	5/27/07	330	850	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	150	2,530
MW-11	11/03/05	<50	290	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<100	21,000	1,360	0
	02/22/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<100	27,000	100	0
	5/29/06	<50	250	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	6,000	100
	8/27/06	<50	57	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	100	0
	11/12/06	<50	56	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	2,810	0
	2/24/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	950	0
	5/27/07	<50	61	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	40	1,170
	MW-12	11/03/05	440	120	NA	<0.5	<0.5	<0.5	<0.5	6.6	<100	3,700	1,700
02/22/06		400	140	NA	<0.5	<0.5	<0.5	<0.5	7.8	<100	7,600	90	NM
5/29/06		310	140	NA	<0.5	<0.5	<0.5	<0.5	5.7	NA	NA	7,200	10
8/27/06		530	120	NA	<0.5	<0.5	<0.5	<0.5	6.6	NA	NA	90	720
11/16/06		740	200	NA	<0.5	2.1	<0.5	6.3	<10	NM	NM	3,700	680
2/24/07		200	87	NA	<0.5	<0.5	<0.5	<0.5	<10	NA	NA	750	310
5/27/07		340	140	NA	<0.5	<0.5	1.4	1.8	<10	NA	NA	130	1,610
MW-13		11/03/05	Not sampled - free-phase product in well										
	02/22/06	Not sampled - free-phase product in well											
	5/29/06	Not sampled - free-phase product in well											
	11/16/06	Not sampled - free-phase product in well											
	5/27/07	Not sampled - free-phase product in well											

See notes on page 3 of 3.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda Contra Costa Transit District Facility
1177 47th Street, Emeryville, California

Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
W-1	11/03/05	6,200	2,400	NA	7.2	3.6	5.7	20	0.73	140	1,300	1,230	3,300
	5/29/06	4,600	1,700	NA	18	4.4	17	32	<17	NM	NM	4,500	60
	11/16/06	2,600	760	NA	18	3.7	10	19	<10	NA	NA	5,400	2,010
	5/27/07	4,200	1,200	NA	20	34	12	17	<45	NA	NA	60	2,050
W-3	11/03/05	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	1.2	3,700	51,000	2,170	0
	5/29/06	<50	240	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NM	NM	Anomalous	50
	11/16/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	3,900	2,140
	5/27/07	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	70	1,130
W-4	11/03/05	<50	66	NA	<0.5	<0.5	<0.5	<0.5	2.0	<100	32,000	1,620	970
	5/29/06	<50	110	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NM	NM	NM	NM
	11/16/06	<50	72	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	4,500	1,750
	5/27/07	99	180	NA	0.89	<0.5	<0.5	<0.5	<5.0	NA	NA	70	2,770

Results are in micrograms per liter = parts per billion; detectable results are shaded.

TPHg = total petroleum hydrocarbons as gasoline

TPHd = total petroleum hydrocarbons as diesel

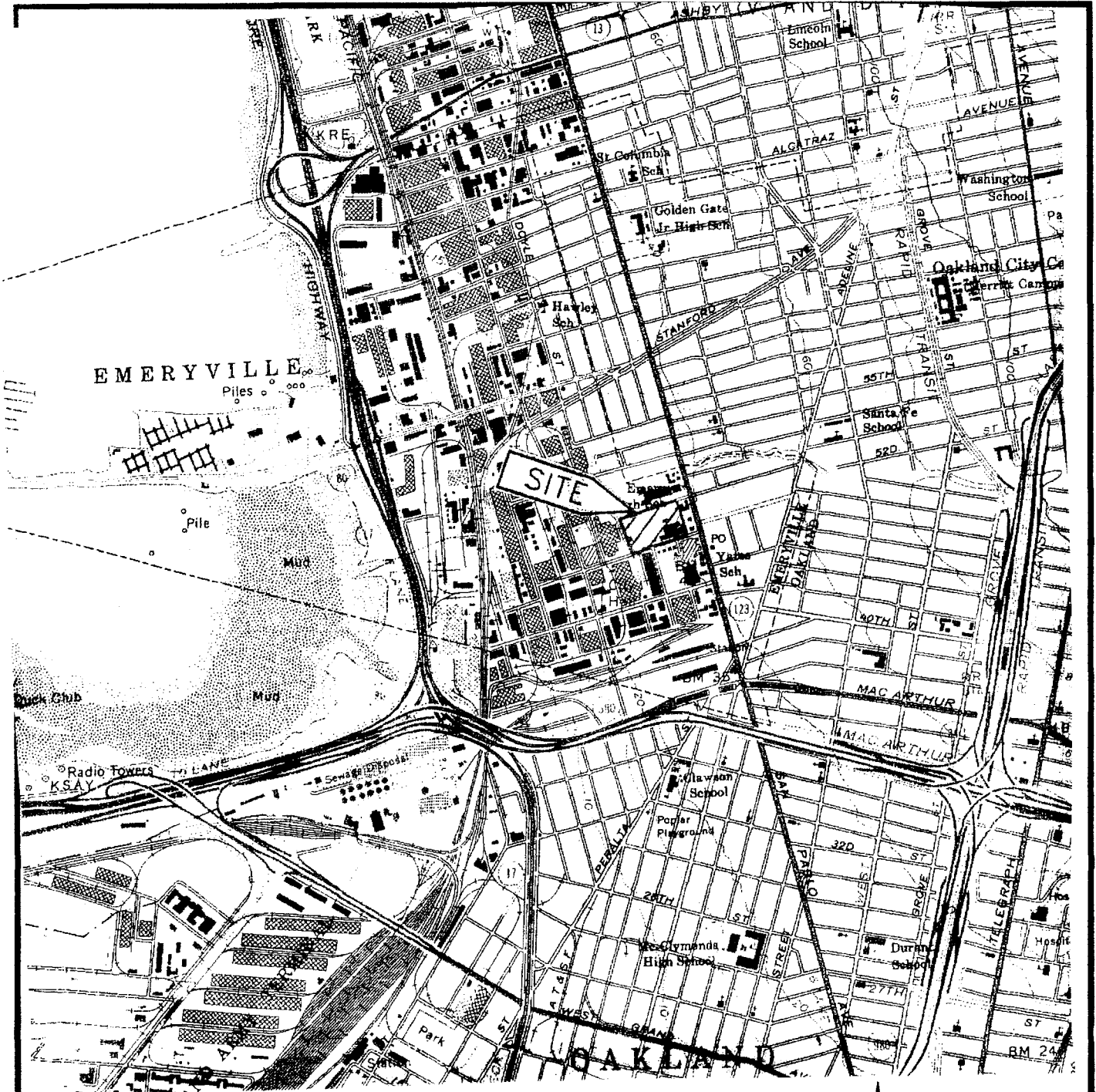
TPH = total petroleum hydrocarbons as motor oil or unknown hydrocarbon

MTBE = methyl tertiary butyl ether

NA = not analyzed

NM = not measured

< = less than the laboratory method detection limit

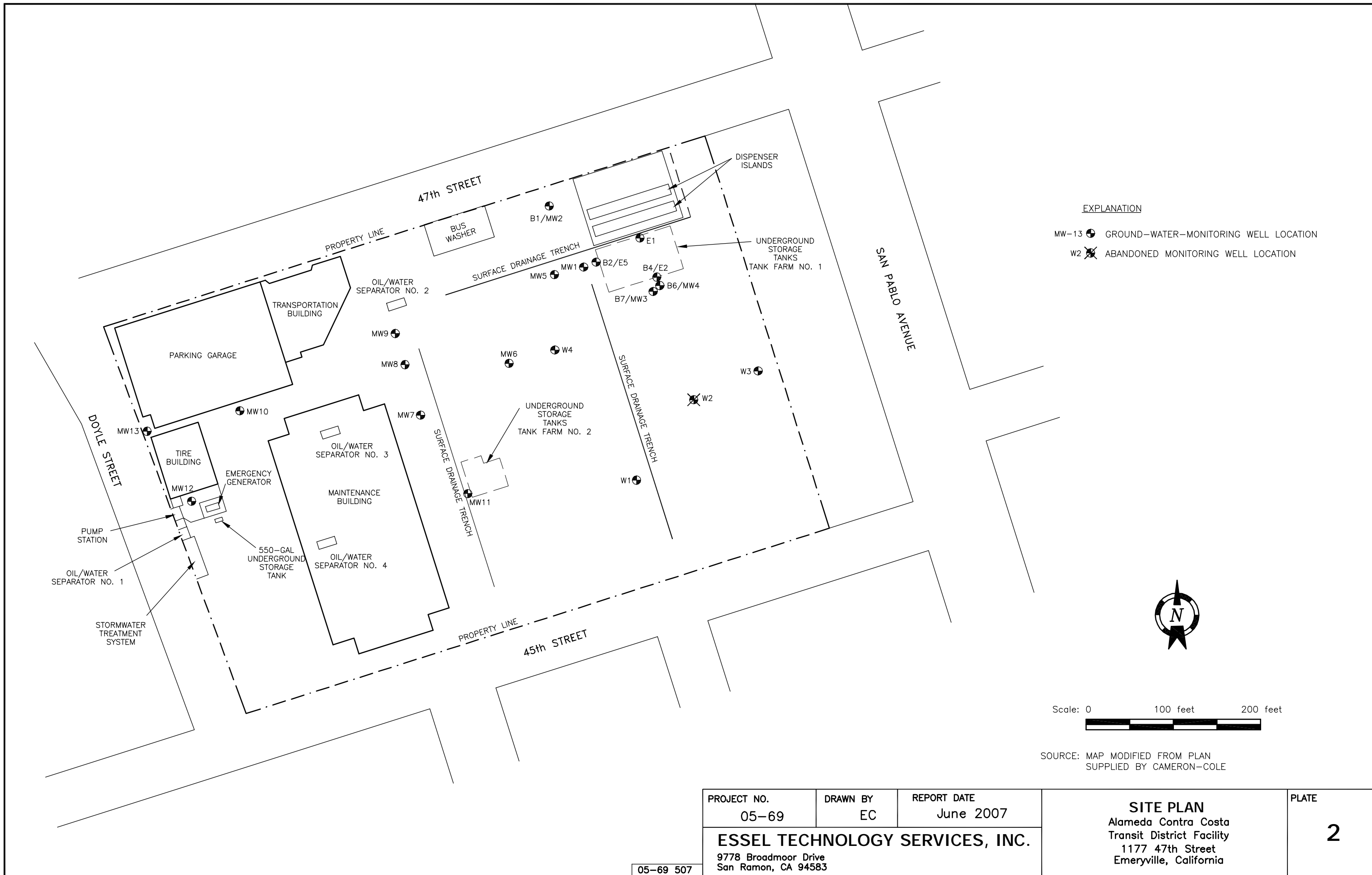


Scale: 0 2000 feet 4000 feet



Source: USGS 7 1/2-Minute Quadrangle,
Oakland West, California, Photorevised 1980.

PROJECT NO. 05-69	DRAWN BY EC	REPORT DATE June 2007	SITE VICINITY MAP Alameda Contra Costa Transit District Facility 1177 47th Street Emeryville, California	PLATE <div style="text-align: center; font-size: 2em; font-weight: bold;">1</div>
ESSEL TECHNOLOGY SERVICES, INC. 9778 Broadmoor Drive San Ramon, CA 94583				



EXPLANATION

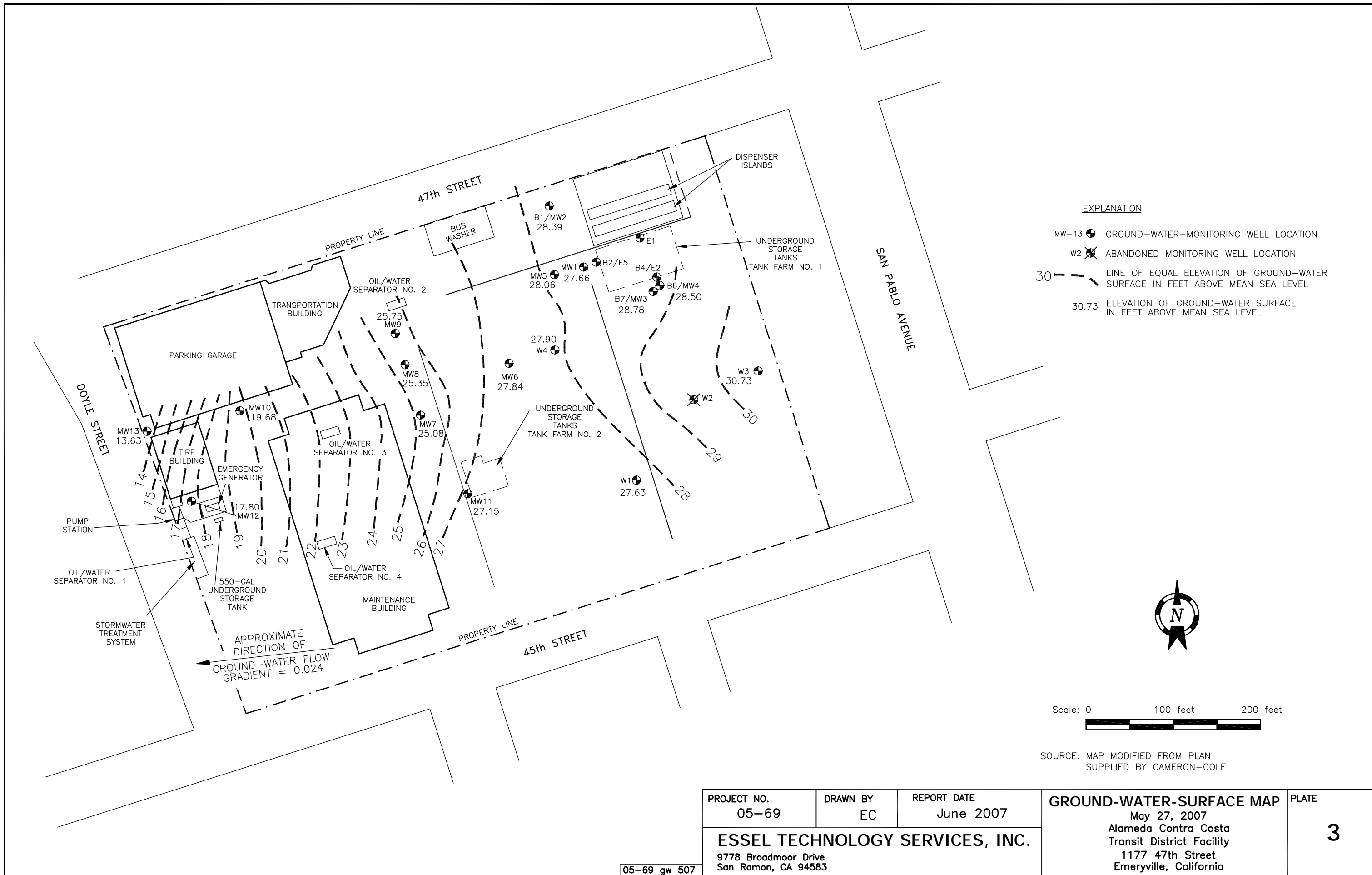
- MW-13 GROUND-WATER-MONITORING WELL LOCATION
- W2 ABANDONED MONITORING WELL LOCATION



SOURCE: MAP MODIFIED FROM PLAN
SUPPLIED BY CAMERON-COLE

PROJECT NO. 05-69	DRAWN BY EC	REPORT DATE June 2007	SITE PLAN Alameda Contra Costa Transit District Facility 1177 47th Street Emeryville, California	PLATE 2
ESSEL TECHNOLOGY SERVICES, INC. 9778 Broadmoor Drive San Ramon, CA 94583				

05-69 507



EXPLANATION

- MW-13 ● GROUND-WATER-MONITORING WELL LOCATION
- W2 ✕ ABANDONED MONITORING WELL LOCATION
- 30 - - - LINE OF EQUAL ELEVATION OF GROUND-WATER SURFACE IN FEET ABOVE MEAN SEA LEVEL
- 30.73 ELEVATION OF GROUND-WATER SURFACE IN FEET ABOVE MEAN SEA LEVEL



Scale: 0 100 feet 200 feet

SOURCE: MAP MODIFIED FROM PLAN SUPPLIED BY CAMERON-COLE

PROJECT NO. 05-69	DRAWN BY EC	REPORT DATE June 2007	GROUND-WATER-SURFACE MAP May 27, 2007 Alameda Contra Costa Transit District Facility 1177 47th Street Emeryville, California	PLATE 3
ESSEL TECHNOLOGY SERVICES, INC. 9778 Broadmoor Drive San Ramon, CA 94583				

APPENDIX A
FIELD PURGING AND SAMPLING FORMS

Job Name: AC Transit – Emeryville

Well Number: M W 1

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 14.53 ^{14.53}	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.9 ^{4.90}	<input checked="" type="checkbox"/> Pump
Purge Volume Calculation $(14.53) - (4.9) \times 3 \times .17 = 4.91$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	20.94	529	0.56	7.09	50.1	1		
	20.99	534	0.25	7.14	53.6	2		
	20.78	537	0.17	7.14	54.6	3		
	20.52	537	0.09	7.13	51.8	4		
	20.37	528	0.05	7.12	48.2	5	1.28	9.63 ft

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Initially thick white dust water then clean water

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay Bus Working

Well Sampling Date: 5/27/07

Time: 1655

Job Name: AC Transit – Emeryville

Well Number: MW 2

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 14 ft <u>14.62'</u> ^{6 2/10"}	<input checked="" type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 3 ft <u>3.73'</u> ^{7 3/10"}	<input type="checkbox"/> Pump
Purge Volume Calculation <u>3.73'</u> $(14.62) - (3.73) \times 3 \times 1.7 = 5.55$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	

Explanation

For 2" diameter well: V=3, F=.17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	19.84	449	2.49	7.10	197	1		
	20.82	427	0.94	7.04	180	2		
	20.81	464	0.44	7.03	170.2	3	1.54	10.89 ft
	20.55	475	0.09	7.05	132.2	4		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Semi-transparent color. No odor

Discharge water disposal: Sanitary sewer Storm drain Drum Other Stream Bay / Base Washings

Well Sampling Date: 5/27/07

Time: 16:35

Job Name: AC Transit – Emeryville

Well Number: M W 3

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 14.8 ⁶⁵ / ₁₀ 14.65	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 5.2 ⁸ / ₁₀ 5.28	<input type="checkbox"/> Pump
Purge Volume Calculation $(14.65) - (5.28) \times 3 \times .17 = 4.77$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	20.60	575	2.39	6.66	140.2	1		
	22.15	638	0.31	6.84	130.7	2		
	21.76	641	0.21	6.85	130.4	3	1.48	9.37 ft.
	21.59	639	0.16	6.87	129.6	4		
	21.36	611	0.10	6.88	127.6			

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Semi-dark, No odor

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay / Beach Washing

Well Sampling Date: 5/27/07

Time: 1550

Job Name: AC Transit - Emeryville

Well Number: MW 4

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet <u>11.69</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet <u>5.61</u>	<input type="checkbox"/> Pump
Purge Volume Calculation $(11.69) - (5.61) \times 3 \times .17 = 3.1$ gallons $(TD) - (DTW) \times V \times F = \text{Purge Volume}$	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other

Explanation

For 2" diameter well: V=3, F=.17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	20.18	534	2.67	6.83	169.5	1		
	21.93	595	0.31	6.81	161.5	2		
	21.62	611	0.10	6.83	156.0	3	1.36	6.08 ft
	21.34	592	0.40	6.82	151.8	4		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Semi-clear / No odor

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay / Bus Wash

Well Sampling Date: 5/27/07

Time: 1615

Job Name: AC Transit – Emeryville

Well Number: M W 5

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 19.5 ^{19.58} _{19.58}	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 3.64 ^{3.64} _{3.64}	<input type="checkbox"/> Pump
Purge Volume Calculation $(19.58 - 3.64) \times 3 \times .17 = 8.12$ gallons (TD) - (DTW) x V x F = Purge Volume	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	20.17	496	1.27	7.03	46.5	1		
	20.24	436	0.51	7.09	-9.0	2		
	20.23	479	0.57	7.15	-14.6	3		
	20.25	497	0.39	7.15	-5.5	4	1.35	15.94 ft
	20.26	519	0.22	7.14	-0.2	4.5		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Dark water color / no odor

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay Wash

Well Sampling Date: 5/27/07

Time: 1715

Job Name: AC Transit - ~~Emeryville~~ ^{Emeryville}

Well Number: MW-6

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet <u>19.70 ft</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
<i>Oil Product: 3.17 ft</i> Depth to water (DTW) in Feet <u>3.20 ft</u>	<input type="checkbox"/> Pump
Purge Volume Calculation $(19.70) - (3.20) \times 3 \times .17 = 8.42$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	<input type="checkbox"/> Bladder <input type="checkbox"/> Other
Explanation	
For 2" diameter well: V=3, F=.17gallon/foot	V= well volume F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
1228	20.66	724	.91	6.94	-94.8	1		
	20.87	741	.22	7.02	-107.1	2		
	20.88	744	.14	7.04	-110.1	3		
	20.88	754	.08	7.06	-115.1	4		
	20.88	761	.06	7.07	-118.7	5		
	20.89	764	.05	7.07	-120.1	6		
	20.89	765	.05	7.07	-120.8	7		
	20.88	767	.05	7.07	-122.0	8	0.2	16.50 ft
							3.3	

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Dark ; Gasoline odor

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bag / [Signature]

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville

Well Number: MW-7

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet <u>20.59 ft</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet <u>4.54 ft</u>	<input type="checkbox"/> Pump
Purge Volume Calculation $(20.59) - (4.54) \times 3 \times .17 = 8.18$ gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
Explanation	
For 2" diameter well: V=3, F= .17gallon/foot	V= well volume F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	18.53	735	3.92	6.6	57.1	1		
	19.97	483	1.72	6.7	47.1	3		
	19.68	779	0.64	6.73	6.3	5	1.28	
	19.83	794	.31	6.74	20.9	6	1.09	16.05 ft
	19.90	797	.21	6.74	34.9	7		
	19.97	797	.17	6.73	32.2	8		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Semi-clear / No odor

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay / Bin Washing

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville

Well Number: NW-8

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet <u>20.60</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet <u>4.08</u>	<input type="checkbox"/> Pump
Purge Volume Calculation $(20.60) - (4.08) \times \frac{3}{4} \times .17 = 9.45$ gallons (TD) - (DTW) x V x F = Purge Volume	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume
F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
10:26 AM	19.91	765	1.02	6.99	-5.5	0.5		
	19.95	734	0.50	6.97	-3.0	1.0		
	20.20	739	0.43	6.93	0.5	2.0		
	19.64	806	0.17	6.99	6.3	4.0	0.2	
	19.61	804	.36	6.98	30.4	6.0	1.77	16.58 ft
	19.61	803	0.41	6.97	37.4	7.0		
10:35	19.61	801	.39	6.95	39.4	2.5		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Semi-clear / Non specific odor to clear

Discharge water disposal: Sanitary sewer Storm drain Drum Other Stream Bay

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville - Well Number: MW-9

Job Number: 0568-May 07 Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet <u>11.53 ft</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet <u>3.43 ft</u>	<input type="checkbox"/> Pump
Purge Volume Calculation $(11.53) - (3.43) \times 3 \times .17 = 4.13$ gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
Explanation	
For 2" diameter well: V=3, F= .17gallon/foot	V= well volume F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
10:05 AM	19.60	454	5.08	7.14	-46.3	2		
10:09 AM	19.63	722	0.24	6.96	-75.3	3		
10:10 AM	19.63	805	0.29	6.95	-56.3	4	1.14	13.10 ft

Total gallons pumped:
 Observations during purging (well condition, turbidity, color, odor etc.)
Color Black, Non specific odor

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam by

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville

Well Number: M W 10

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 24.5 ^{24.16}	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 9.45 ^{9.45}	<input type="checkbox"/> Pump
Purge Volume Calculation (<u>24.16</u>) - (<u>9.45</u>) x <u>3</u> x <u>.17</u> = <u>750</u> gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
(TD) - (DTW) x V x F = Purge Volume	

Explanation

For 2" diameter well: V=3, F=.17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
1140	18.08	549	1.33	7.21	-72.6	1		
	18.12	552	.29	7.3	-90.1	2		
	18.09	550	.28	7.27	-87.8	3		
	18.09	550	.25	7.24	-85.5	4		
	18.10	554	.18	7.24	-85.4	5		
	18.11	554	.17	7.23	-85.4	6	0.7	147.1
	18.11	555	.15	7.23	-85.3		2.53	

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Dark turbid;

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay *[Signature]*

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville

Well Number: M W 11

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 47.21 4.05 m 17.40	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 2.71 7.85 m 2.78	<input type="checkbox"/> Pump
Purge Volume Calculation 2.78 $(17.40) - (2.78) \times 3 \times .17 = 7.46$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	

Explanation

For 2" diameter well: V=3, F=.17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
11:00	20.95	537	.37	7.42	30.0	1		
	21.00	537	.09	7.51	-5.6	3		
	21.06	535	.06	7.54	-14.5	4		
	21.07	534	.05	7.54	-16.9	5		
	21.08	534	.05	7.54	-17.7	6		
	21.09	533	.04	7.53	-18.1	7	9.7 1.17	14.62 ft

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Clear; No odor observed

Discharge water disposal: Sanitary sewer Storm drain Drum Other Stream Bay / Stream

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville

Well Number: M W 12

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 29.92 ^{10.88} <u>29.92</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 10.11 ^{10.88} <u>8.75</u>	<input type="checkbox"/> Pump
Purge Volume Calculation (<u>29.92</u>) - (<u>10.88</u>) x <u>3</u> x <u>.17</u> = <u>9.71</u> gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
(TD) - (DTW) x V x F = Purge Volume	

Explanation

For 2" diameter well: V=3, F=.17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
1205	18.97	704	.59	6.94	-18.0	1		
	19.08	708	.25	6.97	-20.9	2		
	19.10	706	.22	6.96	-21.9	3		
	19.12	705	.19	6.96	-22.5	5		
	19.17	700	.12	6.94	-24.0	6		
	19.19	698.615	.12	6.93	-24.4	7	4.0	19.04 ft.
	19.23	692	.14	6.92	-23.8	8	1.61	
	19.23	692	.13	6.92	-23.5	9		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

water is cloudy; non specific odor observed

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay / Ground Well

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville

Well Number: MW 13

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

9.0'	- Top level Cont
9.45'	- B.P B1/2

Purge Volume	<u>22.10</u>	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>		<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet <u>22.10 ft</u>		<input type="checkbox"/> Bail Bailer Type: Disposable
Product thickness: <u>9.00' → .45 ft</u>		<input checked="" type="checkbox"/> Pump
Depth to water (DTW) in Feet <u>9.45 ft</u>		
Purge Volume Calculation		
() - () x x = gallons		Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge
(TD) - (DTW) x V x F = Purge Volume		<input type="checkbox"/> Bladder <input type="checkbox"/> Other

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
								<u>12.65'</u>

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Only water level needed to be measured - hence
water level at 12.65 ft.
Product thickness of .45 ft also measured

Discharge water disposal: Sanitary sewer Storm drain Drum Other _____

Well Sampling Date: 5/27/07

Time:

Job Name: AC Transit – Emeryville

Well Number: W1

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 16.8 <u>16.80</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 5.8 <u>5.80</u>	<input checked="" type="checkbox"/> Pump
Purge Volume Calculation <u>5.80</u> $(16.8) - (5.8) \times 3 \times .17 = 5.61$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	19.45	660	4.29	6.73	-54.5	1		
	20.06	711	.50	6.94	-100.9	2		
	20.16	712	0.13	7.01	-110.3	3		
	20.18	712	0.08	7.03	-113.2	4	1.10 2.05	11.00ft
	20.19	712	0.06	7.04	-115.3	5		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Initially clean water / NO odor
but then dark

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Bay / DW Washing

Well Sampling Date: 5/27/07

Time: 1510

Job Name: AC Transit – Emeryville

Well Number: W 3

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet 28 ft <u>6 8/10</u> <u>28.68'</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 6 ft <u>7 3/10</u>	<input type="checkbox"/> Pump
Purge Volume Calculation <u>6.73'</u> $(28.6) - (6.73) \times 3 \times .17 = 11.15$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge <input type="checkbox"/> Bladder <input type="checkbox"/> Other
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	

Explanation

For 2" diameter well: V=3, F= .17gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	20.82	328	0.60	6.76	6.7	1		
	21.17	338	0.19	6.87	4.3	3		
	21.10	377	0.07	6.82	23.3	5	1.13	21.37 ft.
	21.09	409	0.04	6.86	62.3	7		
	21.11	422	0.05	6.86	71.9	9		
	21.12	435	0.07	6.85	74.5	11		
	?							

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

*Water dark in color
No odor*

Discharge water disposal: Sanitary sewer Storm drain Drum Other Steam Ganga Sanitation

Well Sampling Date: 5/27/07

Time: 1530

Job Name: AC Transit – Emeryville

Well Number: W-4

Job Number: 0568-May 07

Date: 5/27/07

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch <input checked="" type="checkbox"/> 4 inch <input type="checkbox"/> Other <input type="checkbox"/>	<input type="checkbox"/> Swab <input type="checkbox"/> Surge <input type="checkbox"/> Other _____
Total Depth (TD) of casing in Feet <u>16.92ft</u>	<input type="checkbox"/> Bail Bailer Type: Disposable
Depth to water (DTW) in Feet <u>3.82ft</u> 4.82ft	<input type="checkbox"/> Pump
Purge Volume Calculation $(16.92) - (3.82) \times 3 \times .17 = 6.68$ gallons	Pump type: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifuge
$(TD) - (DTW) \times V \times F = \text{Purge Volume}$	<input type="checkbox"/> Bladder <input type="checkbox"/> Other
Explanation	
For 2" diameter well: V=3, F=.17gallon/foot	V= well volume F= gallon of water per foot of casing

Field Parameters								
Time AM PM	Temperature °C	Conductivity µS/cm	DO (mg/L)	pH	ORP	Gallons Pumped	Fe mg/L	Water Level (TD-DTW)
	20.88	801	.35	7.00	-31.0	1		
	20.99	807	.21	7.02	-32.8	2		
	20.95	804	.16	7.02	-35.8	3		
	20.84	798	.12	7.02	-39.4	4		
	20.80	793	.09	7.02	-40.4	5		
	20.74	786	.07	7.02	-41.1	6		
	20.74	785	.07	7.02	-41.5	7		

Total gallons pumped:

Observations during purging (well condition, turbidity, color, odor etc.)

Cloudy;

Discharge water disposal: Sanitary sewer Storm drain Drum Other

Steam Bay / BioWork

Well Sampling Date: 5/27/07

Time:

APPENDIX B

CHAIN-OF-CUSTODY RECORDS AND LABORATORY REPORT



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94583	Client Project ID: #0568-May 07; AC Transit Emeryville	Date Sampled: 05/27/07
		Date Received: 05/29/07
	Client Contact: Samhita Lahiri	Date Reported: 06/06/07
	Client P.O.:	Date Completed: 06/06/07

WorkOrder: 0705693

June 06, 2007

Dear Samhita:

Enclosed are:

- 1). the results of **15** analyzed samples from your **#0568-May 07; AC Transit Emeryville project,**
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

0705693

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McCAMPBELL ANALYTICAL, INC.
 1534 WILLOW PASS ROAD
 PITTSBURG, CA 94565-1701
 Website: www.mccampbell.com Email: main@mccampbell.com
 Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
 GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Samhita Lahiri Bill To: FTS
 Company: Essei Technology Services
 E-Mail: Essei Tek Services@106.com
 Tele: (925) 510-206-0270 Fax: (925) 833-7977
 Project #: 0568-May07 Project Name: Achromat
 Project Location: Emeryville
 Sampler Signature: Slahm

Analysis Request										Other	Comments	
BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE												Filter Samples for Metals analysis: Yes / No
TPH as Diesel (8015)												
Total Petroleum Oil & Grease (1664 / 5520 E/B&F)												
Total Petroleum Hydrocarbons (418.1)												
EPA 502.2 / 601 / 8010 / 8021 (BVOCs)												
MTBE / BTEX ONLY (EPA 602 / 8021)												
EPA 805 / 608 / 8081 (CI Pesticides)												
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners												
EPA 807 / 8141 (NP Pesticides)												
EPA 515 / 8151 (Acidic CI Herbicides)												
EPA 524.2 / 624 / 8260 (VOCs)												
EPA 525.2 / 625 / 8270 (SVOCs)												
EPA 8270 SIM / 8310 (PAHs / PNA's)												
CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)												
LUFF 5 Metals (200.7 / 200.8 / 6010 / 6020)												
Lead (200.7 / 200.8 / 6010 / 6020)												

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SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED								
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other					
MW 9-1	MW 9	5-27-07	12:10	1	TPHO														
MW 9-2	MW 9	5-27-07	12:11	1	VOA														
MW 9-3	MW 9	5-27-07	12:12	1	VOA														
MW 9-4	MW 9	5/27/07	12:13	1	VOA														
MW 8-5	MW 8	5/27/07	12:41		VOA														
MW 8-6	MW 8	5/27/07	12:42		VOA														
MW 8-7	MW 8	5/27/07	12:43		TPHO														
MW 8-8	MW 8	5/27/07	12:44		VOA														
MW 7-9	MW 7		1:27		TPHO														
MW 7-10	MW 7		1:27		VOA														
MW 7-11	MW 7		1:27		VOA														
MW 7-12	MW 7		1:27		VOA														
MW 11-13	MW 11		1:42		TPHO														
MW 11-14	MW 11		1:42		VOA														

Relinquished By: [Signature] Date: 5/29/07 Time: 12:10 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE# 4.8
 GOOD CONDITION
 HEAD SPACE ABSENT
 DECHLORINATED IN LAB
 APPROPRIATE CONTAINERS
 PRESERVED IN LAB
 COMMENTS:
 VOAS O&G METALS OTHER
 PRESERVATION pH < 2



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 1534 WILLOW PASS ROAD
 PITTSBURG, CA 94565-1701
 Website: www.mccampbell.com Email: main@mccampbell.com
 Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
GeoTracker EDF **PDF** **Excel** **Write On (DW)**
 Check if sample is effluent and "J" flag is required

Report To: Samhita Lohari **Bill To:** ETS Inc
Company: Essel Technology Services
E-Mail: Essel Tek Services/9000
Tele: (510) 206 0270 **Fax:** (925) 833-7991
Project #: 0568 **Project Name:** AC Transit
Project Location: Emeryville
Sampler Signature: S. Sahni

Analysis Request										Other	Comments
											Filter Samples for Metals analysis: Yes / No

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SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED			
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other
MW 11 - 15	MW 11	5/27/07	1:42		VOA									
MW 11 - 16	MW 11		1:42		VOA									
MW 10 - 17	MW 10		2:10		TPHD									
MW 10 - 18	MW 10		2:10		VOA									
MW 10 - 19	MW 10		2:10		VOA									
MW 10 - 20	MW 10		2:10		VOA									
MW 12 - 21	MW 12		2:24		TPHD									
MW 12 - 22	MW 12		2:24		VOA									
MW 12 - 23	MW 12		2:24		VOA									
MW 12 - 24	MW 12		2:24		VOA									
W1 - 25	W1		2:37		TPHD									
W1 - 26	↓		↓		VOA									
W1 - 27	↓		↓		VOA									
W1 - 28	↓		↓		VOA									

Relinquished By: *Sagunika Patel* **Date:** 5/29 **Time:** 12:00 **Received By:** *[Signature]*
Relinquished By: **Date:** **Time:** **Received By:**
Relinquished By: **Date:** **Time:** **Received By:**

COMMENTS:
 ICE/r _____
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 VOAS O&G METALS OTHER
 PRESERVATION pH<2



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME
RUSH 24 HR 48 HR 72 HR 5 DAY
GeoTracker EDF **PDF** **Excel** **Write On (DW)**
 Check if sample is effluent and "J" flag is required

Report To: Samhita Lahiri Bill To: ETS

Company: Essel Technology Service

E-Mail: EsselTek.Services@AOC.com

Tele: (510) 206 0270 Fax: (925) 833 7977

Project #: 0548 Project Name: Actransul

Project Location: Emeryville

Sampler Signature: SLahiri

Analysis Request

Analysis Request											Other	Comments	
BTX & TPH as Gas (602 / 8021 + 8016) / MTBE													Filter Samples for Metals analysis: Yes / No
TPH as Diesel (8016)													
Total Petroleum Oil & Grease (1664 / 5520 E/B&F)													
Total Petroleum Hydrocarbons (418.1)													
EPA 602.2 / 601 / 8010 / 8021 (HVOCs)													
MTBE / BTEX ONLY (EPA 602 / 8021)													
EPA 505 / 608 / 8081 (CI Pesticides)													
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners													
EPA 507 / 8141 (NP Pesticides)													
EPA 515 / 8161 (Acidic CI Herbicides)													
EPA 824.2 / 624 / 8260 (VOCs)													
EPA 825.2 / 625 / 8270 (SVOCs)													
EPA 8270 SIM / 8310 (PAHs / FNA's)													
CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)													
LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)													
Lead (200.7 / 200.8 / 6010 / 6020)													

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX				METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other			
MW4 - 29	MW4	5-27-02	2:52		TPHD												
- 30	MW4				VQA												
- 31																	
- 32																	
MW3 - 33	MW3		3:06		TPHD												
- 34					VQA												
- 35																	
- 36																	
W3 - 37	W3		3:25		TPHD												
- 38					VQA												
- 39																	
- 40																	
MW6 - 41	MW6		5:38		TPHD												
- 42					VQA												

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Relinquished By: Shik Baber Date: 5/29 Time: 12:15 Received By: [Signature]

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/° _____ COMMENTS: _____
GOOD CONDITION _____
HEAD SPACE ABSENT _____
DECHLORINATED IN LAB _____
APPROPRIATE CONTAINERS _____
PRESERVED IN LAB _____
VOAS O&G METALS OTHER
PRESERVATION pH<2

5/5



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 Website: www.mccampbell.com Email: main@mccampbell.com
 Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
TURN AROUND TIME
 RUSH 24 HR 48 HR 72 HR 5 DAY
 GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: _____ Bill To: ETS
 Company: Essel Technology Service
 E-Mail: EsselTek.Serivus@AOL.COM
 Tele: (510) 206 0270 Fax: (915) 833 7991
 Project #: 0568 Project Name: AcTransit
 Project Location: Connersville
 Sampler Signature: [Signature]

Analysis Request											Other	Comments					
BTEX & TPH as Gas (602 / 8021 + 8016) / MTBE	TPH as Diesel (8016)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 802.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 805/608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 807 / 8141 (NP Pesticides)	EPA 815 / 8151 (Acidic CI Herbicides)	EPA 824.2 / 624 / 8260 (VOCs)	EPA 825.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNA's)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)		Filter Samples for Metals analysis: Yes / No

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SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other			
MW5 57	MW5	5/27/07	4:20		IMP												
MW5 58	↓	↓	↓		VOL												
MW5 59	↓	↓	↓		↓												
MW5 60	↓	↓	↓		↓												

Relinquished By: [Signature] Date: 5/29 Time: 12:16 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/* _____ COMMENTS:
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____
 VOAS O&G METALS OTHER
 PRESERVATION pH<2

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0705693

ClientID: ETSR

EDF Excel Fax Email HardCopy ThirdParty

Report to:

Samhita Lahiri
Essel Technology Service
9778 Broadmoore Drive
San Ramon, CA 94583

Email: esseltekservices@aol.com
TEL: (925) 833-799 FAX: (925) 833-797
ProjectNo: #0568-May 07; AC Transit Emeryville
PO:

Bill to:

Sher Guha
Essel Technology Service
9778 Broadmoore Drive
San Ramon, CA 94523

Requested TAT: 5 days

Date Received 05/29/2007

Date Printed: 05/29/2007

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0705693-001	MW-9	Water	05/27/07	<input type="checkbox"/>	A	A	B									
0705693-002	MW-8	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-003	MW-7	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-004	MW-11	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-005	MW-10	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-006	MW-12	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-007	W1	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-008	MW-4	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-009	MW-3	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-010	W3	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-011	MW-6	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-012	W4	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-013	MW-2	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-014	MW-1	Water	05/27/07	<input type="checkbox"/>	A		B									
0705693-015	MW-5	Water	05/27/07	<input type="checkbox"/>	A		B									

Test Legend:

1	G-MBTX_W	2	PREDF REPORT	3	TPH(D)_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Maria Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



Sample Receipt Checklist

Client Name: **Essel Technology Service**

Date and Time Received: **05/29/07 1:39:27 PM**

Project Name: **#0568-May 07; AC Transit Emeryville**

Checklist completed and reviewed by: **Maria Venegas**

WorkOrder N°: **0705693** Matrix Water

Carrier: Client Drop-In

Chain of Custody (COC) Information

- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Sample IDs noted by Client on COC? Yes No
- Date and Time of collection noted by Client on COC? Yes No
- Sampler's name noted on COC? Yes No

Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes No NA
- Shipping container/cooler in good condition? Yes No
- Samples in proper containers/bottles? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes No
- Container/Temp Blank temperature Cooler Temp: 4.8°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
- Sample labels checked for correct preservation? Yes No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA

Client contacted:

Date contacted:

Contacted by:

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94583	Client Project ID: #0568-May 07; AC Transit Emeryville	Date Sampled: 05/27/07
	Client Contact: Samhita Lahiri	Date Received: 05/29/07
	Client P.O.:	Date Extracted: 05/31/07-06/04/07
		Date Analyzed 05/31/07-06/04/07

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0705693

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-9	W	ND	ND	ND	0.92	ND	ND	1	102
002A	MW-8	W	140,m	ND	ND	ND	ND	ND	1	112
003A	MW-7	W	700,m	ND<15	ND	ND	1.0	2.0	1	117
004A	MW-11	W	ND	ND	ND	ND	ND	ND	1	105
005A	MW-10	W	330,m	ND	ND	ND	ND	ND	1	110
006A	MW-12	W	340,m	ND<10	ND	ND	1.4	1.8	1	102
007A	W1	W	4200,a	ND<45	20	34	12	17	1	97
008A	MW-4	W	ND	ND	ND	ND	ND	ND	1	97
009A	MW-3	W	ND	ND	ND	ND	ND	ND	1	97
010A	W3	W	ND	ND	ND	ND	ND	ND	1	102
011A	MW-6	W	5200,a,h	ND<60	110	5.1	23	17	3.3	106
012A	W4	W	99,m	ND	0.89	ND	ND	ND	1	105
013A	MW-2	W	ND	ND	ND	ND	ND	ND	1	100
014A	MW-1	W	ND	ND	ND	ND	ND	ND	1	91
015A	MW-5	W	140,m	ND<10	ND	ND	ND	ND	1	102

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



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Essel Technology Service 9778 Broadmoore Drive San Ramon, CA 94583	Client Project ID: #0568-May 07; AC Transit Emeryville	Date Sampled: 05/27/07
	Client Contact: Samhita Lahiri	Date Received: 05/29/07
	Client P.O.:	Date Analyzed 05/30/07-06/02/07
		Date Extracted: 05/29/07

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method SW3510C

Analytical methods SW8015C

Work Order: 0705693

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0705693-001B	MW-9	W	1000,g,b	1	117
0705693-002B	MW-8	W	140,n	1	116
0705693-003B	MW-7	W	220,d	1	116
0705693-004B	MW-11	W	61,b	1	114
0705693-005B	MW-10	W	850,a	1	115
0705693-006B	MW-12	W	140,d	1	118
0705693-007B	W1	W	1200,d,b	1	115
0705693-008B	MW-4	W	ND	1	114
0705693-009B	MW-3	W	ND	1	115
0705693-010B	W3	W	ND	1	90
0705693-011B	MW-6	W	2500,k,h	2	72
0705693-012B	W4	W	180,a	1	86
0705693-013B	MW-2	W	75,b	1	88
0705693-014B	MW-1	W	65,b	1	97
0705693-015B	MW-5	W	180,g,b	1	95

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0705693

Analyte	EPA Method SW8015C		Extraction SW3510C			BatchID: 28310			Spiked Sample ID: N/A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	N/A	1000	N/A	N/A	N/A	109	108	1.35	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	105	93	11.7	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 28310 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0705693-001B	05/27/07	05/29/07	05/31/07 3:43 AM	0705693-002B	05/27/07	05/29/07	05/31/07 2:35 AM
0705693-003B	05/27/07	05/29/07	05/31/07 1:26 AM	0705693-004B	05/27/07	05/29/07	05/31/07 7:26 PM
0705693-005B	05/27/07	05/29/07	05/30/07 11:10 PM	0705693-006B	05/27/07	05/29/07	05/30/07 10:01 PM
0705693-007B	05/27/07	05/29/07	05/31/07 4:51 AM	0705693-008B	05/27/07	05/29/07	05/30/07 7:44 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0705693

EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 28348			Spiked Sample ID: 0705692-012A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	101	104	3.60	89.6	91.9	2.52	70 - 130	30	70 - 130	30
MTBE	ND	10	97.3	96.6	0.679	117	117	0	70 - 130	30	70 - 130	30
Benzene	ND	10	92.7	84.2	9.69	96	91.7	4.67	70 - 130	30	70 - 130	30
Toluene	ND	10	95.2	88.4	7.49	85	83.9	1.29	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	95.7	90.5	5.59	76	93.2	20.3	70 - 130	30	70 - 130	30
Xylenes	ND	30	90.7	82.3	9.63	92.7	92	0.722	70 - 130	30	70 - 130	30
%SS:	114	10	106	102	3.37	91	93	1.60	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 28348 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0705693-001A	05/27/07	05/31/07	05/31/07 8:57 PM	0705693-002A	05/27/07	06/02/07	06/02/07 8:39 AM
0705693-003A	05/27/07	05/31/07	05/31/07 8:28 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0705693

EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 28349			Spiked Sample ID: 0705693-014A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	107	99.3	7.08	75.8	91.9	19.3	70 - 130	30	70 - 130	30
MTBE	ND	10	86	87.8	2.07	71.2	74.1	4.00	70 - 130	30	70 - 130	30
Benzene	ND	10	84.9	85.2	0.360	87.8	102	14.6	70 - 130	30	70 - 130	30
Toluene	ND	10	84.2	88.3	4.83	88.1	101	14.1	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	83.5	91.5	9.14	90.2	104	14.0	70 - 130	30	70 - 130	30
Xylenes	ND	30	82	85.7	4.37	103	117	12.1	70 - 130	30	70 - 130	30
%SS:	91	10	97	104	6.33	92	98	6.25	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 28349 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0705693-004A	05/27/07	05/31/07	05/31/07 7:58 PM	0705693-005A	05/27/07	06/04/07	06/04/07 6:11 PM
0705693-006A	05/27/07	06/01/07	06/01/07 6:09 AM	0705693-007A	05/27/07	06/02/07	06/02/07 3:43 AM
0705693-008A	05/27/07	06/01/07	06/01/07 5:04 AM	0705693-009A	05/27/07	06/01/07	06/01/07 4:31 AM
0705693-010A	05/27/07	06/02/07	06/02/07 2:44 AM	0705693-011A	05/27/07	06/02/07	06/02/07 2:15 AM
0705693-012A	05/27/07	06/04/07	06/04/07 6:42 PM	0705693-013A	05/27/07	06/01/07	06/01/07 1:48 AM
0705693-014A	05/27/07	05/31/07	05/31/07 9:26 PM	0705693-015A	05/27/07	06/04/07	06/04/07 7:42 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0705693

Analyte	Extraction SW3510C		BatchID: 28350						Spiked Sample ID: N/A			
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
TPH(d)	N/A	1000	N/A	N/A	N/A	104	105	0.994	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	89	90	1.37	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 28350 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0705693-009B	05/27/07	05/29/07	06/01/07 1:08 AM	0705693-010B	05/27/07	05/29/07	06/01/07 1:53 AM
0705693-011B	05/27/07	05/29/07	06/02/07 4:57 AM	0705693-012B	05/27/07	05/29/07	06/01/07 12:47 AM
0705693-013B	05/27/07	05/29/07	05/31/07 11:41 PM	0705693-014B	05/27/07	05/29/07	06/02/07 3:49 AM
0705693-015B	05/27/07	05/29/07	06/02/07 2:41 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.