D4 NOV

Alameda-Contra Costa Transit District

December 27, 2006

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 2006
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 16, 2006 from six on-site monitoring wells.

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 2006
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. 0569-2006

December 2006

GROUND-WATER MONITORING
IN
NOVEMBER 2006
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 2006.

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 13, 2006 to measure the water level in wells MW-1 through MW-3 and MW-9 through MW-11, to measure the thickness of free petroleum product in the wells, and to purge the wells for ground-water sampling. The depth to free-phase product and to the static ground-water surface in each well was 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 were pumped from the six wells during this latest monitoring event. Essel Tech has been pumping 20 casing volumes of water from well MW-2 on a monthly basis. 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. Field forms documenting the monthly purging of well MW-2 are also 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 13, 2006. 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 Pacheco, 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, 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 depths to the static ground-water surface in wells MW-1 through MW-3 and MW-9 through MW-11 ranged from 2.30 to 4.35 feet below the tops of the well casings on November 13, 2006. No measurable amount of free-phase petroleum product was found in well MW-2. Essel Tech used wellhead elevation data and depth-to-water measurements made on November 13 to calculate the elevation of the ground-water surface in the wells. The elevation of the ground-water surface ranged from 0.95-foot to 2.93 feet above mean sea level in the six wells. Based on these elevations, ground water is estimated to flow toward the west at a gradient of 0.0045 (0.45-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 13, 2006.

3.2 Laboratory Analyses

Results of laboratory analyses of water samples show, in wells MW-1 through MW-3, concentrations of TPHg, TPHd, and BTEX were notably lower during the November sampling event than during the previous two sampling events. In November 2006, the highest concentrations of TPHg, TPHd, and BTEX were detected in the sample from well MW-2. Notably lower concentrations of TPHg, TPHd, and BTEX were detected in well MW-3. In well MW-1, TPHg and BTEX were not detected and TPHd was found at a concentration of 230 parts per billion (ppb). Relatively low concentrations of TPHd were found in samples from wells MW-9 (56 ppb) and MW-11 (150 ppb) and no TPHd was found in the water sample from well MW-10. No TPHg or BTEX was found in any of these three wells. The fuel oxygenate MTBE was not detected in water samples from the six wells.

As in previous monitoring events, the laboratory analytical report for the TPHg analysis indicates a significant portion of the gasoline-range hydrocarbons are unmodified or weakly modified (unweathered). The laboratory analytical report for the TPHd analysis indicates gasoline-range hydrocarbons are significant in samples from wells MW-2 and MW-3 and oil-range hydrocarbons are significant in samples from wells MW-1 through MW-3 and MW-11. Table 2 presents the results of analyses of water samples from the six wells and Appendix B contains copies of the laboratory reports of analyses.

4.0 RECOMMENDATION

Essel Tech recommends that ground-water monitoring and sampling continue on a semiannual basis with the same laboratory protocol as performed during the present sampling event. The next monitoring event should be scheduled for May 2007.

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

REGISTERED GEOLOGIST
RODGER C. WITHAM
10/07
Nº EG1566
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Table 1: Well Monitoring Data
Table 2: Results of Laboratory Analyses of Ground-Water Samples

Plate 1: Site Vicinity Map
Plate 2: Site Plan

Appendix A: Well Development and Sampling Forms
Appendix B: Chain-of-Custody Form and Laboratory Report

TABLE 1
Well Monitoring Data
Alameda-Contra Costa Transit District Facility
1100 Seminary Avenue, Oakland, California

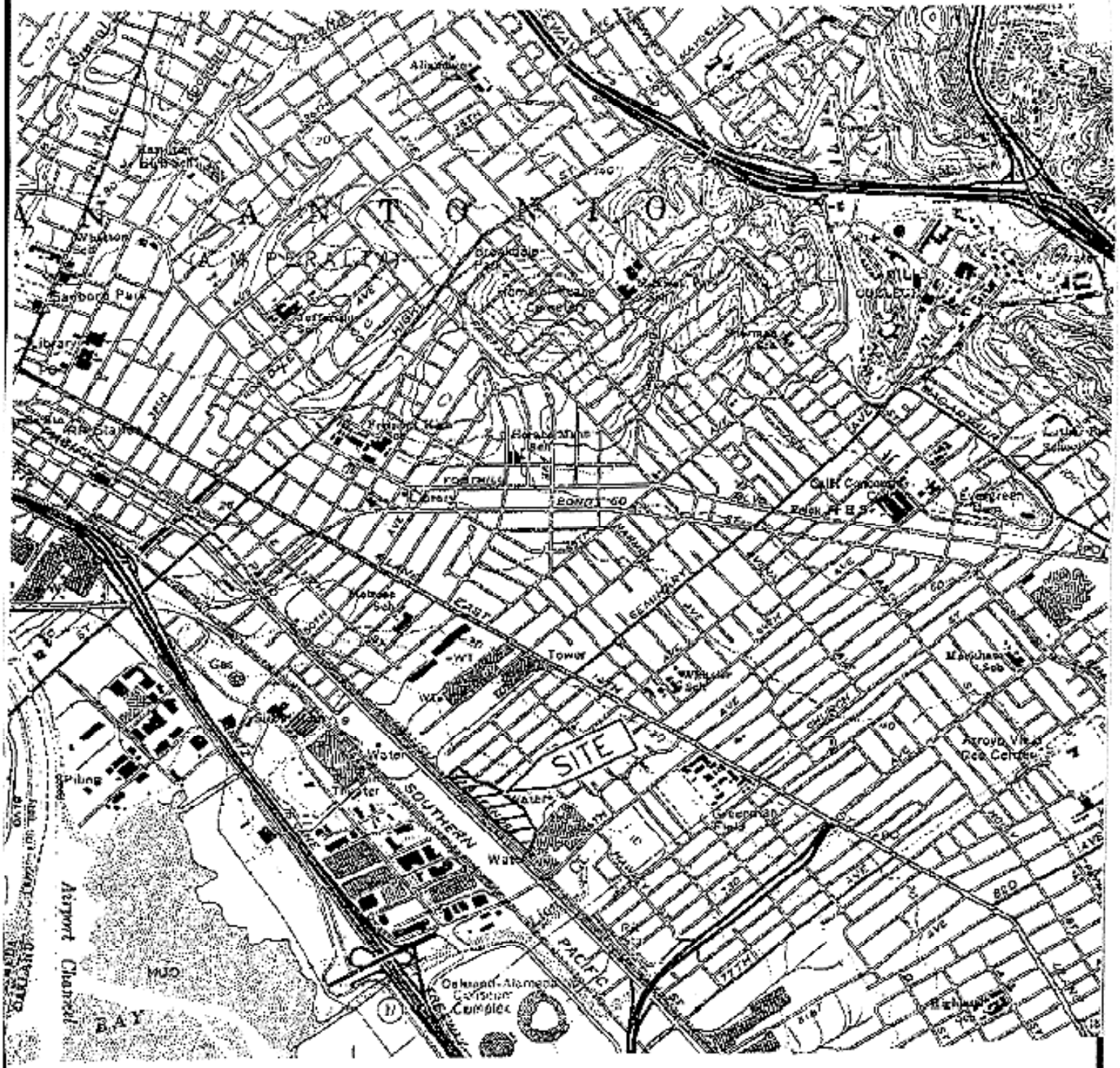
Well Number	Date	Top of Casing	Product Thickness	Depth to Ground Water	Ground-Water Surface Elevation	Ground-Water-Surface Elevation Corrected for Product Thickness#
MW-1	10.09.05	6.25	0.00	4.75	1.50	1.50
	5.28.06		0.00	3.50	2.75	2.75
	11.13.06		0.00	4.00	2.25	2.25
MW-2	10.09.05	5.53	0.083	6.91	-1.38	-1.31
	5.28.06		0.1	3.45	2.08	2.16
	11.13.06		0.0	2.60	2.93	2.93
MW-3	10.09.05	4.76	0.00	3.36	1.40	1.40
	5.28.06		0.00	2.32	2.44	2.44
	11.13.06		0.00	3.00	1.76	1.76
MW-9	10.09.05	5.80	0.00	4.45	1.35	1.35
	5.28.06		0.00	3.33	2.47	2.47
	11.13.06		0.00	4.35	1.45	1.45
MW-10	10.09.05	4.65	0.00	3.88	0.77	0.77
	5.28.06		0.00	2.78	1.87	1.87
	11.13.06		0.00	3.70	0.95	0.95
MW-11	10.09.05	4.19	0.00	3.04	1.15	1.15
	5.28.06		0.00	1.30	2.89	2.89
	11.13.06		0.00	2.30	1.89	1.89

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

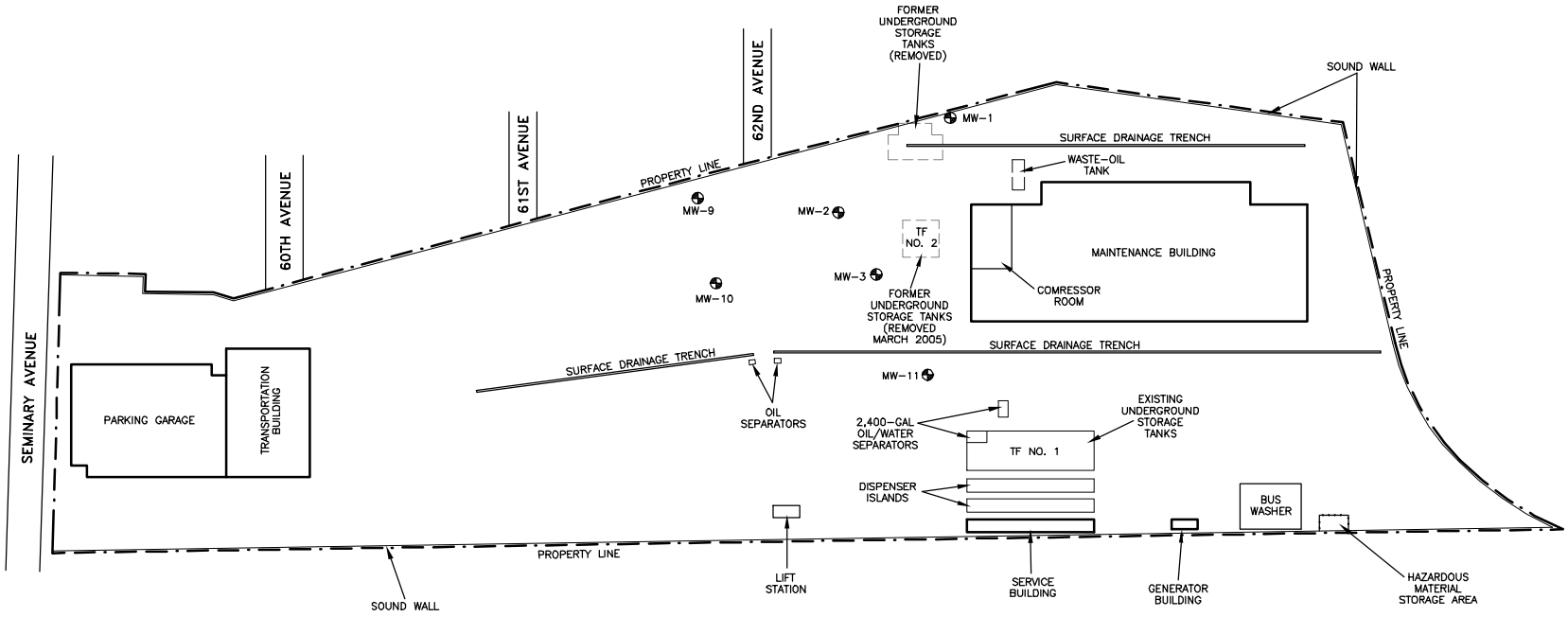
Well No.	Date Sampled	TPHg	TPHd	TPH	Benzene	Toluene	Ethyl benzene	Total Xylenes	MTBE	Nitrate	Sulfate	Dissolved Oxygen	Ferrous Iron
MW-1	10.09.05	2,800	840	NA	200	5.0	85	26	<5.0	<100	6,600	4,190	3,300
	5.29.06	1,900	580	NA	33	4.3	23	16	<5.0	<100	46,000	3,740	2,200
	11/13/06	<50	230		<0.5	<0.5	<0.5	<0.5	<5.0	180	3,000	3,270	1,200
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		560	13	46	140	<80	150	67,000	2,040	2,000
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		2.7	2.1	1.2	1.0	<5.0	<100	18,000	3,310	670
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		<0.5	<0.5	<0.5	<0.5	<5.0	170	110,000	70	1,550
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		<0.5	<0.5	<0.5	<0.5	<5.0	<100	97,000	490	1,040
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		<0.5	<0.5	<0.5	<0.5	<5.0	<100	150,000	2,700	NM

Results 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
MCL = maximum contaminant level
NA = not analyzed; NM = not measured
< = less than the laboratory method detection limit



PROJECT NO.	DRAWN BY	REPORT DATE		PLATE
05-68	EC	December 2006	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

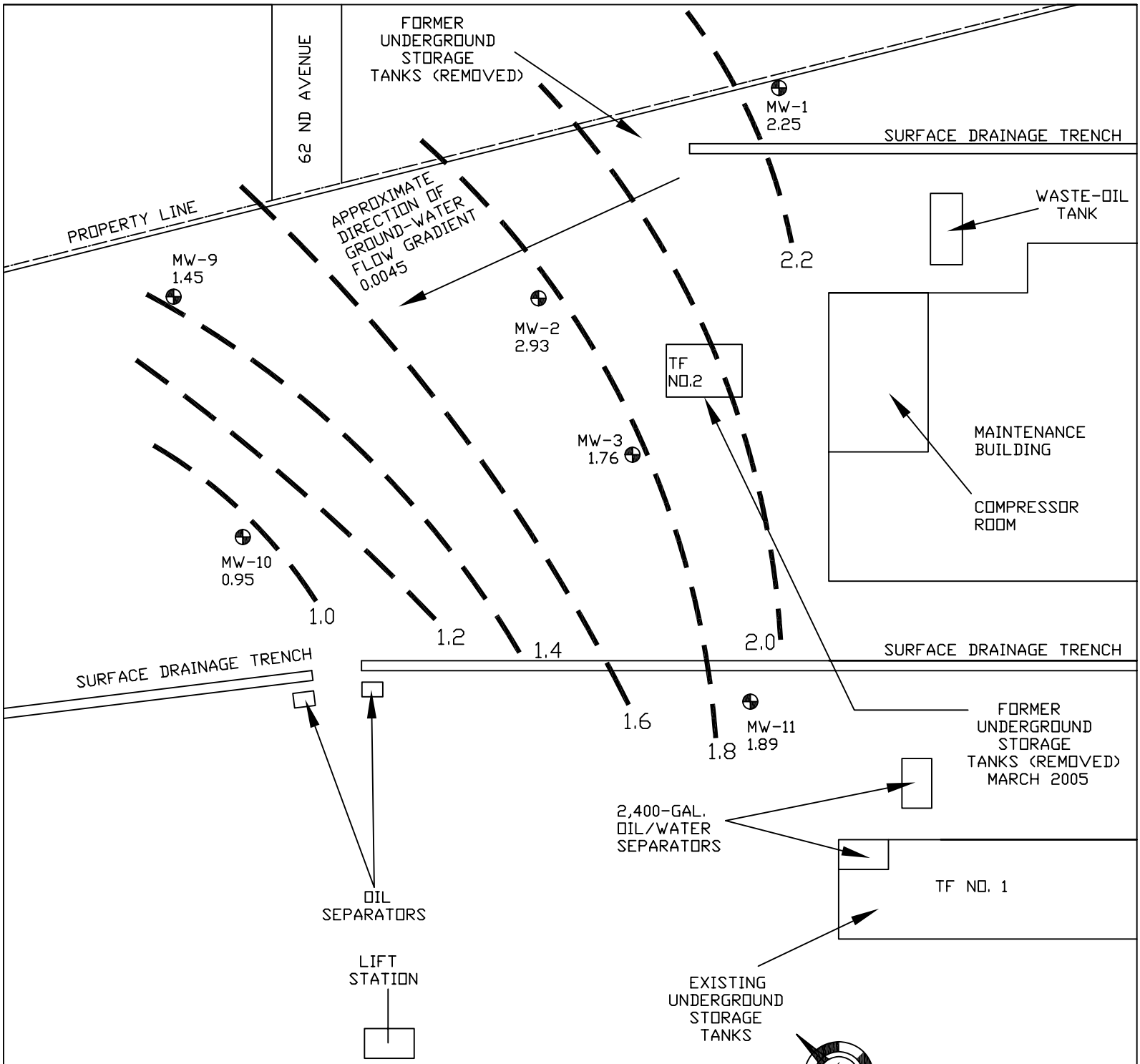
Scale: 0 120 feet 240 feet

SOURCE: MAP MODIFIED FROM PLAN SUPPLIED BY CAMERON-COLE

PROJECT NO.	DRAWN BY	REPORT DATE		PLATE
05-68	EC	November 2006	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

05-68 1106



PROJECT NO.: 05-69	DRAWN BY: R. KING	REPORT DATE: December 2006	GROUND-WATER-SURFACE MAP	PLATE: 3

ESSEL TECHNOLOGY SERVICES, INC.
4400 MARKET STREET
OAKLAND, CA. 94603

Alameda Contra Costa
Transit District Facility
1100 Seminary Avenue
Oakland, California 94608

APPENDIX A

WELL DEVELOPMENT AND SAMPLING FORMS

Well Development and Sampling Form

Job Name AC Transit – Seminar **Well Number** MW 1

Job Number _____ **Date** 11/13/06

Sample By SL

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet 15.4' Depth to water (DTW) in feet 4'	[ ] Bail Bailer Type: _____
Purge Volume Calculation (15.4 - 4) x 3 x .17 = 5.8 gallons TD - DTW x V x F = Purge volume	[ ] Pump Pump Type: [ ] Submersible [ ] Centrifuge [ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot — V= well volume

For 4" diameter well: V = 3, F= 0.66 gallon/foot — F= gallon of water per foot of casing

Field Parameters

Time AM [ ] PM [✓]	Gallons pumped	Conductivity Microhos/cm	Dissolved Oxygen	Temperature [ ]°C [ ]°F	Turbidity	pH	ORP
Start 3:12	1	51.6	137.	16.13	Cloudy	7.92	-37.7
	2.5	57.0	108.6	16.31	"	7.86	-44.7
	4.0	136.	69	15.56	Cloudy	7.61	-72.6
	5.0	296	50.3	16.95		7.35	-97.6
	6.0	419	34.6	17.31		7.18	-112.6
	7.0	591	~~17.72~~ 575	17.72		7.02	-122.7
End 3:19	8.0	682		18.0		6.97	-129.3

Total Gallons Pumped 9.0

Fe 1.2 mg/L

Observations during purging (well condition, turbidity, color, odor): Initially cloudy, then clear / Smell of Ga - very little

Discharge water disposal: [ ] **Sanitary Sewer** [ ] **Storm Drain** [✓] **Drum** [ ] **Other** _____

Well Sampling Date: _____ **Time:** _____

Well Development and Sampling Form

Job Name AC Transit - Seminary **Well Number** MW 2 Seminary

Job Number _____ **Date** 11/13/06

Sample By SL

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet 23'	[ ] Bail Bailer Type: _____
Depth to water (DTW) in feet 2.6'	[ ] Pump Pump Type: [ ] Submersible [ ] Centrifuge
Purge Volume Calculation (23 - 2.6) x 3 x .17 = 10.4 gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = Purge volume	

Explanation

For 2" diameter well: V = 3, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F= 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time AM [ ] PM [✓]	Gallons pumped	Conductivity Microhos/cm	Dissolved Oxygen %	Temperature [ ]°C [ ]°F	Turbidity	pH	ORP
Start 12:43 PM	2	2396	107.2	20.29	Cloudy	6.78	-163.7
	3	1169	69.4	20.06	"	6.95	-160.2
	4	1250	59.2	19.29	"	6.80	-154.6
	5	2039	29.2	20.47	"	6.68	-167.6
	7	2380	30.1	21.13	Sem Cl	6.66	-166.3
	8	2460	26.6	21.13	"	6.67	-161.7
End	9	2470	24.0	21.09	"	6.67	-159.1
12:55 PM	10	2464	23.6	20.95	"	6.66	-160.5

Fe 2mg/L

Total Gallons Pumped 10+ Gallon

Observations during purging (well condition, turbidity, color, odor): Dirty, Strong Smell of Gas & Oil, Cloudy,

Discharge water disposal: [ ] **Sanitary Sewer** [ ] **Storm Drain** [ ] **Drum** [ ] **Other** _____

Well Sampling Date: _____ **Time:** _____

Well Development and Sampling Form

Job Name AC Transit **Well Number** MW 3 (Seminary)

Job Number **Date** 11/12/06

Sampled By

Purge Volume	Development/Purge Method(s)
Casing Diameter: [ ] 2-inch [ ] 4-inch [ ] Other	[ ] Swab [ ] Surge [ ] Other
Total depth (TD) of casing in feet 17.75' Depth to water (DTW) in feet ~~2.95~~ 3.0'	[ ] Bail Bailer Type:
Purge Volume Calculation (17.75 - 3.0) x 5 x .17 = 12.53 gallons TD - DTW x V x F = purge volume	[ ] Pump Pump Type: [ ] Submersible [ ] Centrifugal [ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot — V = well volume

For 4" diameter well: V = 3, F = 0.66 gallon/foot — F = gallon of water per foot of casing

Field Parameters

ORP	Time a.m. [ ] p.m. [ ]	pH	Conductivity Micromhos/centimeter	Temperature [/] °C [ ] °F	Turbidity	DO mg/L	Gallons Pumped	DO %
	Start 12:26							
-10.2	12:22	6.77	428 µs/cm²	23.13	not clear	.22	4	2.2
	12:29	6.44	1107 µs/cm²	23.06	slightly cloudy	.22	7	2.5
65		7.30	392 µs/cm	23.12	cloudy	4.18	2	48.6%
		6.86	493	23.16	cloudy ~~clear~~	3.31	2	38.3
					P			

Ferroin ~~0 mg~~ 0.67 mg/L

Total Gallons Pumped

Observations during purging (well condition, turbidity, color, odor):

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [ ] Other

Well Sampling: Date: **Time:**

Well Development and Sampling Form

Job Name Seminary **Well Number** MW-15B9

Job Number _____ **Date** _____

Sample By _____

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet 19.70	[ ] Bail Bailer Type: _____
Depth to water (DTW) in feet 4.35	[ ] Pump Pump Type: [ ] Submersible [ ] Centrifuge [ ] Bladder [ ] Other
Purge Volume Calculation (19.70 - 4.35) x 5 x .17 = 13.05 gallons TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F+ 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters

Time [ ] a.m. [ ] p.m.	pH	Conductivity Microhos/centimeter	Temperature [ ]°C [ ] °F	Turbidity	Gallons pumped	DO % ORP mV
DO mg/L 2.23 Start 1:30	6.93	684	22.51	very cloudy	2 -77.0	4.9
.08 1:33	6.83	747	22.76	light cloudy	3 -91.3	.9
.08 1:35	6.86	1159	22.37	light cloudy clear clear	6 -76.1	.9
.07 1:37	6.79	1325	21.70	CLR	8 -79.6	.8

Fe 11.55 mg/L

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [ ] Other _____

Well Sampling Date: _____ **Time:** _____

Well Development and Sampling Form

Job Name Seminary **Well Number** MW-10

Job Number _____ **Date** _____

Sample By _____

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet 11.4 +	[ ] Bail Bailer Type: _____
Depth to water (DTW) in feet 3.7	[ ] Pump Pump Type: [ ] Submersible [ ] Centrifuge
Purge Volume Calculation (11.4 - 3.7) x 5 x .17 = _____ gallons	[ ] Bladder [ ] Other
TD - DTW x V x F = purge volume	

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F = 0.66 gallon/foot

V = well volume

F = gallon of water per foot of casing

Field Parameters

Time a.m. [ ] p.m. [ ]	pH	Conductivity Micrchos/centimeter	Temperature [/] °C [ ] °F	Turbidity	Gallons pumped	ORP	Do mg/L	Do %
Start 2:26	6.8	3091	22.52	dark cloudy	2	29.1	0.62	5.9
2:29	6.8	2878	22.33	clear	3	43.7	1.22	14.2
2:31	6.75	3026	22.6	cloudy	5	52.7	0.55	6.0
	6.73	3010	22.73	clr	6	52.4	0.49	2.3
		Fe 1.04 mg/L						

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

Discharge water disposal: [ ] Sanitary Sewer [ ] Storm Drain [ ] Drum [ ] Other _____

Well Sampling Date: _____ **Time:** _____

Well Development and Sampling Form

Job Name AC Transit **Well Number** MW-11

Job Number _____ **Date** _____

Sample By _____

Purge Volume	Development/Purge Method(s)
Casing Diameter: 2-inch [ ] 4-inch [ ] Other _____	[ ] Swab [ ] Surge Other _____
Total depth (TD) of casing in feet _____ Depth to water (DTW) in feet _____	[ ] Bail Bailer Type: _____
Purge Volume Calculation (13.4 - 2.3) x ____ x ____ = 9.5 gallons 11.1 x 5 x 0.17 TD - DTW x V x F = Purge volume	[ ] Pump Pump Type: [ ] Submersible [ ] Centrifuge [ ] Bladder [ ] Other

Explanation

For 2" diameter well: V = 5, F = 0.17 gallon/foot

For 4" diameter well: V = 3, F= 0.66 gallon/foot

V= well volume

F= gallon of water per foot of casing

Field Parameters							
Time AM [ ] PM [✓]	Gallons pumped	Conductivity Microhos/cm	Dissolved Oxygen	Temperature [✓]°C [ ]°F	Turbidity	pH	ORP
Start					Semi		
4.13PM	2	1137	52.6	23.0	Clear	7.24	-34.7
4.16	4	1173	38.0	23.93		7.16	-80.5
		1635	32.2	23.09		7.11	-101.4

Total Gallons Pumped _____

Observations during purging (well condition, turbidity, color, odor): _____

_____

Discharge water disposal: [ ] **Sanitary Sewer** [ ] **Storm Drain** [ ] **Drum** [ ] **Other** _____

Well Sampling Date: _____ **Time:** _____

APPENDIX B

CHAIN-OF-CUSTODY FORMS
AND
LABORATORY REPORTS

McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY
GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW) ☐

Report To: L. Sam Bill To: ETS
Company: Esscl Technology Services
9738 Broadmoor Dr.
San Ramon CA 94583
Tele: (510) 206-0270 E-Mail: EsselTekServices@aol.com
Project #: 0569 - 11/13/06 Fax: (925) 833-7977
Project Location: Seminary, #AC Transit Project Name: AC Transit Seminary
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
MW-03-1	Semin.	11/13	9:45 AM	3	VOA									
MW-03-2	MW-3	11/13	9:46	1	"									
MW-03-3	"	11/13	9:47	↓	"									
MW-03-4	"	11/13	9:50	2	Amb									
MW-03-5	"	11/13	10:10	↓	"									
MW-03-6	"	11/13	10:15	1	Poly									
MW-10-1	MW-10	11/13	10:00	3	VOA									
MW-10-2	"	11/13	11:05		"									
MW-10-3	"	11/13	11:10		"									
MW-10-4	"	11/13	11:15	2	Amb									
MW-10-5	"	11/13	11:17	↓	↓									
MW-10-6	"	11/13	11:19	1	Poly									

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 802 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Arocolors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs) BTEX+MTBE only	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 by EPA 300.0	Comments: Filter Samples for Meta analysis: Yes / No
X		X								X						X	
										X							
										X							
		X								X							
		X								X							
X										X						X	
										X							
										X							
										X							
		X								X							
										X							
																X	

Relinquished By: Samuel Xe Date: 11/14/06 Time: 12:23 Received By:
Relinquished By: Date: 11/15 Time: 8:30 Received By:
Relinquished By: Date: Time: Received By:

ICE/t° 5.8°c
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

COMMENTS:

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No

Report To: L. Sam Bill To: ETS

Company: Essel Technology Serv

E-Mail:

Tele: 0 510-206-0270 Fax: 0 925-833-7977

Project #: 0569-11137106 Project Name: AC Trans

Project Location: ACT, Seminary

Sampler Signature:

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/2:9.2/6010)	RCI	Other: Nitrate Sulfate EPA 300	Comments
MW-09-1	Semin.	11/13	11:27	3	VOA										X								X								
MW-09-2	Semi·	11/13	11:29	|	VOA										X								X								
MW-09-3	MW-9	11/13	11:31	↓	VOA										X								X								
MW-09-4	"	11/13	11:33	2	Amb											X															
MW-09-5	"	11/13	11:35	↓	Amb											X															
MW-09-6	↓	11/13	11:35	1	Poly																								X		
	"																														
MW-02-1	MW-2	11/13	1:30	3	VOA										X								X								
MW-02-2	"	11/13	1:32	|	VOA										X								X								
MW-02-3	"	11/13	1:33	↓	VOA										X								X								
MW-02-4	"	11/13	1:35	2	Amb											X															
MW-02-5	"	11/13	1:37	↓	Amb											X															
MW-02-6	↓	11/13	1:40	1	Poly																								X		

Relinquished By:	Date:	Time:	Received By:
S.	11-15	1225	Adrian
S.	11/15	8:34	Mike Vall

ICE/t° _____ VOAS | O&G | METALS | OTHER

GOOD CONDITION _____ PRESERVATION _____

HEAD SPACE ABSENT _____ APPROPRIATE

DECHLORINATED IN LAB _____ CONTAINERS _____

PERSERVED IN LAB _____

MCCAMPBELL ANALYTICAL, INC.

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Telephone: (877) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☑ 5 DAY

GeoTracker EDF ☑ PDF ☑ Excel ☐ Write On (DW) ☐

Report To: SAMHITA LAHIRI Bill To: ESSEL TECHNOLOGY SERVICES INC.

Company:

E-Mail: ESSELTEKSERVICES @ AOL.COM

Tele: (510) 206-0270 Fax: ( )

Project #: 05-69 Project Name: Gr. water sampling

Project Location: Seminary

Sampler Signature: Samhita Lahiri

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
MW-1-01	MW-1	11/13/06	3.20	3	VOAs	X						X		
02	Seminary													
03														
MW-1-04				1	Amb									
MW-1-				1	Poly									
MW-11-01	MW-11		5.00	3	VOAs							X		
02														
03														
MW-11-04				1	Amb									
MW-11-05				1	Poly									
MW-06	Trip Blank													

Analysis Request

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 Pestrides)	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 (NO_3) & Sulfate (SO_4) by EPA 300	Comments: Filter Samples for Metals analysis: Yes / No
X					X												
	X									3					X		
X					X												
	X																

Relinquished By:	Date:	Time:	Received By:
Samhita Lahiri	11/14/06	12:25	
Relinquished By:	Date: 11/15	Time: 8:39	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t°
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

COMMENTS:

PRESERVATION VOAS O&G METALS OTHER pH<2

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 9778 Broadmoore Drive San Ramon, CA 94583	Client Project ID: #0569-11/13/06; AC Transit	Date Sampled: 11/13/06
		Date Received: 11/15/06
	Client Contact: Samhita Lahiri	Date Reported: 11/21/06
	Client P.O.:	Date Completed: 11/21/06

WorkOrder: 0611338

November 21, 2006

Dear Samhita:

Enclosed are:

1). the results of **6** analyzed samples from your **#0569-11/13/06; AC Transit 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. McCampbell 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

McCampbell Analytical, Inc.
"When Quality Counts"

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Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Service	Client Project ID: #0569-11/13/06; AC Transit	Date Sampled: 11/13/06
9778 Broadmoore Drive		Date Received 11/15/06
San Ramon, CA 94583	Client Contact: Samhita Lahiri	Date Extracted 11/15/06
	Client P.O.:	Date Analyze 11/15/06-11/16/06

Inorganic Anions by IC*

Extraction method E300.1 Analytical methods E300.1 Work Order: 0611338

Lab ID	Client ID	Matrix	Nitrate as N	DF	Nitrate as $NO3^-$	DF	Sulfate	DF	% SS
001B	MW-03-1-6	W	ND	1	ND	1	18	20	91
002B	MW-10-1-6	W	ND	1	ND	1	97	20	93
003B	MW-09-1-6	W	0.17	1	0.76	1	110	20	90
004B	MW-02-1-6	W	0.15	1	0.65	1	67	20	91
005B	MW-1-01-04	W	0.18	1	0.78	1	3.0	1	90
006B	MW-11-01-06	W	ND	1	ND	1	150	20	94

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.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted/reporting limit raised due to high inorganic content/matrix interference; k) sample arrived with head space.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Service	Client Project ID: #0569-11/13/06; AC Transit	Date Sampled: 11/13/06
9778 Broadmoore Drive		Date Received: 11/15/06
San Ramon, CA 94583	Client Contact: Samhita Lahiri	Date Extracted: 11/17/06-11/18/06
	Client P.O.:	Date Analyzed: 11/17/06-11/18/06

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0611338

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-03-1-6	W	410,a	ND	2.7	2.1	1.2	1.0	1	104
002A	MW-10-1-6	W	ND	ND	ND	ND	ND	ND	1	86
003A	MW-09-1-6	W	ND	ND	ND	ND	ND	ND	1	93
004A	MW-02-1-6	W	3000,a	ND<80	560	13	46	140	1	98
005A	MW-1-01-04	W	ND	ND	ND	ND	ND	ND	1	93
006A	MW-11-01-06	W	ND	ND	ND	ND	ND	ND	1	92

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	1	µg/L
	S	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 McCampbell 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.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

Essel Technology Service	Client Project ID: #0569-11/13/06; AC Transit	Date Sampled: 11/13/06
9778 Broadmoore Drive		Date Received: 11/15/06
San Ramon, CA 94583	Client Contact: Samhita Lahiri	Date Extracted: 11/15/06
	Client P.O.:	Date Analyzed 11/16/06-11/18/06

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

Extraction method SW3510C Analytical methods SW8015C Work Order: 0611338

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0611338-001C	MW-03-1-6	W	170,g,d	1	101
0611338-002C	MW-10-1-6	W	ND	1	108
0611338-003C	MW-09-1-6	W	56,b	1	106
0611338-004C	MW-02-1-6	W	7200,a,g,d	1	99
0611338-005C	MW-1-01-04	W	230,g,b	1	107
0611338-006C	MW-11-01-06	W	150,g,b	1	92

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: 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.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR E300.1

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0611338

EPA Method E300.1 **Extraction E300.1** **BatchID: 24773** **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	105	103	1.94	N/A	N/A	85 - 115	15
Sulfate	N/A	1	N/A	N/A	N/A	110	110	0	N/A	N/A	85 - 115	15
%SS:	N/A	0.10	N/A	N/A	N/A	94	94	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 24773 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0611338-001	11/13/06 9:45 AM	11/15/06	11/15/06 9:47 PM	0611338-001	11/13/06 9:45 AM	11/15/06	11/16/06 2:35 AM
0611338-002	11/13/06 10:00 AM	11/15/06	11/15/06 10:16 PM	0611338-002	11/13/06 10:00 AM	11/15/06	11/16/06 3:03 AM
0611338-003	11/13/06 11:27 AM	11/15/06	11/15/06 10:45 PM	0611338-003	11/13/06 11:27 AM	11/15/06	11/16/06 3:32 AM
0611338-004	11/13/06 1:30 PM	11/15/06	11/15/06 11:14 PM	0611338-004	11/13/06 1:30 PM	11/15/06	11/16/06 4:01 AM
0611338-005	11/13/06 3:20 PM	11/15/06	11/15/06 11:42 PM	0611338-006	11/13/06 5:00 PM	11/15/06	11/16/06 12:11 AM
0611338-006	11/13/06 5:00 PM	11/15/06	11/16/06 4:58 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.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
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QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0611338

EPA Method SW8015C **Extraction SW3510C** **BatchID: 24782** **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(d)	N/A	1000	N/A	N/A	N/A	107	110	2.41	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	104	104	0	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 24782 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0611338-001	11/13/06 9:45 AM	11/15/06	11/16/06 10:51 PM	0611338-002	11/13/06 10:00 AM	11/15/06	11/17/06 3:19 AM
0611338-003	11/13/06 11:27 AM	11/15/06	11/17/06 4:26 AM	0611338-004	11/13/06 1:30 PM	11/15/06	11/17/06 5:33 AM
0611338-005	11/13/06 3:20 PM	11/15/06	11/17/06 6:40 AM	0611338-006	11/13/06 5:00 PM	11/15/06	11/18/06 12:38 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.

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0611338

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 24787 Spiked Sample ID: 0611321-009A

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	105	106	0.900	102	108	6.26	70 - 130	30	70 - 130	30
MTBE	ND	10	101	98.6	2.62	102	106	4.24	70 - 130	30	70 - 130	30
Benzene	ND	10	98.3	98.1	0.258	95.4	98.5	3.17	70 - 130	30	70 - 130	30
Toluene	ND	10	90.9	90.5	0.477	89.1	91.3	2.37	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	97.4	98.7	1.40	97.9	101	3.30	70 - 130	30	70 - 130	30
Xylenes	ND	30	96.7	96.7	0	92	96.3	4.60	70 - 130	30	70 - 130	30
%SS:	102	10	94	95	1.03	94	96	2.96	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 24787 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0611338-001	11/13/06 9:45 AM	11/17/06	11/17/06 8:28 AM	0611338-002	11/13/06 10:00 AM	11/18/06	11/18/06 1:06 AM
0611338-003	11/13/06 11:27 AM	11/17/06	11/17/06 9:34 AM	0611338-004	11/13/06 1:30 PM	11/17/06	11/17/06 10:07 AM
0611338-004	11/13/06 1:30 PM	11/18/06	11/18/06 1:57 AM	0611338-005	11/13/06 3:20 PM	11/17/06	11/17/06 10:40 AM
0611338-006	11/13/06 5:00 PM	11/17/06	11/17/06 11:13 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.

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

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0611338 **ClientID: ETSR**

☑ EDF ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

Report to:
Samhita Lahiri
Essel Technology Service
9778 Broadmoore Drive
San Ramon, CA 94583
Email: esseltekservices@aol.com
TEL: (925) 833-7991 FAX: (925) 833-7977
ProjectNo: #0569-11/13/06; AC Transit
PO:

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

Requested TAT: 5 days

Date Received: 11/15/2006
Date Printed: 11/20/2006

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0611338-001	MW-03-1-6	Water	11/13/06 9:45:00	☐	B	A	A	C								
0611338-002	MW-10-1-6	Water	11/13/06 10:00:00	☐	B	A		C								
0611338-003	MW-09-1-6	Water	11/13/06 11:27:00	☐	B	A		C								
0611338-004	MW-02-1-6	Water	11/13/06 1:30:00	☐	B	A		C								
0611338-005	MW-1-01-04	Water	11/13/06 3:20:00	☐	B	A		C								
0611338-006	MW-11-01-06	Water	11/13/06 5:00:00	☐	B	A		C								

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: Melissa Valles

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.