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Alameda County
Environmental Health

Alameda-Contra Costa Transit District

December 30, 2008

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 – November 2008
AC Transit, 1100 Seminary Ave., Oakland

AC Transit hereby submits the enclosed groundwater monitoring report for the AC Transit facility located at 1100 Seminary Avenue in Oakland. The report was prepared by our consultant, Esseltech, and contains the results of groundwater monitoring performed on November 2, 2008, from six on-site monitoring wells.

Sampling results indicate that diesel was present in samples collected from five of the six wells sampled at concentrations ranging from 310 ppb (MW-1) to 9,600 ppb (MW-2). Gasoline was detected in four wells at concentrations ranging from 460 ppb (MW-3) to 46,000 ppb (MW-2). BTEX compounds were detected in wells MW-1, MW-2, MW-3, and MW-11. MTBE was not detected in any sample above laboratory detection limits in this sample event.

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

Suzanne Chaewsky, P.E.
Environmental Engineer

enclosure

10626 International Boulevard • Oakland, CA 94603 • TEL (510) 891-4777 • www.actransit.org

GROUND WATER MONITORING
IN
NOVEMBER 2008
ALAMEDA CONTRA COSTA
TRANSIT DISTRICT FACILITY
1100 SEMINARY AVENUE
OAKLAND, CALIFORNIA 94621

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. 08-ACT-Q-1

November 2008

GROUND WATER MONITORING
IN
NOVEMBER 2008
ALAMEDA CONTRA COSTA
TRANSIT DISTRICT FACILITY
1100 SEMINARY AVENUE
OAKLAND, CALIFORNIA 94621

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 4 facility in Oakland, California. This report presents the results of monitoring and sampling performed in November 2008.

1.1 Site Location and Description

The Division 4 facility is located at 1100 Seminary Avenue in Oakland, California and is on the southeastern corner of the intersection of San Leandro Street and Seminary Avenue, as shown on Plate 1. The Division 4 facility is used for storage and maintenance of AC Transit buses. The facility contains a primary maintenance building that is located near the southeastern corner of the site. Other facilities include a bus washing structure, a generator building, a service building, and a lift station, which are located along the southwestern side of the property. A parking garage and transportation building are located at the northern end of the property. The site also contains underground storage tanks (USTs). The existing USTs are referred to as Tank Farm No. 1 and are located west of the present maintenance building. A second group of USTs, referred to as Tank Farm No. 2, was formerly located just north of the present maintenance building. These USTs were removed in March 2005. Another, earlier group of USTs was located east of former Tank Farm No. 2 at the eastern edge of the site. These USTs have also been removed.

Six ground water monitoring wells (MW-1, MW-2, MW-3, MW-9, MW-10, and MW-11) are presently located at the site. These wells were installed to monitor the ground water in the east-central portion of the site as a result of releases of fuel from the USTs formerly located at the eastern edge of the property. Well MW-1 was installed just east and upgradient of these former USTs and wells MW-2, MW-3, and MW-9 through MW-11 were installed at downgradient locations ranging from approximately 80 to 200 feet northwest to southwest of the former USTs. Plate 2 is a Site Plan that shows the relative locations of the AC Transit surface facilities, present and former USTs, and ground water monitoring wells.

2.0 FIELD AND LABORATORY WORK

2.1 Field Procedures

Essel Tech personnel visited the site on November 2, 2008, to measure the water level in wells MW-1 through MW-3 and MW-9 through MW-11, to measure the thickness of any free petroleum product in the wells, and to purge the wells for ground water sampling. The depths to free-phase product and to the static ground water surface in each well were measured to the nearest 0.01-foot using an electronic oil-water interface probe. Following water-level measurements, the six wells were purged of water using a submersible pump and discharge hose. A minimum of three casing volumes of water was pumped from the six wells during this latest monitoring event. 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-development 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 later emptied into the maintenance building steam bay.

Essel Tech personnel collected water samples from the six wells on November 2, 2008. A clean, disposable polyethylene bailer was lowered 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; to clean, 1-liter brown glass liter bottles containing sulfuric acid as a preservative; and to clean, 1-liter plastic bottles. 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 Method 8015B, respectively; for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) using EPA Method 8021B; and for nitrate (as nitrogen) and sulfate using EPA Method E300.1.

3.0 RESULTS OF MONITORING AND SAMPLING

3.1 Ground water Monitoring

The measured depth to the static ground water surface in wells MW-1 through MW-3 and MW-9 through MW-11 ranged from 2.50 to 4.62 feet below the tops of the well casings on November 2, 2008. A thickness of 0.02-foot (0.24-inch) of free-phase petroleum product was found in well MW-2 and fuel odors were noted in the water from wells MW-1 through MW-3 and MW-11. Water-level measurements show that between the May and November 2008 monitoring events, the ground water surface fell an average 0.55-foot in wells MW-1, MW-3, and MW-9, fell 0.10-foot and 0.19-foot in wells MW-10 and MW-11, respectively, and fell 1.02 feet in well MW-2. The ground water surface in five of the six wells was from 0.37-foot to 1.28 feet lower in November 2008 than in November 2007. In downgradient well MW-10, the ground water surface was at the same elevation in November 2008 as in November 2007.

Essel Tech used wellhead elevation data and depth-to-water measurements made on November 2 to calculate the elevation of the ground water surface in the wells. The elevation of the ground water surface ranged from 1.15 to 1.95 feet above mean sea level in the six wells. Based on these elevations, ground water is estimated to flow toward the north-northwest at a gradient of 0.0035 (0.35-foot vertical distance per 100 feet horizontal distance). Table 1 presents data on product thickness, depth to ground water, and ground water elevation for the six wells. Plate 3 is a contour map of the shallow ground water surface interpreted from water-level data collected on November 2, 2008. The elevation data from well MW-2 was not used in constructing the contour map because of the presence of free product in this well.

3.2 Laboratory Analyses

Results of laboratory analyses of water samples show high concentrations of TPHg (46,000 parts per billion [ppb]) and TPHd (9,600 ppb) in well MW-2, relative to other wells at the site. The concentration of TPHg in this well has increased significantly since November 2006 (3,000 ppb) and is at the highest concentration since Essel Tech began monitoring in October 2005. The concentration of TPHd in this well is higher than detected during the previous sampling event (May 2008), but is significantly lower than the highest levels (45,000 and 170,000 ppb) found during earlier sampling events. The laboratory report for the November 2008 analysis indicates immiscible sheen/product was observed on the sample from well MW-2. The report also indicates that a significant fraction of the gasoline-range hydrocarbons detected are unmodified or weakly modified, that gasoline-range compounds are significant in the concentration of diesel hydrocarbons detected, and that diesel-range hydrocarbons are also unmodified or weakly modified.

Detectable concentrations of gasoline-range hydrocarbons (i.e., TPHg) were also found during the latest sampling event in samples from wells MW-1 (54 ppb), MW-3 (460 ppb), and MW-11 (680 ppb). In 2006, 2007, and 2008, TPHg in well MW-1 has fluctuated notably and consistently from relatively high concentrations (1,200 to 1,900 ppb) during May sampling events to slightly greater than or less than the laboratory method detection limit (50 ppb) during November sampling events. A similar pattern of higher concentration of TPHg in May (600 to 810 ppb) and lower concentration in November (330 to 460 ppb) has been observed in well MW-3 during 2007 and 2008. Higher concentrations of TPHg were detected in well MW-3 in 2008 than in 2007. Gasoline hydrocarbons were not detected in samples from well MW-11 during the four monitoring events performed between October 2005 and May 2007, but have been detected at

110, 300, and 680 ppb during the last three consecutive monitoring events. No TPHg has been found in samples from wells MW-9 or MW-10 since Essel Tech began sampling these wells in October 2005.

In addition to well MW-2, diesel-range hydrocarbons (i.e., TPHd) were detected in four of the five other wells at concentrations ranging from 58 to 1,200 ppb. The concentration of TPHd declined between the May and November 2008 sampling events in wells MW-1, MW-3, and MW-9, and increased between the two monitoring events in well MW-11. No TPHd was found in the water sample from well MW-10 during the two sampling events of 2008. Concentrations of TPHd (130 to 550 ppb) were found in this well in 2007 but not in 2006 or late 2005.

The aromatic hydrocarbons BTEX were found at relatively elevated levels (9,300, 190, 990, and 1,200 ppb, respectively) in well MW-2 in November 2008 reflecting an increase in levels since the May 2008 sampling event. The trends of BTEX levels in this well have steadily increased since November 2006 and are at levels greater than those detected in May 2006 but lower than the BTEX levels detected in October 2005. Significantly lower levels of BTEX (1.2 to 160 ppb) were detected in samples from wells MW-1, MW-3 and MW-11. A trend of increasing benzene concentration (less than 0.5 to 160 ppb) has occurred in well MW-11 since November 2006. In well MW-3, the concentration of benzene increased steadily from 2.7 to 84 ppb between November 2006 and May 2008, but declined from 84 to 60 ppb between May and November 2008. The levels of BTEX in well MW-1 have fluctuated in concert with the concentration of TPHg in this well during 2006, 2007, and 2008; that is, BTEX has been detected with TPHg during the May monitoring events and has not been detected when no TPHg was found during the November monitoring events. Toluene only was found (1.2 ppb) in well MW-1 when 54 ppb TPHg was detected in November 2008. No BTEX was found in samples from wells MW-9 and MW-10 during the latest monitoring event and the fuel oxygenate MTBE was not detected in any of the six wells sampled at detection limits ranging from 5.0 to 1,000 ppb. Table 2 presents the cumulative results of analyses of water samples from the six wells and Appendix B contains copies of the laboratory report of analyses for the latest sampling event.

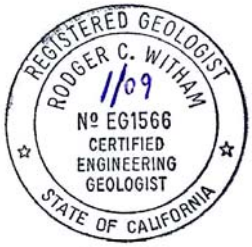
4.0 RECOMMENDATION

Essel Tech recommends that ground water monitoring and sampling continue on a quarterly basis with the same laboratory protocol as performed during the present sampling event. The next monitoring event should be scheduled for January 2009.

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: Purging and sampling field forms
Appendix B: Chain-of-Custody Records and Laboratory Report

TABLE 1
Well Monitoring Data
Alameda-Contra Costa Transit District Facility
1100 Seminary Avenue, Oakland, 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	10/09/05	6.25	0.00	4.75	1.50	1.50
	05/28/06	6.25	0.00	3.50	2.75	2.75
	11/13/06	6.25	0.00	4.00	2.25	2.25
	05/27/07	6.25	0.00	3.61	2.64	2.64
	11/10/07	6.25	0.00	3.3	2.95	2.95
	05/24/08	6.25	0.00	3.76	2.49	2.49
	11/02/08	6.25	0.00	4.30	1.95	1.95
MW-2	10/09/05	5.53	0.083	6.91	-1.38	-1.31
	05/28/06	5.53	0.1	3.45	2.08	2.16
	11/13/06	5.53	0.00	2.60	2.93	2.93
	05/27/07	5.53	0.00	3.30	2.23	2.23
	11/10/07	5.53	0.00	3.1	2.43	2.43
	05/24/08	5.53	0.00	3.36	2.17	2.17
	11/02/08	5.53	0.02	4.40	1.13	1.15
MW-3	10/09/05	4.76	0.00	3.36	1.40	1.40
	05/28/06	4.76	0.00	2.32	2.44	2.44
	11/13/06	4.76	0.00	3.00	1.76	1.76
	05/27/07	4.76	0.00	2.45	2.31	2.31
	11/10/07	4.76	0.00	2.7	2.06	2.06
	05/24/08	4.76	0.00	2.65	2.11	2.11
	11/02/08	4.76	0.00	3.20	1.56	1.56
MW-9	10/09/05	5.80	0.00	4.45	1.35	1.35
	05/28/06	5.80	0.00	3.33	2.47	2.47
	11/13/06	5.80	0.00	4.35	1.45	1.45
	05/27/07	5.80	0.00	3.75	2.05	2.05
	11/10/07	5.80	0.00	4.25	1.55	1.55
	05/24/08	5.80	0.00	4.05	1.75	1.75
	11/02/08	5.80	0.00	4.62	1.18	1.18
MW-10	10/09/05	4.65	0.00	3.88	0.77	0.77
	05/28/06	4.65	0.00	2.78	1.87	1.87
	11/13/06	4.65	0.00	3.70	0.95	0.95
	05/27/07	4.65	0.00	3.15	1.50	1.50
	11/10/07	4.65	0.00	3.2	1.45	1.45
	05/24/08	4.65	0.00	3.10	1.55	1.55
	11/02/08	4.65	0.00	3.20	1.45	1.45
MW-11	10/09/05	4.19	0.00	3.04	1.15	1.15
	05/28/06	4.19	0.00	1.30	2.89	2.89
	11/13/06	4.19	0.00	2.30	1.89	1.89
	05/27/07	4.19	0.00	2.20	1.99	1.99
	11/10/07	4.19	0.00	1.6	2.59	2.59
	05/24/08	4.19	0.00	2.31	1.88	1.88
	11/02/08	4.19	0.00	2.50	1.69	1.69

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.
#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
1100 Seminary Avenue, Oakland, California

Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-1	10/09/05	2,800	840	NA	200	5.0	85	26	<5.0	<100	6,600	4,190	3,300
	5/29/06	1,900	580	NA	33	4.3	23	16	<5.0	<100	46,000	3,740	2,200
	11/13/06	<50	230	NA	<0.5	<0.5	<0.5	<0.5	<5.0	180	3,000	3,270	1,200
	5/27/07	1,400	4,700	NA	46	5.5	7.4	8.8	<15	<100	7,900	120	3,270
	11/10/07	<50	1,900	NA	<0.5	<0.5	<0.5	<0.5	<5.0	760	3,900	2,820	0.0
	5/25/08	1,200	550	NA	3.9	5.4	2.2	1.5	<5.0	<100	1,200	460	3,300
	11/2/08	**54**	**310**	**NA**	**<0.5**	**1.2**	**<0.5**	**<0.5**	**<5.0**	**<100**	**14,000**	**960**	**2,210**
MW-2	10/09/05	42,000	12,000	NA	19,000	<250	1,300	1,800	<250	<100	170	3,610	2,670
	5/29/06	20,000	170,000	NA	5,900	88	190	660	<170	<100	730	4,230	2,600
	11/13/06	3,000	7,200	NA	560	13	46	140	<80	150	67,000	2,040	2,000
	5/27/07	6,900	45,000	NA	1,800	28	110	270	<130	<100	200	140	3,300
	11/10/07	19,000	14,000	NA	5,800	79	360	660	<500	<100	270	720	3,260
	5/25/08	33,000	5,900	NA	9,100	170	700	880	<250	<100	660	2,080	2,270
	11/2/08	**46,000**	**9,600**	**NA**	**9,300**	**190**	**990**	**1,200**	**<1,000**	**250**	**250**	**730**	**3,300**
MW-3	10/09/05	8,400	1,400	NA	4,500	<100	330	<100	<100	<100	4,700	3,290	230
	5/29/06	340	330	NA	6.2	1.3	<0.5	1.1	<5.0	<100	9,500	1,970	300
	11/13/06	410	170	NA	2.7	2.1	1.2	1.0	<5.0	<100	18,000	3,310	670
	5/27/07	600	620	NA	15	<0.5	15	4.7	<10	<100	10,000	720	1,570
	11/10/07	330	600	NA	16	0.83	7.6	1.4	<5.0	<100	8,000	590	NM
	5/25/08	810	1,300	NA	84	1.1	21	5.4	<5.0	<100	1,200	530	1,370
	11/2/08	**460**	**1,200**	**NA**	**60**	**3.1**	**14**	**3.7**	**<5.0**	**<100**	**9,700**	**740**	**1,220**
MW-9	10/09/05	<50	87	NA	2.8	<0.5	<0.5	<0.5	1.2	<100	180,000	2,870	300
	5/29/06	<50	1,100	NA	<0.5	<0.5	<0.5	<0.5	<5.0	120	91,000	1,360	0.0
	11/13/06	<50	56	NA	<0.5	<0.5	<0.5	<0.5	<5.0	170	110,000	70	1,550
	5/27/07	<50	170	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	110,000	1,570	1,570
	11/10/07	<50	1,300	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	14,000	970	1,260
	5/25/08	<50	250	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	85,000	750	1,290
	11/2/08	**<50**	**58**	**NA**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**<100**	**97,000**	**500**	**1,320**

See notes on page 2 of 2.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUND-WATER SAMPLES
Alameda-Contra Costa Transit District Facility
1100 Seminary Avenue, Oakland, California

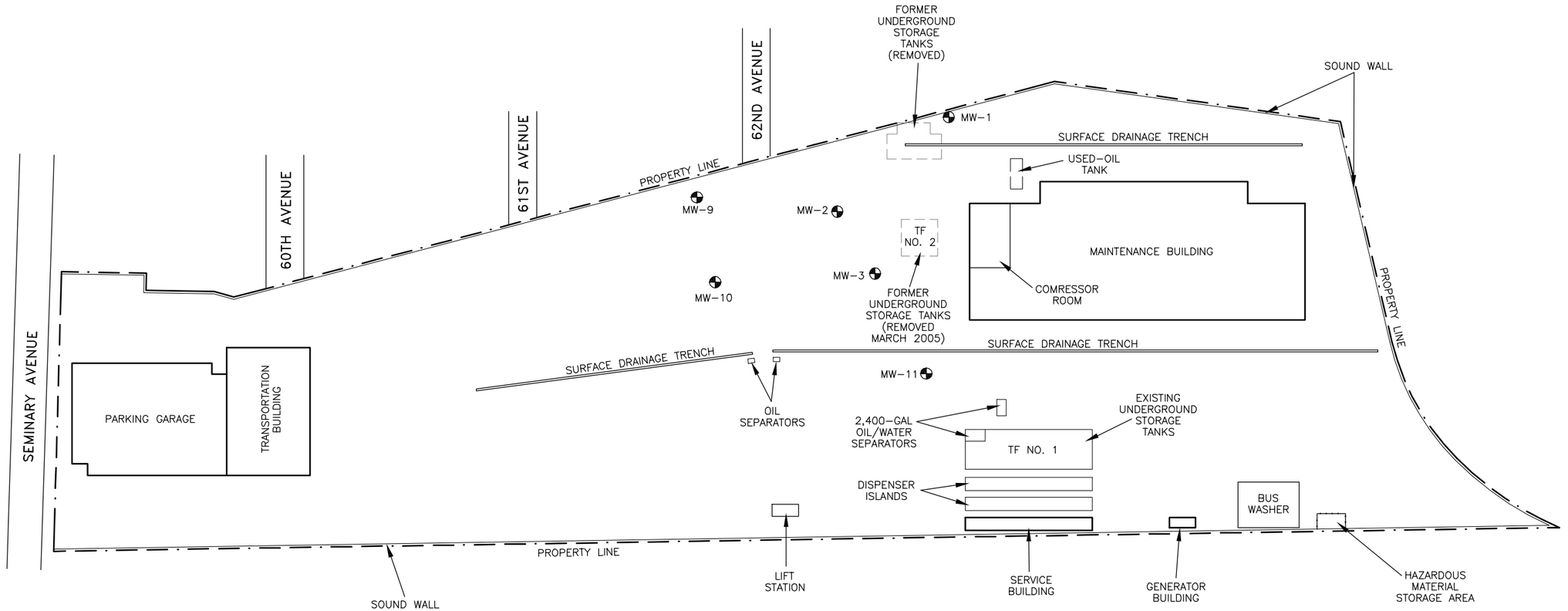
Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-10	10/09/05	<50	<50	NA	0.92	<0.5	<0.5	<0.5	0.66	<100	120,000	3,850	870
	5/29/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	110,000	1,590	0.0
	11/13/06	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	97,000	490	1,040
	5/27/07	<50	550	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	100,000	230	1,160
	11/10/07	<50	130	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	97,000	1,050	20
	5/25/08	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	62,000	870	1,870
	11/2/08	**<50**	**<50**	**NA**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**<100**	**91,000**	**450**	**1,130**
MW-11	10/09/05	<50	82	NA	3.0	<0.5	<0.5	0.57	0.83	<100	130,000	1,870	640
	5/29/06	<50	150	NA	2.9	<0.5	<0.5	<0.5	<5.0	<100	120,000	3,730	310
	11/13/06	<50	150	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<100	150,000	2,700	NM
	5/27/07	<50	330	NA	1.8	<0.5	<0.5	<0.5	<5.0	<100	130,000	1,420	3,000
	11/10/07	110	890	NA	19	<0.5	2.5	4.0	<5.0	<100	160,000	3,150	60
	5/25/08	300	790	NA	52	1.5	9.5	11	<10	<100	110,000	4,840	1,760
	11/2/08	**680**	**910**	**NA**	**160**	**4.2**	**19**	**23**	**<15**	**<100**	**140,000**	**4,010**	**1,150**

Results in micrograms per liter = parts per billion; detectable results are shaded.
Most recent analytical results are in boldface type.
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
MCL = maximum contaminant level
NA = not analyzed; NM = not measured
< = less than the laboratory method detection limit

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

PROJECT NO.	DRAWN BY	REPORT DATE		PLATE
08-ACT-Q-1	EC	November 2008	SITE VICINITY MAP Alameda Contra Costa Transit District Facility 1100 Seminary Avenue Oakland, California	1

ESSEL TECHNOLOGY SERVICES, INC.
9778 Broadmoor Drive
San Ramon, CA 94583



EXPLANATION

MW-11 ⊕ GROUND-WATER-MONITORING WELL LOCATION

TF TANK FARM

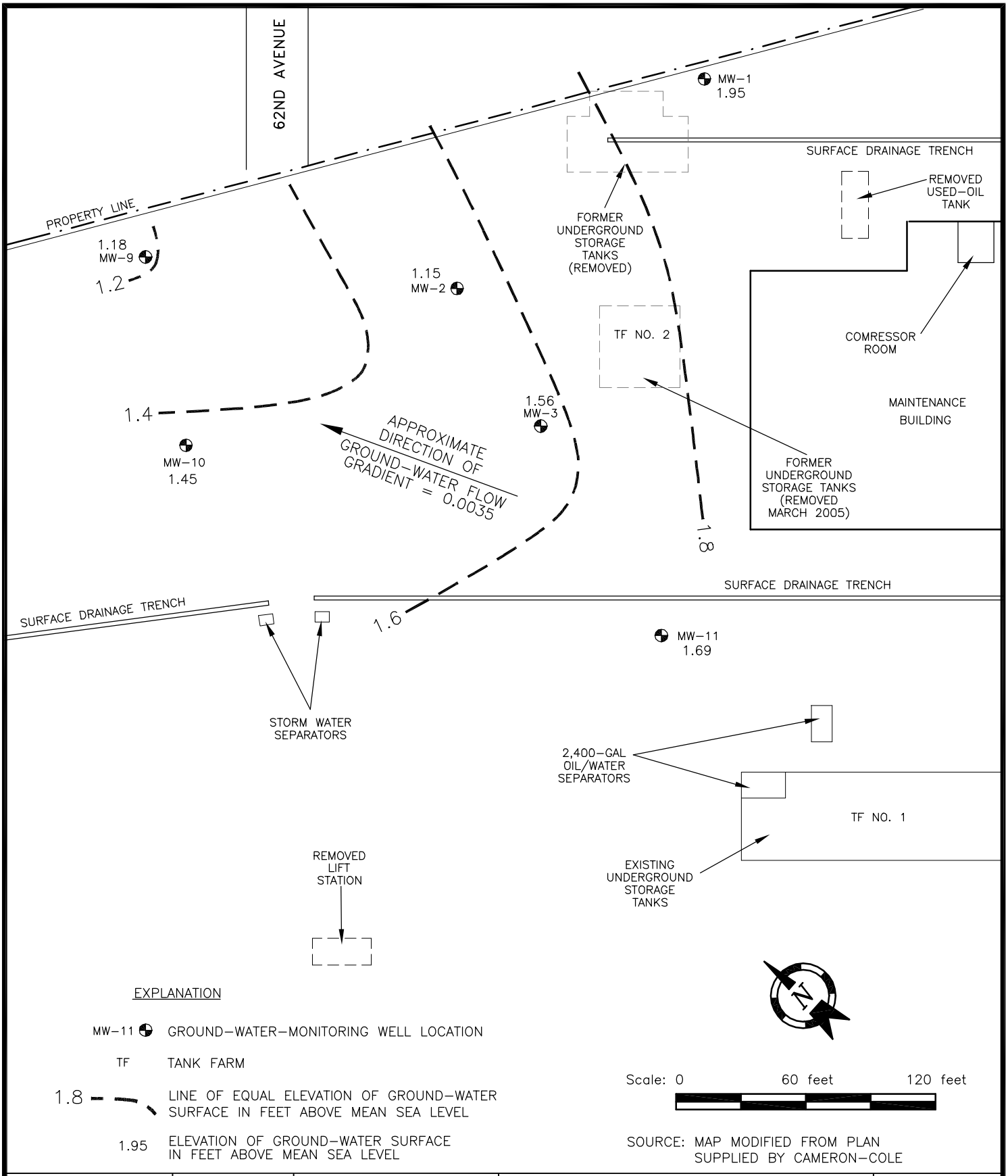
Scale: 0 120 feet 240 feet

SOURCE: MAP MODIFIED FROM PLAN SUPPLIED BY CAMERON-COLE

PROJECT NO.	DRAWN BY	REPORT DATE		PLATE
08-ACT-Q-1	EC	November 2008	**SITE PLAN** Alameda Contra Costa Transit District Facility 1100 Seminary Avenue Oakland, California	2

ESSEL TECHNOLOGY SERVICES, INC.
9778 Broadmoor Drive
San Ramon, CA 94583

08-ACT SP1108



PROJECT NO.	DRAWN BY	REPORT DATE	GROUND-WATER-SURFACE MAP	PLATE
08-ACT-Q-1	EC	November 2008	November 2, 2008 Alameda Contra Costa Transit District Facility 1100 Seminary Avenue Oakland, California	3

ESSEL TECHNOLOGY SERVICES, INC.
9778 Broadmoor Drive
San Ramon, CA 94583

APPENDIX A

PURGING AND SAMPLING FIELD FORMS

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – ~~Emeryville~~ Seminary **Well Number:** MW-1

Job Number: ~~0568-MAY07~~ NOV 08 **Date:** ~~5/27/07~~ Nov 08

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[✓] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 15.40	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.30	[ ] Pump
Purge Volume Calculation (15.4) – (4.3) x HM/3 x .17 = 5.66 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] 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)
	22.21	1.22	7.59	6.45	-29.4	1	2.21	
	22.52	1.23	4.49	6.47	-63.8	2		
	22.47	1.31	2.40	6.47	-73.1	3		
	22.40	1.34	1.50	6.47	-79.2	4		
	22.41	1.36	1.15	6.47	-81.4	5		
	22.42	1.33	.96	6.48	-81.1	6		

Total gallons pumped:

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

Heavy turbidity moderate odor

Discharge water disposal: [ ] Sanitary sewer [✓] Storm drain [ ] Drum [ ] Other _____

Well Sampling Date: [redacted] Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – ~~Emeryville~~ Seminary **Well Number:** MW 2

Job Number: ~~0568-Mar 07~~ NOV 08 **Date:** ~~3/22/07~~ NOV 2 08

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 23.40	[ ] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.40	[ ] Pump
Purge Volume Calculation (23.40) – (4.40) x 3 x .17 = 9.69 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] 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)
	20.59	2.581	1.31	6.50	-44.4	1	3.30	
	20.57	2.495	.77	6.47	-45.8	2		
	20.73	2.323	.61	6.38	-49.1	3		
	20.84	2.300	.61	6.33	-49.7	4		
	20.80	2.279	.61	6.32	-50.7	5		
	20.78	2.259	.68	6.33	-51.0	6		
	20.14	2.215	.82	6.32	-51.3	7		
	20.36	2.270	.81	6.32	-52.2	8		
	20.58	2.253	.79	6.33	-53.9	9		
	20.54	2.269	.73	6.34	-54.5	10		

Total gallons pumped:

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

Product Thickness 4.38 - 4.40 = .02 ft

Very high turbidity - Hydrocarbon odor 4.38 - 4.40

Discharge water disposal: [ ] Sanitary sewer [✓] Storm drain [ ] Drum [ ] Other _____

Well Sampling Date: ~~3/22/07~~ NOV 2 08 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – Seminary **Well Number:** MW – 3

Job Number: NOV 08 **Date:** 11/2008

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[X] Swab [ ] Surge [ ] Other ______
Total Depth (TD) of casing in Feet 17.20ft	[✓] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 3.20ft	[ ] Pump
Purge Volume Calculation (17.2) – (3.2) x 3 x .17 = 7.14 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] 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)
	24.17	.069	4.23	7.83	87.2	1	1.22	
	23.66	.067	2.02	7.49	52.3	2		
	23.63	.072	1.45	7.41	43.3	3		
	23.63	.109	.98	7.16	17.9	4		
	23.65	~~.448~~ .219	.98	6.86	13.7	5		
	23.42	.201	1.06	6.85	4.0	6		
	23.30	.595	.74	6.52	12.9	7		

Total gallons pumped:

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

Slight sheen – Low odor – Low turbidity

Discharge water disposal: [ ] Sanitary sewer [✓] Storm drain [ ] Drum [ ] Other ______

Well Sampling Date: 11/08 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – [redacted] Seminary **Well Number:** MW 9

Job Number: [redacted] **Date:** [redacted] 11/08

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 18.90	[ ] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 4.62	[ ] Pump
Purge Volume Calculation (18.90) – (4.62) x 3 x .17 = _____ gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] 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)
	23.57	.82	5.51	6.80	-62.3	1	1.32	
	24.09	.869	1.71	6.78	-65.5	2		
	24.02	.956	.960	6.87	-62.7	3		
	23.87	.987	.700	6.91	-77.8	4		
	22.30	1.258	.740	6.89	-97.4	5		
	22.40	1.215	.690	6.91	-95.0	6		
	22.86	1.159	.500	6.90	-78.8	7		

Total gallons pumped:

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

Moderate turbidity - low odor -> Moderate odor

Discharge water disposal: [ ] Sanitary sewer [✓] Storm drain [ ] Drum [ ] Other _____

Well Sampling Date: [redacted] NOV 08 Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – SEM [redacted] **Well Number:** MW-10

Job Number: [redacted] NOV08 **Date:** [redacted] 11/2/08

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 14.6 (3.2) Depth to water (DTW) in Feet 11.4	[ ] Bail Bailer Type: Disposable [ ] Pump
Purge Volume Calculation (11.4) – (3.2) x 3 x .17 = _____ gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] 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)
	22.04	1.463	4.08	6.54	131.0	1	1.13	
	22.79	2.513	2.04	6.48	133.6	2		
	23.64	3.361	.77	6.53	132.6	3		
	23.96	3.530	.45	6.57	129.5	4		

Total gallons pumped:

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

Moderate turbidity - low odor

Discharge water disposal: [ ] Sanitary sewer [/] Storm drain [ ] Drum [ ] Other _____

Well Sampling Date: [redacted] Time:

ESSEL TECHNOLOGY SERVICES, INC.

Job Name: AC Transit – SEM **Well Number:** MW 11

Job Number: [redacted] **Date:** 5/27/07 11/2/08

Sampled By: S. Lahiri

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2 inch [x] 4 inch [ ] Other [ ]	[ ] Swab [ ] Surge [ ] Other _____
Total Depth (TD) of casing in Feet 13.50	[ ] Bail Bailer Type: Disposable
Depth to water (DTW) in Feet 2.50	[ ] Pump
Purge Volume Calculation (13.5) – (2.5) x 3 x .17 = 5.61 gallons (TD) – (DTW) x V x F = Purge Volume	Pump type: [x] Submersible [ ] Centrifuge [ ] Bladder [ ] 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)
	25.11	1.233	2.70	6.74	91.1	1	1.15	
	25.33	1.218	8.53	6.76	95.2	2		
	25.38	1.256	3.01	6.75	97.2	3		
	25.24	1.262	3.85	6.76	91.5	4		
	25.18	1.274	4.01	6.75	82.1	5		
						3		

Total gallons pumped:

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

Heavy fuelous odor - Moderate turbidity, water level dropped abruptly around 5th gallon

Discharge water disposal: [ ] Sanitary sewer [ ] Storm drain [ ] Drum [ ] Other _____

Well Sampling Date: [redacted] 11/2/08 Time:

APPENDIX B

CHAIN-OF-CUSTODY RECORDS
AND
LABORATORY REPORT

0811056 1 of 3

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: ESSEL TECHNOLOGY SERVICES, INC.

Company: ESSEL TECH.

E-Mail: Labresults@Gmail.com

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

Project #: 08-ACT-G-1 Project Name:

Project Location: Seminary & ~~Emeryville~~

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	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)	Other: Nitrate / Sulfate	Comments: Filter Samples for Metals analysis: Yes / No
MW-3-01	MW-3	11/2	1:15	1	Amb							X			X	X				X												
02				1	VOA																												
03				1	VOA																												
04				1	VOA																												
05				1	Plast																											X	
MW-10-01	MW-10	11/2	2:20		Amb																												
02					VOA																												
03					↓																												
04																																	
05					Plast																											X	
MW-2-01	MW-2	11/2	3:06		Amb																												
02					VOA																												
03					VOA																												
04					Plast																											X	

Relinquished By:	Date:	Time:	Received By:
Samhita Lahiri	11/3/08	345	
	11-3-08	600	

ICE/t° 1c2

GOOD CONDITION

HEAD SPACE ABSENT

DECHLORINATED IN LAB

APPROPRIATE CONTAINERS

PRESERVED IN LAB

COMMENTS:

	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: Essel (Sambuta Lahiri) Bill To: Essel

Company: Essel Technology services Inc.

E-Mail:

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

Project #: 08 ACT-Q-1 Project Name: Gr water monitoring

Project Location: Seminary

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	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)	Other: Nitrate / Sulfate	Comments: Filter Samples for Metals analysis: Yes / No
MW-11-01	MW-11	11/2	10:30	1	Amb	X						X			X	X				X													
02				1	VOA																												
03				1	VOA																												
04				1	Plast																												
MW-9-01	MW-9	11/2	11:30	1	Amb																											X	
02				1	VOA																												
03				1	VOA																												
04				1	Plastic																												
MW-7-01	MW-01			1	Amb																												
02		11/2	12:15	1	VOA																												
03				1	VOA																												
04				1	Plastic																											X	

Relinquished By:	Date:	Time:	Received By:
Sambuta Lahiri	11/3/08	5PM	
Relinquished By:	Date:	Time:	Received By:
	11-3-08	600	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____ COMMENTS:
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: Essel Technology

Company: Essel Technology services

410 Pendleton Way #2

Oakland, CA E-Mail:

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

Project #: 08-ACT-Q1 Project Name: Gr. water monitoring

Project Location: Emeryville

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: ICE	HCL	HNO_3	Other	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	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)	Other	Comments
MW-11-01	(E)	11/2	9:30	1											X					X													
MW-11-02	(E)			1												X																	
MW-11-03	(E)			1												X																	
MW-12-01	(E)		10:30	1											X																		
MW12-02	(E)			1												X																	
MW12-03	(E)			1												X																	
Trip Blank		11/2/08													X																		

Relinquished By:	Date:	Time:	Received By:
Samhita Lahiri	11/3/08	545	
Samhita Lahiri	11/3/08	600	

ICE/t°_____ COMMENTS:
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 Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0811056 **ClientCode: ETSR**

☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Samhita Lahiri
Essel Technology Service
9778 Broadmoore Drive
San Ramon, CA 94583
(925) 833-7991 FAX (925) 833-7977

Email: esseltekservices@aol.com
cc:
PO:
ProjectNo: #08-ACTY-Q-1; Seminary

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

Requested TAT: 5 days

Date Received: **11/03/2008**
Date Printed: **11/04/2008**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0811056-001	MW-3	Water	11/2/2008 13:15	☐	C	A	A	B								
0811056-002	MW-10	Water	11/2/2008 14:20	☐	C	A		B								
0811056-003	MW-2	Water	11/2/2008 15:00	☐	C	A		B								
0811056-004	MW-11	Water	11/2/2008 10:30	☐	C	A		B								
0811056-005	MW-9	Water	11/2/2008 11:30	☐	C	A		B								
0811056-006	MW-1	Water	11/2/2008 12:15	☐	C	A		B								
0811056-007	MW-11(E)	Water	11/2/2008 9:30	☐		A		B								
0811056-008	MW-12(E)	Water	11/2/2008 10:30	☐		A		B								
0811056-009	Trip Blank	Water	11/2/2008	☐		A										

Test Legend:

1	300_1_W	2	G-MBTEX_W	3	PREDF REPORT	4	TPH(D)_W	5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

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

Sample Receipt Checklist

Client Name: **Essel Technology Service**
Date and Time Received: **11/3/08 8:52:39 PM**

Project Name: **#08-ACTY-Q-1; Seminary**
Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0811056** Matrix Water
Carrier: Rob Pringle (MAI Courier)

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: 7.2°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 ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

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

Essel Technology Service	Client Project ID: #08-ACTY-Q-1; Seminary	Date Sampled: 11/02/08
		Date Received: 11/03/08
9778 Broadmoore Drive	Client Contact: Samhita Lahiri	Date Extracted: 11/04/08-11/05/08
San Ramon, CA 94583	Client P.O.:	Date Analyzed 11/04/08-11/05/08

Inorganic Anions by IC*

Extraction method E300.1 Analytical methods E300.1 Work Order: 0811056

Lab ID	Client ID	Matrix	Nitrate as N	Nitrate as $NO3^-$	Sulfate	DF	% SS
001C	MW-3	W	ND	ND	9.7	1	100
002C	MW-10	W	ND	ND	91	1	---#
003C	MW-2	W	0.25	1.1	0.25	1	110
004C	MW-11	W	ND	ND	140	1	97
005C	MW-9	W	ND	ND	97	1	92
006C	MW-1	W	ND	ND	14	1	93

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	0.1	0.45	0.1	mg/L
	S	NA	NA	NA	mg/Kg

* water samples are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in mg/wipe, product/oil/non-aqueous liquid samples in mg/L.

* [Nitrate as $NO3^-$] = 4.4286 x [Nitrate as N]

surrogate diluted out of range or surrogate coelutes with another peak; N/A means surrogate not applicable to this analysis.

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Essel Technology Service	Client Project ID: #08-ACTY-Q-1; Seminary	Date Sampled: 11/02/08
		Date Received: 11/03/08
9778 Broadmoore Drive	Client Contact: Samhita Lahiri	Date Extracted: 11/06/08-11/08/08
San Ramon, CA 94583	Client P.O.:	Date Analyzed 11/06/08-11/08/08

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0811056

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-3	W	460,d1	ND	60	3.1	14	3.7	1	118
002A	MW-10	W	ND	ND	ND	ND	ND	ND	1	94
003A	MW-2	W	46,000,d1,b6	ND<1000	9300	190	990	1200	20	96
004A	MW-11	W	680,d1	ND<15	160	4.2	19	23	1	113
005A	MW-9	W	ND	ND	ND	ND	ND	ND	1	94
006A	MW-1	W	54,d9	ND	ND	1.2	ND	ND	1	103
007A	MW-11(E)	W	ND	ND	2.1	ND	0.51	0.70	1	92
008A	MW-12(E)	W	320,d9	ND	0.64	ND	ND	ND	1	94
009A	Trip Blank	W	ND	ND	ND	ND	ND	ND	1	96

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	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 McCampbell Analytical is not responsible for their interpretation:

b6) lighter than water immiscible sheen/product is present
d1) weakly modified or unmodified gasoline is significant
d9) no recognizable pattern

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Essel Technology Service	Client Project ID: #08-ACTY-Q-1; Seminary	Date Sampled: 11/02/08
		Date Received: 11/03/08
9778 Broadmoore Drive	Client Contact: Samhita Lahiri	Date Extracted: 11/03/08
San Ramon, CA 94583	Client P.O.:	Date Analyzed 11/05/08-11/07/08

Total Extractable Petroleum Hydrocarbons*

Extraction method SW3510C Analytical methods: SW8015B Work Order: 0811056

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0811056-001B	MW-3	W	1200,e7,e2	1	92
0811056-002B	MW-10	W	ND	1	96
0811056-003B	MW-2	W	9600,e4,e1,b6	1	112
0811056-004B	MW-11	W	910,e1,e7	1	98
0811056-005B	MW-9	W	58,e2	1	99
0811056-006B	MW-1	W	310,e7,e2	1	88
0811056-007B	MW-11(E)	W	200,e7,e2	1	116
0811056-008B	MW-12(E)	W	200,e2,e4	1	117

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 McCampbell Analytical is not responsible for their interpretation:

b6) lighter than water immiscible sheen/product is present
e1) unmodified or weakly modified diesel is significant
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.
e7) oil range compounds are significant

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QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 39395 WorkOrder: 0811056

EPA Method: E300.1 **Extraction: E300.1** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/L	mg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Nitrate as N	N/A	1	N/A	N/A	N/A	91.4	92	0.702	N/A	N/A	85 - 115	15
Nitrate as $NO3^{-}$	N/A	4.4	N/A	N/A	N/A	91.4	92	0.702	N/A	N/A	85 - 115	15
Sulfate	N/A	1	N/A	N/A	N/A	101	101	0	N/A	N/A	85 - 115	15
%SS:	N/A	0.10	N/A	N/A	N/A	95	95	0	N/A	N/A	90 - 115	10

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

BATCH 39395 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811056-001C	11/02/08 1:15 PM	11/04/08	11/04/08 6:40 PM	0811056-002C	11/02/08 2:20 PM	11/04/08	11/04/08 7:15 PM
0811056-002C	11/02/08 2:20 PM	11/05/08	11/05/08 6:49 AM	0811056-003C	11/02/08 3:00 PM	11/04/08	11/04/08 7:49 PM
0811056-004C	11/02/08 10:30 AM	11/04/08	11/04/08 8:24 PM	0811056-004C	11/02/08 10:30 AM	11/05/08	11/05/08 8:04 PM
0811056-005C	11/02/08 11:30 AM	11/04/08	11/04/08 8:59 PM	0811056-005C	11/02/08 11:30 AM	11/05/08	11/05/08 8:39 PM
0811056-006C	11/02/08 12:15 PM	11/04/08	11/04/08 9:34 PM	0811056-006C	11/02/08 12:15 PM	11/05/08	11/05/08 9:08 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 applicable to this method.

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.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 39394 WorkOrder 0811056

EPA Method SW8015B **Extraction SW3510C** **Spiked Sample ID: N/A**

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-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	95.7	94.1	1.75	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	107	108	0.845	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 39394 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0811056-001B	11/02/08 1:15 PM	11/03/08	11/05/08 5:07 PM	0811056-002B	11/02/08 2:20 PM	11/03/08	11/07/08 5:54 AM
0811056-003B	11/02/08 3:00 PM	11/03/08	11/05/08 11:21 PM	0811056-004B	11/02/08 10:30 AM	11/03/08	11/07/08 7:04 AM
0811056-005B	11/02/08 11:30 AM	11/03/08	11/07/08 8:14 AM	0811056-006B	11/02/08 12:15 PM	11/03/08	11/05/08 10:40 PM
0811056-007B	11/02/08 9:30 AM	11/03/08	11/05/08 6:14 PM	0811056-008B	11/02/08 10:30 AM	11/03/08	11/05/08 7:21 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.

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QA/QC Officer