AC Transit
Alameda-Contra Costa Transit District

10626 East 14th Street, Oakland, California 94603☐ (510) 577-8804
FAX☐ (510) 577-8859

March 21, 2001

1233

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

MAR 23 2001

Dear Mr. Chan:

Subject: Quarterly Groundwater Monitoring Report
AC Transit. 1100 Seminary Avenue, Oakland, CA

AC Transit hereby submits the enclosed quarterly groundwater monitoring report for the fourth quarter of 2000 for the AC Transit facility located at 1100 Seminary Avenue in Oakland. Groundwater sampling of monitoring wells MW-1 through MW-3 and MW-9 through MW-11 was performed by Safety-Kleen Consulting in accordance with directives from your office.

Groundwater samples were collected from the six on-site monitoring wells on November 20, 2000. Samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline and diesel using EPA Method 8015, benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl-tert butyl ether (MTBE) using EPA Method 8260B and nitrate and sulfate using Standard Methods 300.0A. Field parameters collected during sampling included pH, temperature, electrical conductivity, dissolved oxygen, ferrous iron and oxidation reduction potential.

Analytical results of grab water samples showed benzene concentrations above the California maximum contaminant level of 1 ppb in wells MW-1 and MW-2 and nondetectable concentrations in wells MW-9, MW-10 and MW-11. For the sample taken from MW-2, the analytical detection limit for benzene, toluene, ethylbenzene and xylenes was 25 ppb instead of 1 ppb, the detection limit for all other water samples. Chemical concentrations above laboratory reporting limits in the three newly installed wells MW-9, MW-10, and MW-11, were limited to unspecified hydrocarbons, except for 7.5 ppb MTBE detected in MW-11.

If you have any questions regarding this report or other matters pertaining to this site, please call me at (510) 577-8869.

Sincerely,

Suzanne Patton

Suzanne Patton, P.E.
Environmental Engineer

enclosure

GROUNDWATER MONITORING REPORT FOR THE AC TRANSIT FACILITY LOCATED AT 1100 SEMINARY AVENUE, OAKLAND, CALIFORNIA

March 14, 2001

Ms. Suzanne Patton
AC Transit
10626 E. 14th Street
Oakland, California 94603

Prepared By:
Safety-Kleen Consulting
2233 Santa Clara Avenue
Alameda, California 94501

Project No: 792588

safety-kleen

GROUNDWATER MONITORING
REPORT FOR THE
AC TRANSIT FACILITY
LOCATED AT 1100 SEMINARY AVENUE,
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March 14, 2001

Prepared For:
Ms. Suzanne Patton
AC Transit
10626 E. 14th Street
Oakland, California 94603

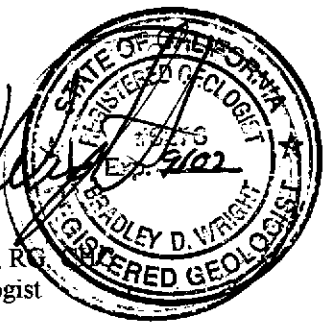
Prepared By:
Safety-Kleen Consulting
2233 Santa Clara Avenue
Alameda, California 94501

Project No: 792588

for: Written by
Brady Hanson
Geologist I

for: Reviewed by
Greg Pedersen
Geologist II

Approved by
Brad Wright, RG
Senior Geologist



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INTRODUCTION

This report presents the results from the November 2000 sampling event for the AC Transit Facility located at 1100 Seminary Avenue, Oakland, California (Site) (Figure 1). Groundwater sampling of monitor wells MW-1 through MW-3 and MW-9 through MW-11 was performed by Safety-Kleen Consulting, in accordance with directives from the Alameda County Health Care Services Agency (ACHCS).

OBJECTIVES AND SCOPE OF WORK

Work performed during quarterly sampling included measuring depth to water and presence of free phase hydrocarbons in the monitor wells and sample collection. Field parameters collected during sampling included pH, temperature, electric conductivity, dissolved oxygen (DO), ferrous iron (Fe^{2+}) and oxygen reduction potential (ORP). Groundwater samples were collected for laboratory analysis using United States Environmental Protection Agency (USEPA) Method 8015 for total petroleum hydrocarbons (TPH) gasoline/diesel, USEPA Method 8260B for benzene, toluene, ethylbenzene, and xylene (BTEX) and methyl-tert butyl ether (MTBE) and methods of chemical analysis for water and waste (MCAWW) 300.0A for nitrate and sulfate.

Chain-of-custody documents and certified analytical reports are presented in Appendix A. Field data sheets are included in Appendix B.

Groundwater Elevations and Flow Direction

Prior to purging and sample collection, all six site monitor wells were inspected and measured for presence of free phase hydrocarbons and depth to groundwater. Measurements of depths to groundwater are presented on Table 1 and were used to construct the groundwater elevation contours shown in Figure 2. A free phase hydrocarbon layer was detected in MW-2 at a measured thickness of 0.25 feet. As shown on Figure 2, groundwater flow is to the west at a gradient of 0.003 feet/foot.

Groundwater Sampling Activities

The monitor wells were purged a minimum of three casing volumes, using a centrifugal pump and samples were collected using disposable polyethylene bailers. During well purging, field parameters for pH, electrical conductivity, DO, ORP and temperature were monitored using calibrated field meters. Due to the very low yield encountered while purging monitoring well MW-11, only two casing volumes were evacuated before it became dry.

Groundwater samples were transferred to appropriate laboratory supplied and preserved containers and placed in an ice-filled cooler for shipment under chain-of-custody to a State of California certified laboratory. A trip blank was

submitted for analysis by USEPA Method 8260B.

Groundwater Analytical Results

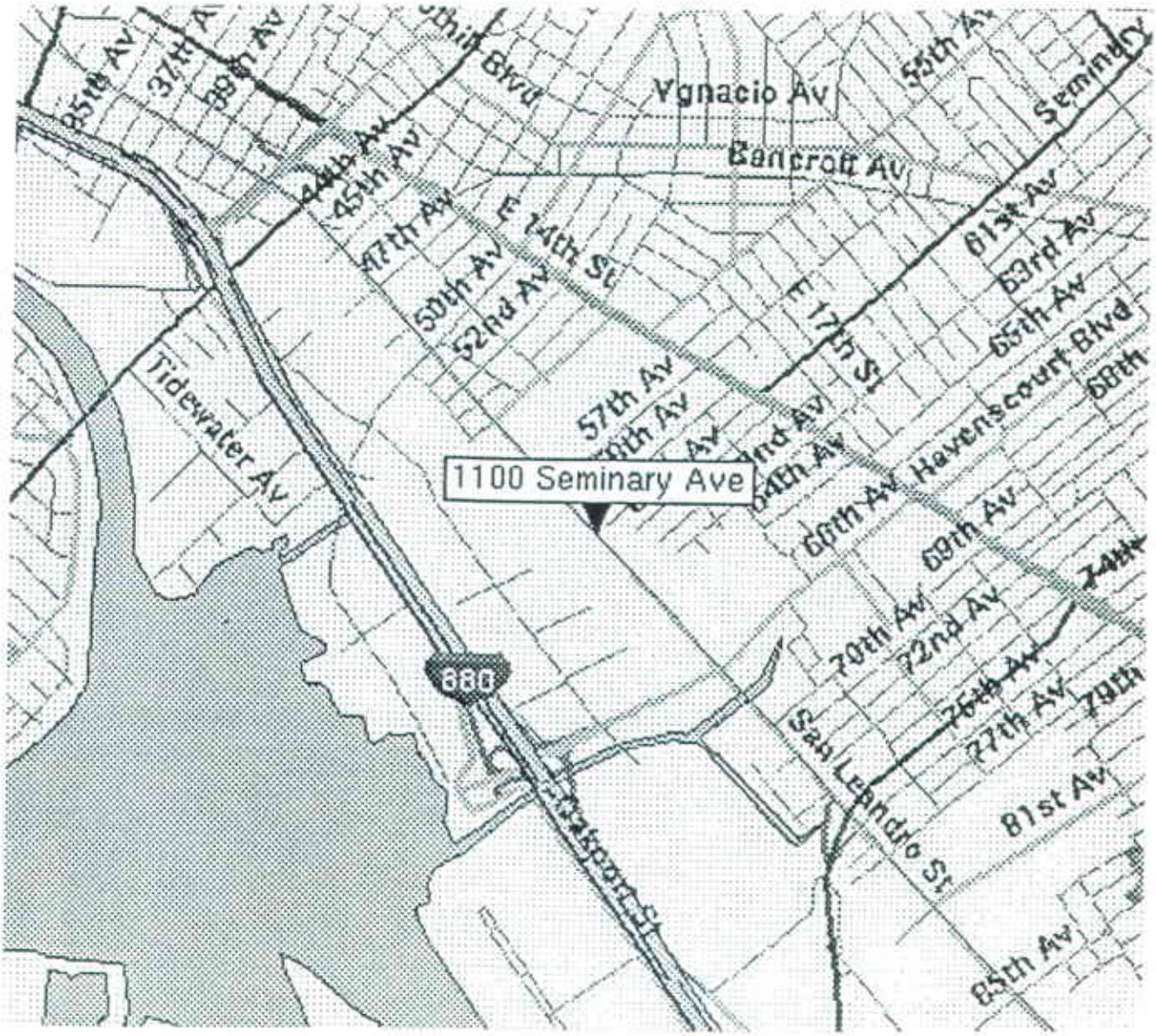
Table 2 presents groundwater historic and fourth quarter 2000 analytical results. Concentrations of benzene above the State of California maximum contaminant level (MCL) of 1.0 part per billion (ppb) were detected in monitor wells MW-1 and MW-2. Chemical concentrations above laboratory reporting limits detected in newly installed wells MW-9 through MW-11 were limited to unspecified hydrocarbons, with the exception of 7.5 ppb MTBE detected in MW-11. The carbon chain range of the unspecified hydrocarbon suggests that these concentrations represent degraded diesel. No analytes were detected in the trip blanks or method blanks. A lab control spike and lab control spike duplicate passed the USEPA's criteria for acceptance.

SUMMARY OF RESULTS

- A 0.23 foot free phase hydrocarbon layer was measured in monitor well MW-2.
- Groundwater flow direction is towards the west at a gradient of 0.003 feet/foot;
- Chemical concentrations in excess of MCLs were limited to benzene in wells MW-1and MW-2.

PROJECTED WORK AND RECOMMENDATIONS

- Quarterly groundwater monitoring is scheduled for March 2001.



LOCMAP

North

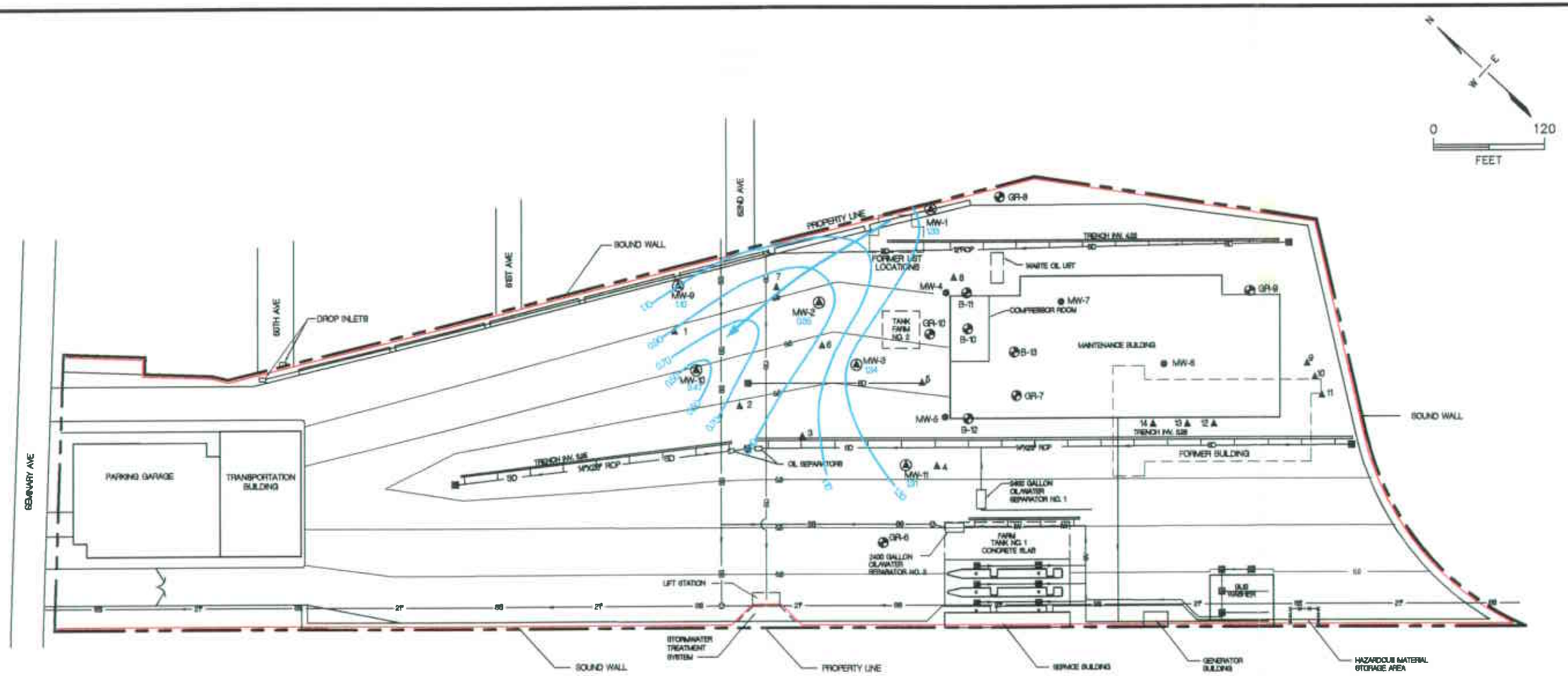
safety-kleen consulting

AC TRANSIT - OAKLAND, CALIFORNIA

FIGURE 1
SITE LOCATION MAP
1100 SEMINARY ROAD

SCALE: NO SCALE

DATE: 3/22/00



LEGEND:

GROUNDWATER ELEVATION CONTOUR -10	GROUNDWATER ELEVATION (FT. MSL)
REPORTED GROUNDWATER FLOW	EXISTING MONITORING WELL
6.0 CONTOUR	ABANDONED MONITORING WELL
SD STORM DRAIN PIPELINE	PREVIOUSLY INSTALLED SOIL BORING
SS SANITARY SEWER PIPELINE	NEWLY INSTALLED SOIL BORING
IW INDUSTRIAL WASTE PIPELINE	MANHOLE
SURFACE DRAINAGE TRENCH	CATCH BASIN

FIGURE 2

	BY	DATE
DRAWN	CJJ	2-12-01
CHECKED		
APPROVED		
APPROVED		
APPROVED		

safety-kleen consulting

AC TRANSIT - OAKLAND, CALIFORNIA

1100 SEMINARY ROAD-POTENTIOMETRIC SURFACE MAP NOVEMBER 20, 2000

SCALE: 1" = 120'

DWG NO: 792675-0001

TABLE 1
GROUNDWATER LEVEL MEASUREMENTS
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well	Date	Top of Casing Elevation (ft-msl)*	Product Thickness (feet)	DTW (feet)	Measured Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected for Product Thickness**
MW-1	7-Jan-99	6.25	None	5.13	1.12	
	7-Feb-00		None	3.75	2.5	
	25-May-00		None	3.69	2.56	
	22-Aug-00		None	4.79	1.46	
	20-Nov-00		**None**	**4.92**	**1.33**	
MW-2	7-Jan-99	5.53	2.27	6.91	-1.38	0.44
	8-Jun-99		2.23	5.83	-0.3	1.48
	9-Jun-99		0	3.9	1.63	1.63
	10-Jun-99		0	3.9	1.63	1.63
	15-Jun-99		0.42	3.92	1.61	1.95
	8-Jul-99		0.2	4.3	1.23	1.39
	7-Feb-00		Sheen	3.8	1.73	
	25-May-00		0.12	3.23	2.3	2.40
	22-Aug-00		0.23	4.45	1.08	1.10
	20-Nov-00		**0.23**	**4.70**	**0.83**	**0.85**
MW-3	7-Jan-99	4.76	None	4.11	0.65	
	7-Feb-00		None	3.1	1.66	
	25-May-00		None	2.41	2.35	
	22-Aug-00		None	3.45	1.31	
	20-Nov-00		**None**	**3.42**	**1.34**	
MW-9	7-Feb-00	5.8	None	4.37	1.43	
	25-May-00		None	4.95	0.85	
	22-Aug-00		None	5.18	0.62	
	20-Nov-00		**None**	**4.70**	**1.10**	
MW-10	7-Feb-00	4.65	None	3.19	1.46	
	25-May-00		None	3.11	1.54	
	22-Aug-00		None	4.35	0.30	
	20-Nov-00		**None**	**4.18**	**0.47**	
MW-11	7-Feb-00	4.19	None	4.97	-0.78	
	25-May-00		None	7.58	-3.39	
	22-Aug-00		None	3.01	1.18	
	20-Nov-00		**None**	**2.88**	**1.31**	

Notes:

* ft-msl: feet-mean sea level
** used 0.8 specific gravity of product
DTW: Depth to Water

TABLE 2
ANALYTICAL RESULTS OF GROUNDWATER SAMPLES (ppb)
AC Transit Facility
1100 Seminary Avenue, Oakland, California

Well/Boring	Date	TPH-G	TPH-D	TPH	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	Nitrate	Sulfate	DO	Fe
	MCL (ppb)				1.0	150	700	1,750					
MW-1	7-Jan-99	<100	470	NA	17	2	31	18	<50	150	3,400	360	53
	7-Feb-00	390	<60	1,300	13	<10	<10	<10	<20	<50	1,200	1,220	11,800
	25-May-00	<50	<50	1,000	12	<1.0	<1.0	<1.0	<2.0	140	1,500	1,950	1,380
	22-Aug-00	<50	<50	600	6.3	<1.0	2.3	<1.0	<2.0	75	2,100	6,850	2,350
	20-Nov-00	**<50**	**<50**	**630**	**2.8**	**<1.0**	**1.1**	**<1.0**	**<2.0**	**<50**	**4,500**	**11,210**	**1,170**
MW-2 (Product)	8-Jun-99	11,000	434,000	117,000	1,000,000	<100,000	260,000	<300,000	<5,000,000	NA	NA	NA	NA
	7-Feb-00	51,000	160,000	<5000	19,000	<500	920	<500	<1000	51	<1000	6,660	7,300
	25-May-00	<1200	<50000	65,000	11,000	<500	670	530	<1000	330	<1000	5,670	0
	22-Aug-00	<2500	<2500	150,000	23,000	<500	1,100	1,100	<1000	370	<1000	4,530	3,680
	20-Nov-00	**<1200**	**<25000**	[redacted]	[redacted]	**<500**	**840**	**610**	**<1000**	**<250**	**<500**	**1,700**	**3,300**
MW-3	7-Jan-99	199	2,680	NA	450	<10	250	190	<500	170	3,300	880	0
	7-Feb-00	2,000	<150	3,100	26	<2	5	2	<4	<50	47,300	6,480	17,800
	25-May-00	<50	<50	1,000	35	<1.0	6	4	<2.0	<50	21,700	4,640	600
	22-Aug-00	<50	<50	2,400	240	<10	<10	<10	<20	<50	19,300	3,970	20
	20-Nov-00	**<50**	**<50**	**2,400**	**<25**	**<25**	**<25**	**<25**	**<50**	**<50**	**26,500**	**4,120**	**20**
MW-9	7-Feb-00	<50	<50	240	<1	<1	<1	<1	<2	230	183,000	6,940	9,000
	25-May-00	<50	<50	130	<1.0	<1.0	<1.0	<1.0	<2.0	250	172,000	6,020	1,200
	22-Aug-00	<50	<50	120	<1.0	<1.0	<1.0	<1.0	<2.0	280	157,000	7,250	0
	20-Nov-00	**<50**	**<50**	**130**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**340**	**147,000**	**9,690**	**0**
MW-10	7-Feb-00	<50	<50	470	<1	<1	<1	<1	<2	53	114,000	1,200	55,000
	25-May-00	<50	<50	220	<1.0	<1.0	<1.0	<1.0	<2.0	480	136,000	1,940	0
	22-Aug-00	<50	<50	140	<1.0	<1.0	<1.0	<1.0	<2.0	69	126,000	4,350	0
	20-Nov-00	**<50**	**<50**	**300**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<2.0**	**<50**	**76,200**	**3,790**	**0**
MW-11	7-Feb-00	<50	<50	400	<1	<1	<1	<1	25	800	167,000	7,300	16,200
	25-May-00	<50	<50	200	<1.0	<1.0	<1.0	<1.0	16	480	207,000	6,540	0
	22-Aug-00	<50	<50	170	<1.0	<1.0	<1.0	<1.0	9.3	610	168,000	4,640	20
	20-Nov-00	**<50**	**<50**	**190**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**7.5**	**550**	**143,000**	**2,380**	**0**

Notes:
ppb: parts per billion
TPH-G: total petroleum hydrocarbons as gasoline
TPH-D: total petroleum hydrocarbons as diesel
TPH: total petroleum hydrocarbons as motor oil or unknow hydrocarbon (TEPH) diesel/m.o.
MCL: Maximum Contaminant Level
MTBE: Methyl-tert,butylether
DO: Dissolved Oxygen
Fe: Ferrous Iron

APPENDIX A

CERTIFIED ANALYTICAL REPORTS

CHAIN-OF-CUSTODY DOCUMENTS

SEVERN TRENT SERVICES

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605-1500

Tel: 916 373 5600
Fax: 916 371 8420
www.stl-inc.com

December 29, 2000

STL SACRAMENTO PROJECT NUMBER: G0K210188
PO/CONTRACT: AC Transit

Brad Wright
Safety Kleen Consulting
2233 Santa Clara Ave
Suite 7
Alameda, CA 94501

Dear Mr. Wright,

This report contains the analytical results for the samples received under chain of custody by STL Sacramento on 11/20/00. These samples are associated with your AC Transit Seminary project.

The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916)374-4414.

Sincerely,

Bonnie McNeill

Bonnie J. McNeill
Project Manager

CASE NARRATIVE

STL SACRAMENTO PROJECT NUMBER G0K210188

General Comments

Samples were received at 4 and 6 degrees Centigrade.

There were no anomalies associated with this project.

STL Sacramento

Quality Control Definitions

QC Parameter	Definition
QC Batch	A set of up to 20 field samples plus associated laboratory QC samples that are similar in composition (matrix) and that are processed within the same time period with the same reagent and standard lots.
Duplicate Control Sample (DCS)	Consist of a pair of LCSs analyzed within the same QC batch to monitor precision and accuracy independent of sample matrix effects. This QC is performed only if required by client or when insufficient sample is available to perform MS/MSD.
Duplicate Sample (DU)	A second aliquot of an environmental sample, taken from the same sample container when possible, that is processed independently with the first sample aliquot. The results are used to assess the effect of the sample matrix on the precision of the analytical process. The precision estimated using this sample is not necessarily representative of the precision for other samples in the batch.
Laboratory Control Sample (LCS)	A volume of reagent water for aqueous samples or a contaminant-free solid matrix (Ottawa sand) for soil and sediment samples which is spiked with known amounts of representative target analytes and required surrogates. An LCS is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A field sample fortified with known quantities of target analytes that are also added to the LCS. Matrix spike duplicate is a second matrix spike sample. MSs/MSDs are carried through the entire analytical process and are used to determine sample matrix effect on accuracy of the measurement system. The accuracy and precision estimated using MS/MSD is only representative of the precision of the sample that was spiked.
Method Blank (MB)	A sample composed of all the reagents (in the same quantities) in reagent water carried through the entire analytical process. The method blank is used to monitor the level of contamination introduced during sample preparation steps.
Surrogate Spike	Organic constituents not expected to be detected in environmental media and are added to every sample and QC at a known concentration. Surrogates are used to determine the efficiency of the sample preparation and the analytical process.

Source: STL Sacramento® Quality Control Program, Policy QA-003, Rev. 0, 8/19/96.

Sample Summary
G0K210188

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
DP88J	1	TRIP BLANK	11/20/00 07:00 AM	11/20/00 06:50 PM
DP88W	2	MW-1	11/20/00 10:20 AM	11/20/00 06:50 PM
DP89D	3	MW-9	11/20/00 11:50 AM	11/20/00 06:50 PM
DP89G	4	MW-10	11/20/00 01:05 PM	11/20/00 06:50 PM
DP89H	5	MW-3	11/20/00 02:00 PM	11/20/00 06:50 PM
DP89J	6	MW-2	11/20/00 03:00 PM	11/20/00 06:50 PM
DP89M	7	MW-11	11/20/00 03:50 PM	11/20/00 06:50 PM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must no be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weigh

STL-Sacramento

[redacted]

Chain of Custody Record

Quanterra

QUA-4124 0797

Client	Project Manager	Date	Chain of Custody Number
SAFETY-KLEEN	BRAD WRIGHT	8-22-00	52696
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
2233 SANTA CLARA	510 337 8660		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
ALAMEDA / CA / 94501			
Project Name	**Carrier/Waybill Number**		
AC TRANSIT SEMINARY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Nitrate/Sulfate	8260 BTEX/MTBE	GRO 8015	DRO 8015
TRIP BLANK	11-20-00	0700	X										X		
MW-1		1020	X									X	X	X	X
MW-9		1150	X									X	X	X	X
MW-10		1305	X									X	X	X	X
MW-3		1400	X									X	X	X	X
MW-2		1500	X									X	X	X	X
MW-11		1550	X									X	X	X	X

Special Instructions/ Conditions of Receipt

RECEIVED IN GOOD CONDITION UNDER COC
NOV 20 2000
INI: CC

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☒ 48 Hours ☐ 7 Days ☐ 14 Days ☒ 21 Days BY ☐ Other _____

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
Brad A Howard	11-20-00	1700		11/20/00	1850
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

(916) 373-5600

WATER, CA LUFT, TVPH (*Gas*)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC Volatiles

Lot-Sample #...: G0K210188-002 Work Order #...: DP88W2AE Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/04/00 Analysis Date..: 12/04/00
Prep Batch #...: 0353541
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	340	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	106	(70 - 130)

NOTE(S):

Benzene contributes 16% of the area for gasoline range. This percentage is atypical for gasoline.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC Volatiles

Lot-Sample #...: G0K210188-003 Work Order #...: DP89D1AE Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0353504
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	93	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC Volatiles

Lot-Sample #...: G0K210188-004 Work Order #...: DP89G1AE Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0353504
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	94	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...: G0K210188-005	Work Order #...: DP89H1AE	Matrix.....: WATER	
Date Sampled...: 11/20/00	Date Received..: 11/20/00		
Prep Date.....: 12/01/00	Analysis Date..: 12/01/00		
Prep Batch #...: 0353504			
Dilution Factor: 1	Method.....: DHS CA LUFT		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	740	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(70 - 130)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Volatiles

Lot-Sample #...: G0K210188-006	Work Order #...: DP89J3AE	Matrix.....: WATER	
Date Sampled...: 11/20/00	Date Received..: 11/20/00		
Prep Date.....: 12/04/00	Analysis Date..: 12/04/00		
Prep Batch #...: 0353541			
Dilution Factor: 25	Method.....: DHS CA LUFT		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	1200	ug/L
Unknown Hydrocarbon	**35000**	**1200**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	70	(70 - 130)

NOTE(S):

Benzene contributes 82% of the area for gasoline range. This percentage is atypical for gasoline.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-11

GC Volatiles

Lot-Sample #...: G0K210188-007 Work Order #...: DP89M1AE Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/02/00
Prep Batch #...: 0353504
Dilution Factor: 1 Method.....: DHS CA LUFT

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	50	ug/L
Unknown Hydrocarbon	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	93	(70 - 130)

QC DATA ASSOCIATION SUMMARY

G0K210188

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
002	WATER	DHS CA LUFT		0353541	
003	WATER	DHS CA LUFT		0353504	
004	WATER	DHS CA LUFT		0353504	
005	WATER	DHS CA LUFT		0353504	
006	WATER	DHS CA LUFT		0353541	
007	WATER	DHS CA LUFT		0353504	

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: G0K210188 Work Order #...: DRL351AA Matrix.....: WATER
MB Lot-Sample #: G0L180000-504

Prep Date.....: 12/01/00
Analysis Date..: 12/01/00 Prep Batch #...: 0353504
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Gasoline)	ND	50	ug/L	DHS CA LUFT
Unknown Hydrocarbon	ND	50	ug/L	DHS CA LUFT

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	94	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: G0K210188 **Work Order #...:** DRL7V1AA **Matrix.....:** WATER
MB Lot-Sample #: G0L180000-541

Prep Date.....: 12/04/00
Analysis Date..: 12/04/00 **Prep Batch #...:** 0353541
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Gasoline)	ND	50	ug/L	DHS CA LUFT
Unknown Hydrocarbon	ND	50	ug/L	DHS CA LUFT

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	94	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: G0K210188 **Work Order #...:** DRL351AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0L180000-504 DRL351AD-LCSD
Prep Date.....: 12/01/00 **Analysis Date..:** 12/01/00
Prep Batch #...: 0353504
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Gasoline)	**1000**	**1000**	**ug/L**	**100**		**DHS CA LUFT**
	1000	**1020**	**ug/L**	**102**	**1.9**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(70 - 130)
	104	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: G0K210188 Work Order #...: DRL7V1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: G0L180000-541 DRL7V1AD-LCSD
Prep Date.....: 12/04/00 Analysis Date..: 12/04/00
Prep Batch #...: 0353541
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Gasoline)	**1000**	**993**	**ug/L**	**99**		**DHS CA LUFT**
	1000	**978**	**ug/L**	**98**	**1.4**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	103	(70 - 130)
	101	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: G0K210188 **Work Order #...:** DRL351AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0L180000-504 DRL351AD-LCSD
Prep Date.....: 12/01/00 **Analysis Date..:** 12/01/00
Prep Batch #...: 0353504
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Gasoline)	**100**	**(70 - 130)**			**DHS CA LUFT**
	102	**(70 - 130)**	**1.9**	**(0-35)**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(70 - 130)
	104	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: G0K210188 **Work Order #...:** DRL7V1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0L180000-541 DRL7V1AD-LCSD
Prep Date.....: 12/04/00 **Analysis Date..:** 12/04/00
Prep Batch #...: 0353541
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Gasoline)	**99**	**(70 - 130)**			**DHS CA LUFT**
	98	**(70 - 130)**	**1.4**	**(0-35)**	**DHS CA LUFT**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	103	(70 - 130)
	101	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

WATER, 8260B, BTEX + MTBE

SAFETY KLEEN CONSULTING

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: G0K210188-001 Work Order #...: DP88J1AA Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	96	(74 - 116)
1,2-Dichloroethane-d4	90	(60 - 132)
Toluene-d8	101	(81 - 120)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC/MS Volatiles

Lot-Sample #...: G0K210188-002 Work Order #...: DP88W2AF Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	2.8	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	1.1	1.0	ug/L
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(74 - 116)
1,2-Dichloroethane-d4	98	(60 - 132)
Toluene-d8	99	(81 - 120)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC/MS Volatiles

Lot-Sample #...: G0K210188-003 Work Order #...: DP89D1AF Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(74 - 116)
1,2-Dichloroethane-d4	108	(60 - 132)
Toluene-d8	106	(81 - 120)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC/MS Volatiles

Lot-Sample #...: G0K210188-004 Work Order #...: DP89G1AF Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	96	(74 - 116)
1,2-Dichloroethane-d4	105	(60 - 132)
Toluene-d8	100	(81 - 120)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC/MS Volatiles

Lot-Sample #...: G0K210188-005 Work Order #...: DP89H1AF Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 25 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	25	ug/L
Toluene	ND	25	ug/L
Ethylbenzene	ND	25	ug/L
Methyl tert-butyl ether (MTBE)	ND	50	ug/L
Xylenes (total)	ND	25	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(74 - 116)
1,2-Dichloroethane-d4	97	(60 - 132)
Toluene-d8	102	(81 - 120)

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC/MS Volatiles

Lot-Sample #...: G0K210188-006	Work Order #...: DP89J2AF	Matrix.....: WATER	
Date Sampled...: 11/20/00	Date Received..: 11/20/00		
Prep Date.....: 12/03/00	Analysis Date..: 12/04/00		
Prep Batch #...: 0357347			
Dilution Factor: 500	Method.....: SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**18000 Q**	**500**	**ug/L**
Toluene	ND	500	ug/L
Ethylbenzene	**840**	**500**	**ug/L**
Methyl tert-butyl ether (MTBE)	ND	1000	ug/L
Xylenes (total)	**610**	**500**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(74 - 116)
1,2-Dichloroethane-d4	101	(60 - 132)
Toluene-d8	103	(81 - 120)

NOTE(S):

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-11

GC/MS Volatiles

Lot-Sample #...: G0K210188-007 Work Order #...: DP89M2AF Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00
Prep Date.....: 12/01/00 Analysis Date..: 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	7.5	2.0	ug/L
Xylenes (total)	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(74 - 116)
1,2-Dichloroethane-d4	86	(60 - 132)
Toluene-d8	120	(81 - 120)

QC DATA ASSOCIATION SUMMARY

G0K210188

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 8260B		0356588	
002	WATER	SW846 8260B		0356588	
003	WATER	SW846 8260B		0356588	
004	WATER	SW846 8260B		0356588	
005	WATER	SW846 8260B		0356588	
006	WATER	SW846 8260B		0357347	
007	WATER	SW846 8260B		0356588	

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: G0K210188 **Work Order #...:** DRWT21AA **Matrix.....:** WATER
MB Lot-Sample #: G0L210000-588

Prep Date.....: 12/01/00
Analysis Date..: 12/01/00 **Prep Batch #...:** 0356588
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	96	(74 - 116)
1,2-Dichloroethane-d4	97	(60 - 132)
Toluene-d8	103	(81 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: G0K210188 Work Order #...: DRXK71AA Matrix.....: WATER
MB Lot-Sample #: G0L220000-347

Prep Date.....: 12/03/00
Analysis Date..: 12/04/00 Prep Batch #...: 0357347
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	106	(74 - 116)
1,2-Dichloroethane-d4	119	(60 - 132)
Toluene-d8	112	(81 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: G0K210188 **Work Order #...:** DRWT21AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0L210000-588 DRWT21AD-LCSD
Prep Date.....: 12/01/00 **Analysis Date..:** 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	**10.0**	**10.7**	ug/L	107		**SW846 8260B**
	10.0	**9.69**	ug/L	97	9.5	**SW846 8260B**
Toluene	**10.0**	**9.30**	ug/L	93		**SW846 8260B**
	10.0	**9.71**	ug/L	97	4.3	**SW846 8260B**
Chlorobenzene	**10.0**	**9.86**	ug/L	99		**SW846 8260B**
	10.0	**9.59**	ug/L	96	2.8	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**11.5**	ug/L	115		**SW846 8260B**
	10.0	**11.7**	ug/L	117	1.2	**SW846 8260B**
Trichloroethene	**10.0**	**9.64**	ug/L	96		**SW846 8260B**
	10.0	**9.77**	ug/L	98	1.3	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(74 - 116)
	97	(74 - 116)
1,2-Dichloroethane-d4	108	(60 - 132)
	101	(60 - 132)
Toluene-d8	95	(81 - 120)
	99	(81 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: G0K210188 Work Order #...: DRXK71AC-LCS Matrix.....: WATER
LCS Lot-Sample#: G0L220000-347 DRXK71AD-LCSD
Prep Date.....: 12/03/00 Analysis Date..: 12/03/00
Prep Batch #...: 0357347
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	**10.0**	**10.4**	**ug/L**	**104**		**SW846 8260B**
	10.0	**10.1**	**ug/L**	**101**	**2.6**	**SW846 8260B**
Toluene	**10.0**	**10.5**	**ug/L**	**105**		**SW846 8260B**
	10.0	**10.3**	**ug/L**	**103**	**1.9**	**SW846 8260B**
Chlorobenzene	**10.0**	**10.2**	**ug/L**	**102**		**SW846 8260B**
	10.0	**9.95**	**ug/L**	**100**	**2.6**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**10.1**	**ug/L**	**101**		**SW846 8260B**
	10.0	**9.78**	**ug/L**	**98**	**2.9**	**SW846 8260B**
Trichloroethene	**10.0**	**10.3**	**ug/L**	**103**		**SW846 8260B**
	10.0	**10.0**	**ug/L**	**100**	**3.3**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(74 - 116)
	111	(74 - 116)
1,2-Dichloroethane-d4	116	(60 - 132)
	119	(60 - 132)
Toluene-d8	111	(81 - 120)
	112	(81 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: G0K210188 **Work Order #...:** DRWT21AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0L210000-588 DRWT21AD-LCSD
Prep Date.....: 12/01/00 **Analysis Date..:** 12/01/00
Prep Batch #...: 0356588
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**107**	**(70 - 130)**			**SW846 8260B**
	97	**(70 - 130)**	**9.5**	**(0-35)**	**SW846 8260B**
Toluene	**93**	**(70 - 130)**			**SW846 8260B**
	97	**(70 - 130)**	**4.3**	**(0-35)**	**SW846 8260B**
Chlorobenzene	**99**	**(70 - 130)**			**SW846 8260B**
	96	**(70 - 130)**	**2.8**	**(0-35)**	**SW846 8260B**
1,1-Dichloroethene	**115**	**(70 - 130)**			**SW846 8260B**
	117	**(70 - 130)**	**1.2**	**(0-35)**	**SW846 8260B**
Trichloroethene	**96**	**(70 - 130)**			**SW846 8260B**
	98	**(70 - 130)**	**1.3**	**(0-35)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(74 - 116)
	97	(74 - 116)
1,2-Dichloroethane-d4	108	(60 - 132)
	101	(60 - 132)
Toluene-d8	95	(81 - 120)
	99	(81 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: G0K210188 Work Order #...: DRXK71AC-LCS Matrix.....: WATER
LCS Lot-Sample#: G0L220000-347 DRXK71AD-LCSD
Prep Date.....: 12/03/00 Analysis Date..: 12/03/00
Prep Batch #...: 0357347
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**104**	**(70 - 130)**			**SW846 8260B**
	101	**(70 - 130)**	**2.6**	**(0-35)**	**SW846 8260B**
Toluene	**105**	**(70 - 130)**			**SW846 8260B**
	103	**(70 - 130)**	**1.9**	**(0-35)**	**SW846 8260B**
Chlorobenzene	**102**	**(70 - 130)**			**SW846 8260B**
	100	**(70 - 130)**	**2.6**	**(0-35)**	**SW846 8260B**
1,1-Dichloroethene	**101**	**(70 - 130)**			**SW846 8260B**
	98	**(70 - 130)**	**2.9**	**(0-35)**	**SW846 8260B**
Trichloroethene	**103**	**(70 - 130)**			**SW846 8260B**
	100	**(70 - 130)**	**3.3**	**(0-35)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	111	(74 - 116)
	111	(74 - 116)
1,2-Dichloroethane-d4	116	(60 - 132)
	119	(60 - 132)
Toluene-d8	111	(81 - 120)
	112	(81 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

WATER, 8015 MOD, Diesel

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

GC Semivolatiles

Lot-Sample #...:	G0K210188-002	Work Order #...:	DP88W1AD
Date Sampled...:	11/20/00	Date Received..:	11/20/00
Prep Date.....:	11/27/00	Analysis Date..:	12/03/00
Prep Batch #...:	0332201		
Dilution Factor:	1	Method.....:	SW846 8015 MOD

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	630	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	138 *	(66 - 136)

NOTE(S):

* Surrogate recovery is outside stated control limits.

The surrogate recovery in the sample is outside control limits due to confirmed matrix effect.

Unknown hydrocarbon from n-C8 to n-C40, quantitation based on a diesel reference from n-C10 to n-C24

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

GC Semivolatiles

Lot-Sample #...:	G0K210188-003	Work Order #...:	DP89D1AD	Matrix.....:	WATER
Date Sampled...:	11/20/00	Date Received..:	11/20/00		
Prep Date.....:	11/27/00	Analysis Date..:	12/03/00		
Prep Batch #...:	0332201				
Dilution Factor:	1	Method.....:	SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	130	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	115	(66 - 136)

NOTE(S):

Unknown hydrocarbon from n-C12 to n-C40, quantitation is based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

GC Semivolatiles

Lot-Sample #...:	G0K210188-004	Work Order #...:	DP89G1AD
Date Sampled...:	11/20/00	Date Received..:	11/20/00
Prep Date.....:	11/27/00	Analysis Date..:	12/03/00
Prep Batch #...:	0332201		
Dilution Factor:	1	Method.....:	SW846 8015 MOD

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	300	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	121	(66 - 136)

NOTE(S):

Unknown hydrocarbon from n-C12 to n-C40, quantitation based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

GC Semivolatiles

Lot-Sample #...:	G0K210188-005	Work Order #...: DP89H1AD	Matrix.....: WATER
Date Sampled...:	11/20/00	Date Received..: 11/20/00	
Prep Date.....:	11/27/00	Analysis Date..: 12/03/00	
Prep Batch #...:	0332201		
Dilution Factor:	1	Method.....: SW846 8015 MOD	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	2400	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	158 *	(66 - 136)

NOTE(S):

* Surrogate recovery is outside stated control limits.

The surrogate recovery in the sample is outside control limits due to confirmed matrix effect.

unknown hydrocarbon from n-C8 to n-C40, quantitation is based on a diesel reference from n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

GC Semivolatiles

Lot-Sample #...:	G0K210188-006	Work Order #...: DP89J1AD	Matrix.....: WATER
Date Sampled...:	11/20/00	Date Received..: 11/20/00	
Prep Date.....:	11/27/00	Analysis Date..: 12/08/00	
Prep Batch #...:	0332201		
Dilution Factor:	500	Method.....: SW846 8015 MOD	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	25000	ug/L
Unknown Hydrocarbon	430000	25000	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	0.0 SRD	(66 - 136)

NOTE(S):

SRD The surrogate recovery was not calculated because the extract was diluted beyond the ability to quantitate a recovery.

Unknown hydrocarbon from n-C08 to n-C26 quantitation is based on a diesel reference between n-C10 to n-C24.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-11

GC Semivolatiles

Lot-Sample #...:	G0K210188-007	Work Order #...:	DP89M1AD	Matrix.....:	WATER
Date Sampled...:	11/20/00	Date Received..:	11/20/00		
Prep Date.....:	11/27/00	Analysis Date..:	12/22/00		
Prep Batch #...:	0332201				
Dilution Factor:	1	Method.....:	SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	ND	50	ug/L
Unknown Hydrocarbon	190	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	100	(66 - 136)

NOTE(S):

Unknown hydrocarbon from n-C12 to n-C40, quantitation based on a diesel reference from n-C10 to n-C24.

QC DATA ASSOCIATION SUMMARY

G0K210188

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 8260B		0356588	
002	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
	WATER	SW846 8015 MOD		0332201	
	WATER	DHS CA LUFT		0353541	
	WATER	SW846 8260B		0356588	
003	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
	WATER	SW846 8015 MOD		0332201	
	WATER	DHS CA LUFT		0353504	
	WATER	SW846 8260B		0356588	
004	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
	WATER	SW846 8015 MOD		0332201	
	WATER	DHS CA LUFT		0353504	
	WATER	SW846 8260B		0356588	
005	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
	WATER	SW846 8015 MOD		0332201	
	WATER	DHS CA LUFT		0353504	
	WATER	SW846 8260B		0356588	
006	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
	WATER	SW846 8015 MOD		0332201	
	WATER	DHS CA LUFT		0353541	
	WATER	SW846 8260B		0357347	
007	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
	WATER	SW846 8015 MOD		0332201	
	WATER	DHS CA LUFT		0353504	
	WATER	SW846 8260B		0356588	

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: G0K210188 Work Order #...: DQD611AA Matrix.....: WATER
MB Lot-Sample #: G0K270000-201

Prep Date.....: 11/27/00
Analysis Date..: 12/03/00 Prep Batch #...: 0332201
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Diesel)	ND	50	ug/L	SW846 8015 MOD
Unknown Hydrocarbon	ND	50	ug/L	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	102	(66 - 136)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: G0K210188 Work Order #...: DQD611AC-LCS Matrix.....: WATER
LCS Lot-Sample#: G0K270000-201 DQD611AD-LCSD
Prep Date.....: 11/27/00 Analysis Date..: 12/03/00
Prep Batch #...: 0332201
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Diesel)	300	318	ug/L	106		SW846 8015 MOD
	300	318	ug/L	106	0.20	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	111	(66 - 136)
	106	(66 - 136)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: G0K210188 **Work Order #...:** DQD611AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: G0K270000-201 DQD611AD-LCSD
Prep Date.....: 11/27/00 **Analysis Date..:** 12/03/00
Prep Batch #...: 0332201
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Diesel)	**106**	**(50 - 129)**			**SW846 8015 MOD**
	106	**(50 - 129)**	**0.20**	**(0-23)**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	111	(66 - 136)
	106	(66 - 136)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

General Chemistry - Various Methods

SAFETY KLEEN CONSULTING

Client Sample ID: MW-1

General Chemistry

Lot-Sample #...: G0K210188-002 Work Order #...: DP88W Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	ND	0.050	mg/L	MCAWW 300.0A	11/21/00	0333362
Sulfate	4.5	1.0	mg/L	MCAWW 300.0A	11/21/00	0333353

SAFETY KLEEN CONSULTING

Client Sample ID: MW-9

General Chemistry

Lot-Sample #...: G0K210188-003 Work Order #...: DP89D Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	0.34	0.050	mg/L	MCAWW 300.0A	11/21/00	0333362
Sulfate	147 Q	10.0	mg/L	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-10

General Chemistry

Lot-Sample #...: G0K210188-004 Work Order #...: DP89G Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	ND	0.050	mg/L	MCAWW 300.0A	11/21/00	0333362
Sulfate	76.2 Q	10.0	mg/L	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-3

General Chemistry

Lot-Sample #...: G0K210188-005 Work Order #...: DP89H Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	ND	0.050	mg/L	MCAWW 300.0A	11/21/00	0333362
Sulfate	26.5	1.0	mg/L	MCAWW 300.0A	11/21/00	0333353

SAFETY KLEEN CONSULTING

Client Sample ID: MW-2

General Chemistry

Lot-Sample #...: G0K210188-006 Work Order #...: DP89J Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	ND G	0.25	mg/L	MCAWW 300.0A	11/21/00	0333362
Sulfate	ND G	5.0	mg/L	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

RL Reporting Limit

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

SAFETY KLEEN CONSULTING

Client Sample ID: MW-11

General Chemistry

Lot-Sample #...: G0K210188-007 Work Order #...: DP89M Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	0.55 G	0.25	mg/L	MCAWW 300.0A	11/21/00	0333362
Sulfate	143 Q	10.0	mg/L	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

RL Reporting Limit

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

QC DATA ASSOCIATION SUMMARY

G0K210188

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
002	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
003	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
004	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
005	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
006	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156
007	WATER	MCAWW 300.0A		0333353	0333148
	WATER	MCAWW 300.0A		0333362	0333156

METHOD BLANK REPORT

General Chemistry

Client Lot #...: G0K210188 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N		Work Order #: DQF7K1AA		MB Lot-Sample #:	G0K280000-362	
	ND	0.050	mg/L	MCAWW 300.0A	11/21/00	0333362
Sulfate		Work Order #: DQF6K1AA		MB Lot-Sample #:	G0K280000-353	
	ND	1.0	mg/L	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: G0K210188 Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N			Work Order #: DQF7K1AC		LCS Lot-Sample#: G0K280000-362		
	1.00	0.920	mg/L	92	MCAWW 300.0A	11/21/00	0333362
Sulfate			Work Order #: DQF6K1AC		LCS Lot-Sample#: G0K280000-353		
	20.0	19.4	mg/L	97	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: G0K210188 Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N		Work Order #: DQF7K1AC LCS Lot-Sample#: G0K280000-362			
	92	(90 - 110)	MCAWW 300.0A	11/21/00	0333362
Sulfate		Work Order #: DQF6K1AC LCS Lot-Sample#: G0K280000-353			
	97	(90 - 110)	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: G0K210188 **Matrix.....:** WATER
Date Sampled...: 11/20/00 **Date Received..:** 11/20/00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH
Nitrate as N			WO#: DP88W1AJ-MS/DP88W1AK-MSD				MS Lot-Sample #: G0K210188-002		
	ND	1.00	0.940	mg/L	94		MCAWW 300.0A	11/21/00	033336
	ND	1.00	1.01	mg/L	101	7.2	MCAWW 300.0A	11/21/00	033336
Sulfate			WO#: DP88W1AG-MS/DP88W1AH-MSD				MS Lot-Sample #: G0K210188-002		
	4.5	15.0	18.9	mg/L	96		MCAWW 300.0A	11/21/00	033335
	4.5	15.0	18.7	mg/L	95	1.1	MCAWW 300.0A	11/21/00	033335

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: G0K210188 Matrix.....: WATER
Date Sampled...: 11/20/00 Date Received..: 11/20/00

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N		WO#: DP88W1AJ-MS/DP88W1AK-MSD				MS Lot-Sample #: G0K210188-002	
	94	(90 - 110)			MCAWW 300.0A	11/21/00	0333362
	101	(90 - 110)	7.2	(0-10)	MCAWW 300.0A	11/21/00	0333362
Sulfate		WO#: DP88W1AG-MS/DP88W1AH-MSD				MS Lot-Sample #: G0K210188-002	
	96	(90 - 110)			MCAWW 300.0A	11/21/00	0333353
	95	(90 - 110)	1.1	(0-10)	MCAWW 300.0A	11/21/00	0333353

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

APPENDIX B

SAMPLING EVENT DATA SHEETS

DEPTH TO WATER

DATE: 11-20

PROJECT AC Transit Seminary EVENT Quarterly TECHNICIAN RH

NO.	WELL OR LOCATION	DATE	TIME	MEASUREMENT	CODE	COMMENTS
1	MW-1	11-20-00	0848	4.92		
2	MW-2	↓	0854	6.43	OIL	6.66 OWI (4.70 w/sounder)
3	MW-3		0815	3.42		
4	MW-9		0825	4.70		
5	MW-10		0821	4.18		
6	MW-11		0812	2.88		
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

CODES: SWL - Static Water Level
OIL - Oil Level
OWI - Oil/Water Interface
MTD - Measured Total Depth

Well ID: MW-1

Project Name: AC TRANSIT SEMINARY
Casing Diameter (in): 2"
Total Well Depth (ft): 15.50
Depth to Water (ft), before purging: 4.92

Project Number: 792588
Sample Date: 11-20-00
Sample ID: MW-1

Development Method:
X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1000	6.88	1930	29.1	5.63	1.5	.28
1004	6.83	1220	33.2	5.88	3.0	↓
1011	6.84	1130	33.8	5.71	5.5	↓
				TOTAL PURGED = 5.5 gal		

Water Volume to be Purged (gal) = (15.50 - 4.92) = 10.58 x .165 = 1.746 x 3 = 5.2
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 4 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:
X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):
NITRITE/SULFATE
8260
8015 GPO/DRO

CENT. PUMP TO PURGE

DO. = 11.21 mg/L
Fe = 1.17 mg/L
ORP - 75

Parameter Collected:
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:
RINSED/WASHED SOUNDERS/METERS

Comments / Calculations:

START : 955
STOP : 1015
SAMPLED 1020

R. Hill 11-20-00

Well ID: MW-9

Project Name: AC TRANSIT SEMINARY
Project Number: 792588
Casing Diameter (in): 2"
Sample Date: 11-20-00
Total Well Depth (ft): 19.50'
Sample ID: MW9
Depth to Water (ft), before purging: 4.70'

Development Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1112	7.51	1110	38.8	7.41	2	.23
1122	7.80	1620	44.8	8.50	4.5	↓
1135	7.87	1710	47.8	10.40	7	↓
				TOTAL VOLUME: 7 gal		

Water Volume to be Purged (gal) = (19.50 - 4.70) = 14.8 x .165 = 2.4 x 3 = 7.3
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 4 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

NITRITE SULFATE
8260
8015 GRO/DRO

DO = 9.69 mg/L
Fe 0.00 mg/L

Parameter Collected:
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe): Cent pump to purge

ORP = 220

Decontamination Performed:

R/W S/M

Comments / Calculations:

START 1105
STOP 1136
SAMPLE 1150

Brady H.

11-20-00

Well ID: MW-10

Project Name: AC TRANSIT SEMINARY
Project Number: 792588
Casing Diameter (in): 2"
Sample Date: 11-20-00
Total Well Depth (ft): 11.40'
Sample ID: MW-10
Depth to Water (ft), before purging: 4.18

Development Method:

___ Bailer: ___ Teflon ___ Stainless Steel ___ PVC ___ ABS Plastic

X Pump: ___ Dedicated Submersible Pump ___ Bladder Pump
X Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1246	6.86	2860	25.5	5.94	1.25	.40
1249	6.92	2660	28.5	7.40	2.50	↓
1252	6.92	2650	30.7	7.88	3.75	↓
				TOTAL	VOLUME = 4	gal

Water Volume to be Purged (gal) = (11.40 - 4.18) = 7.22 x .165 = 1.19 x 3 = 3.57
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 4 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

___ Bailer: ___ Teflon ___ Stainless Steel ___ PVC ___ ABS Plastic

X Pump: ___ Dedicated Submersible Pump ___ Bladder Pump
X Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

NITRATE / SULFATE
8260
8015 GRO/DRO

Parameter Collected:

DO: 3.79
Fe: 0.00
ORP: 205

Sample Appearance
___ OVA Reading (ppm)
___ Suspended Solids (describe): Cent pump to purge

Decontamination Performed: W/R S/M

Comments / Calculations:

START 1243
STOP 1253
SAMPLE 1305

Well ID: MW-3

Project Name: AC TRANSIT Seminary
Project Number: 792588
Casing Diameter (in): 2"
Sample Date: 11-20-00
Total Well Depth (ft): 16.80'
Sample ID: MW-3
Depth to Water (ft), before purging: 3.42'

Development Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1341	7.42	680	24.8	7.70	2	.43
1345	7.20	620	32.8	7.68	4	↓
1348	7.28	660	34.8	7.70	6	↓
				TOTAL	VOLUME = 6.5	gal

Water Volume to be Purged (gal) = (16.80 - 3.42) = 13.38 x .165 = 2.20 x 3 = 6.60 gal
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 4 in. well
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):
NITRITE/SULFATE
8260
8015 GRO/DRO

Parameter Collected: CENT PUMP TO PURGE
Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

DO - 4.12 mg/L
Fe - 0.02 mg/L
ORP = 20

Decontamination Performed: WASHED/RINSED SOUNDERS/METERS

Comments / Calculations:

START - 1355

STOP : 1350

SAMPLE : 1400

Rudy Hinds

11-20-00

Well ID: MW-2

Project Name: AC TRANS. SEMINARY
Project Number: 792588
Casing Diameter (in): 2"
Sample Date: 11-20-00
Total Well Depth (ft): 23.50
Sample ID: MW-2
Depth to Water (ft), before purging: 4.22'

Development Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1436	7.18	2110	28.5	9.38	3	.50
1440	7.07	2350	33.9	10.89	6	↓
1448	6.98	2430	34.5	13.12	9	↓
				TOTAL VOLUME = 10 gal		

Water Volume to be Purged (gal) = (23.50 - 4.22) = 19.28 x .165 = 3.2 x 3 = 9.59
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 4 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 3 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

NITRITE/SULFATE
8260
8015 GRO/DRO

Parameter Collected:

DO: 1.70 mg/L
Fe: 3.30 mg/L
ORP: 25

Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe):

Decontamination Performed:

R/W S/M

Comments / Calculations:

START: 1430
STOP: 1450
SAMPLE: 1500

Brad Hanson

11-20-00

Well ID: MW-11

Project Name: AC TRANSIT SEMINARY
Project Number: 792588
Casing Diameter (in): 2"
Sample Date: 11-20-00
Total Well Depth (ft): 13.5
Sample ID: MW-11
Depth to Water (ft), before purging: 2.88

Development Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

Time	pH	Conduct. (umho/cm)	Temp. (Celsius)	Water Level (to 0.01 ft)	Cum. Vol. (gal)	Pump Rate (GPM)
1222	7.40	1360	38.9	9.49	1.50	.13
1230	7.48	1360	37.1	13.21	3.0	1
					5.0	DRY
				DRY		
				TOTAL PURGED	= 3.7	

Water Volume to be Purged (gal) = (13.5 - 2.88) = 10.62 x .165 = 1.75 x 3 = 5.25
(Casing Length in Ft - Depth to Water in Ft) x X x 3
Where X = 1 Well Volume in gal/ft, X = 0.165 for 2 in. wells, X = 0.37 for 3 in. wells, X = 0.65 for 4 in. wells
NOTE: 3 to 5 Well Casing Volumes required prior to sample collection.

At least 2 well casing volumes were removed prior to sampling.

Sample Collection Method:

X Bailer: ____ Teflon ____ Stainless Steel ____ PVC ____ ABS Plastic

X Pump: ____ Dedicated Submersible Pump ____ Bladder Pump
X Non-Dedicated Submersible Pump

QA/QC Samples if any (Duplicate, Field Blank, Rinse Blank, etc.):

NITRITE/SULFATE
8260
8015 GRO/DRO

Parameter Collected:

DO = 2.38 mg/L
Fe = 0.00
ORP = 195

Sample Appearance
____ OVA Reading (ppm)
____ Suspended Solids (describe): cent pump to purge

Decontamination Performed: R/W S/M

Comments / Calculations:

START: 1208
STOP: 1236
SAMPLE: 1550

Brady Hanson 11-20-00