



2009 ANNUAL GROUNDWATER MONITORING REPORT

**JEFFY LUBE FACILITY
4902 25th AVENUE NORTHEAST
SEATTLE, WASHINGTON**

SAP CODE	171156
INCIDENT NO.	97605414
AGENCY NO.	41675877
VCP NO.	NW2079

MARCH 9, 2010
REF. NO. 241735 (9)
This report is printed on recycled paper.

**Prepared by:
Conestoga-Rovers
& Associates**

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1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (SOPUS). This annual report includes all monitoring data collected in the second half of 2009. Monitoring data collected in the first half of 2009 was submitted under a separate cover.

1.1 SITE INFORMATION

Site Address	4902 25 th Avenue Northeast, Seattle
Site Use	Jiffy Lube Facility
Shell Project Manager	Carol Campagna
CRA Project Manager	Justin Foslien
Lead Agency and Contact	WDOE, Libby Goldstein
Agency Case No.	41675877
Shell SAP Code:	171156
Shell Incident No.	97605414
VCP No.	NW2079

The most recent agency correspondence on record is dated on March 5, 2009.

2.0 SITE ACTIVITIES, FINDINGS, AND DISCUSSION

2.1 CURRENT ACTIVITIES

Blaine Tech Services, Inc. (Blaine) gauged and sampled wells according to the established monitoring program for this site.

CRA prepared a vicinity map (Figure 1) and groundwater contour and chemical concentration map (Figures 2 and 3). CRA prepared Table 1 summarizing groundwater monitoring data and the laboratory analytical results. Field forms and the laboratory analytical report are included as Appendices A through D:

2.2 FINDINGS

Quarter/Date	3 rd / August 31, 2009
Groundwater Flow Direction	South
Hydraulic Gradient	0.02 feet/foot
Depth to Water	2.50 to 4.11 feet below top of well casing
Quarter/Date	4 th /November 5, 2009
Groundwater Flow Direction	South
Hydraulic Gradient	not calculated
Depth to Water	2.33 to 3.78 feet below top of well casing

2.3 PROPOSED ACTIVITIES

Blaine will gauge and sample wells for the site according to the established monitoring program for this site.

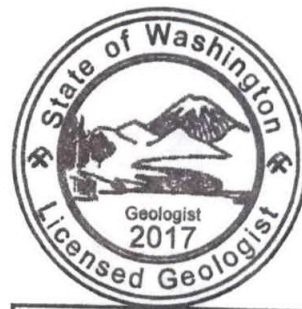
2.4 DISCUSSION

All analytical concentrations in groundwater sampled were below the Washington State Department of Ecology's Model Toxics Control Act Method A cleanup levels during the events presented in this report. All historical and current groundwater analytical data is summarized in Table 1.

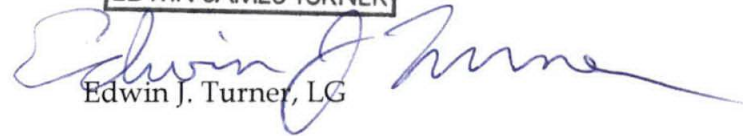
All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES



Jing Song

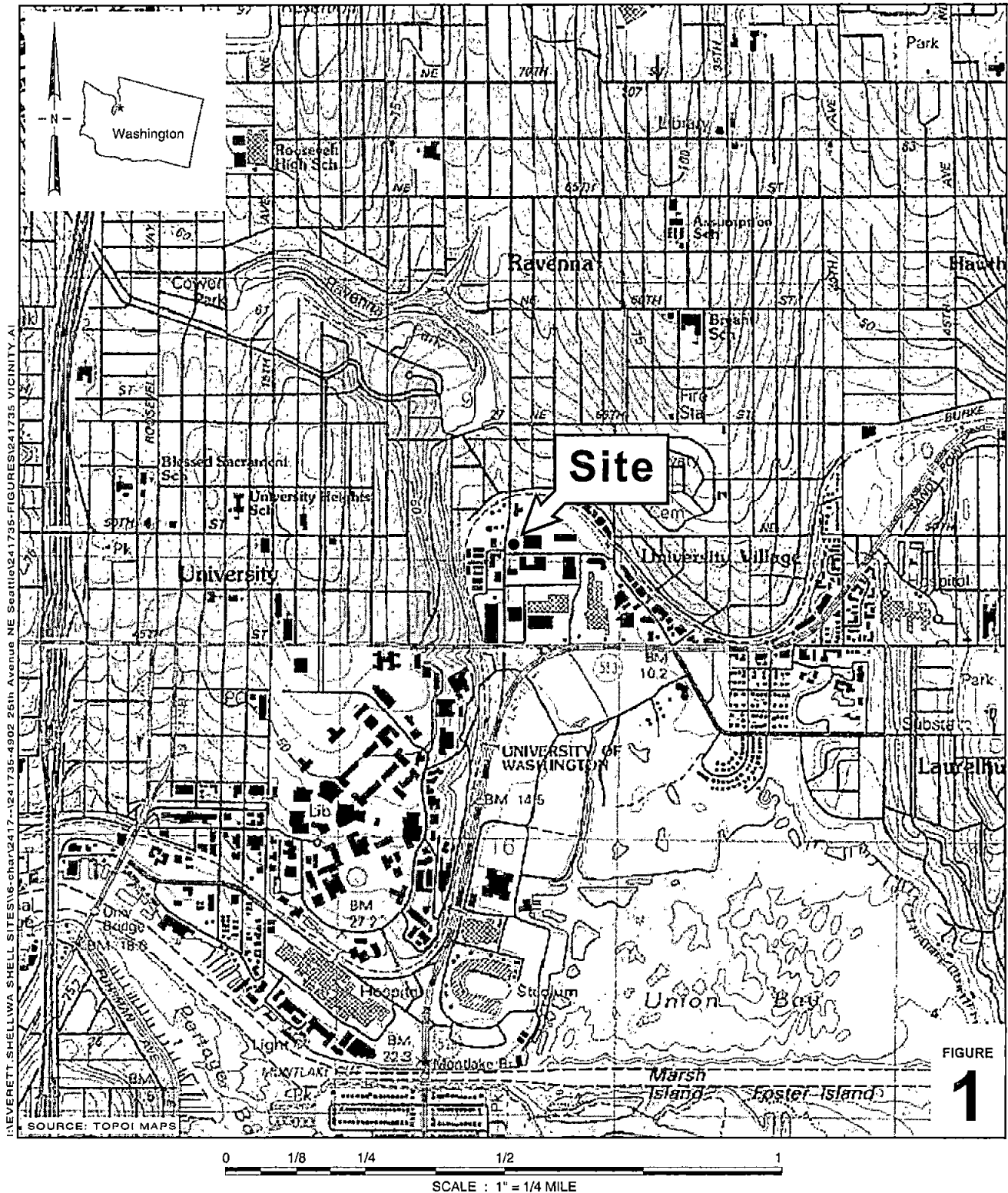


EDWIN JAMES TURNER



Edwin J. Turner, LG

FIGURES



Jiffy Lube Facility

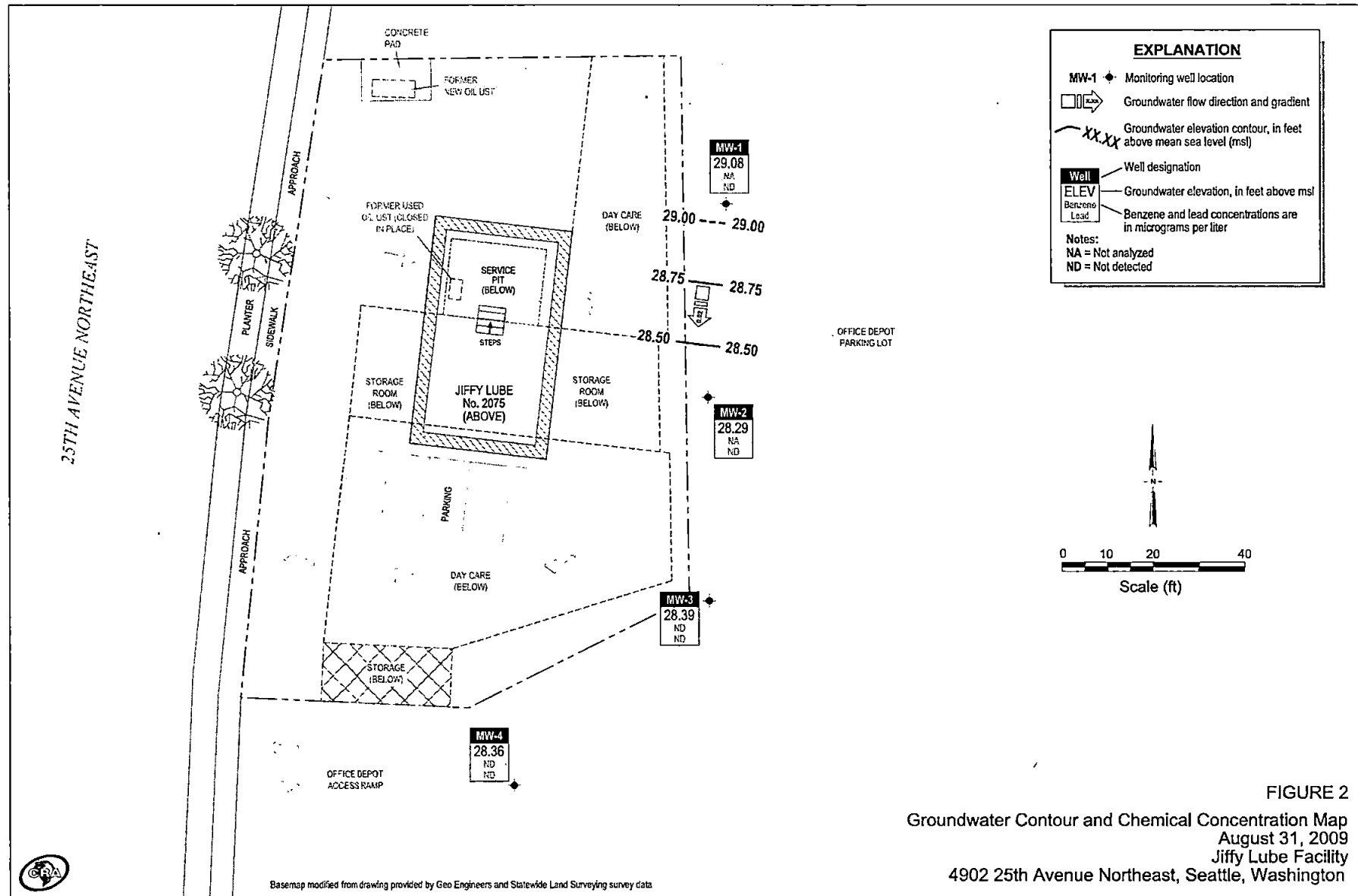
4902 25th Avenue N.E.

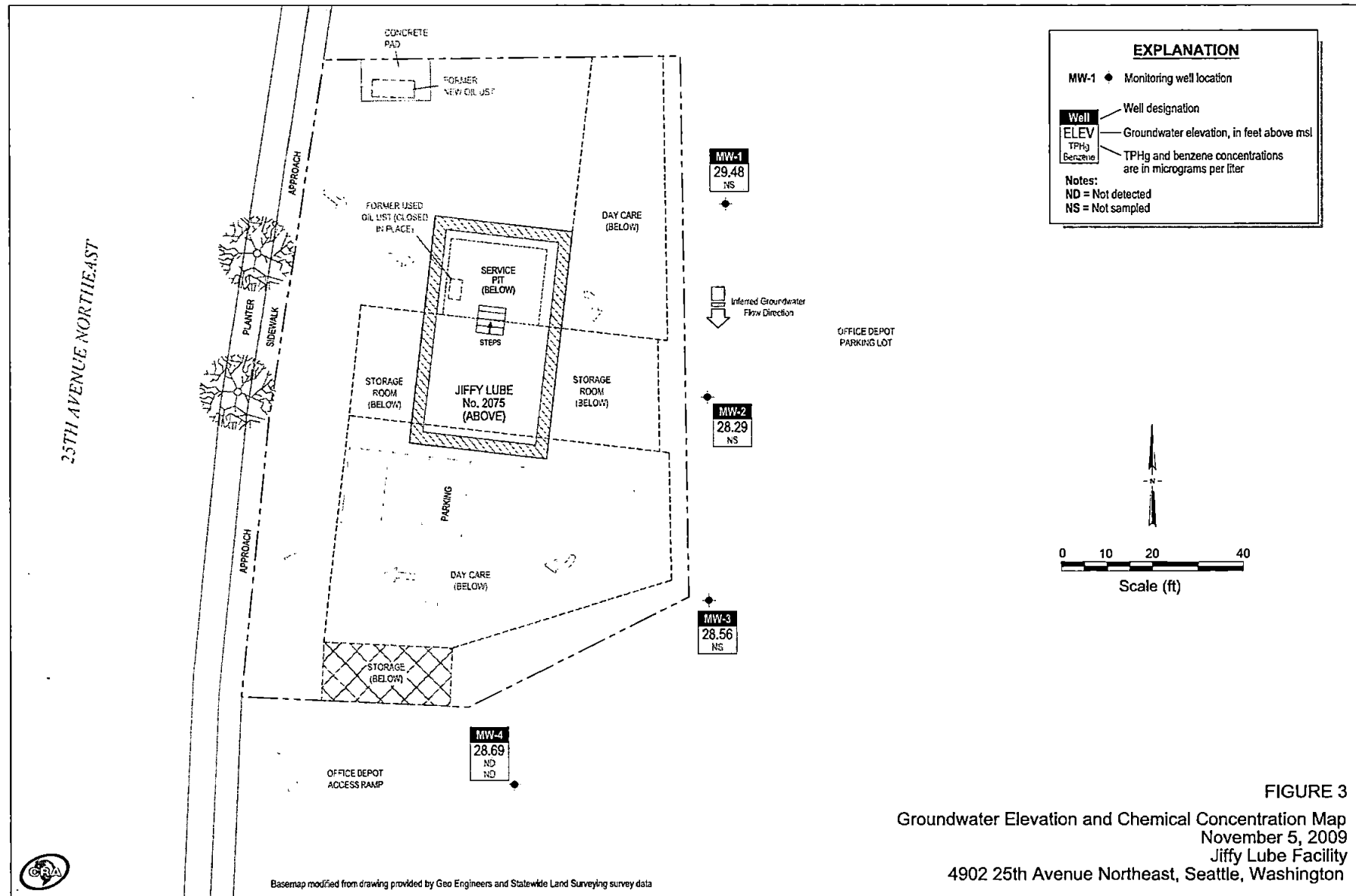
Seattle, Washington



**CONESTOGA-ROVERS
& ASSOCIATES**

Vicinity Map





TABLES

TABLE 1

**SUMMARY OF GROUNDWATER MONITORING DATA
JIFFY LUBE FACILITY
4902 25TH AVENUE NORTHEAST
SEATTLE, WASHINGTON**

Sample ID	Date	TOC	DTW	GWE	HYDROCARBONS			PRIMARY VOCs						OXYGENATES						LEAD
					TPH _g	TPH _d	TPH _o	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	Total	
					800/1000	500	500	5	1000	700	1000	0.01	5	20	NE	NE	NE	NE	15	
MW-1 *	05/21/08	32.11	3.00	29.11	<50	<250	<400	<1.00	<1.00	<1.00	<1.00	—	—	<1.00	<5	<1	<1	<1	94.2	
MW-1 *	08/14/08	32.11	3.40	28.71	<100	<100	—	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	75.6	
MW-1 *	11/26/08	32.11	2.75	29.36	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	44.1	
MW-1 *	02/05/09	32.11	2.66	29.45	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-1 *	05/11/09	32.11	2.44	29.67	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-1 *	08/31/09	32.11	3.03	29.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<1.00	
MW-1	11/05/09	32.11	2.63	29.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
MW-2 *	05/21/08	31.72	2.84	28.88	<50	<250	<400	<1.00	<1.00	<1.00	<1.00	—	—	<1.00	<5	<1	<1	<1	23.4	
MW-2 *	08/14/08	31.72	3.51	28.21	<100	<100	—	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	27.2	
MW-2 *	11/26/08	31.72	3.16	28.56	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	21.8	
MW-2 *	02/05/09	31.72	3.41	28.31	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-2 *	05/11/09	31.72	2.51	29.21	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-2 *	08/31/09	31.72	3.43	28.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	<1.00	
MW-2	11/05/09	31.72	3.43	28.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
MW-3 *	05/21/08	30.89	2.44	28.45	73	<250	<400	<1.00	<1.00	<1.00	<1.00	—	—	<1.00	<5	<1	<1	<1	111	
MW-3 *	08/14/08	30.89	2.75	28.14	<100	<100	—	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	67.6	
MW-3 *	11/26/08	30.89	2.34	28.55	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	43.3	
MW-3 *	02/05/09	30.89	2.14	28.75	100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-3 *	05/11/09	30.89	1.93	28.96	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-3 *	08/31/09	30.89	2.50	28.39	—	—	—	<0.50	<0.50	<0.50	<0.50	<0.010	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<1.00	
MW-3	11/05/09	30.89	2.33	28.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
MW-4 *	05/21/08	32.47	4.08	28.39	<50	<250	<400	<1.0	<1.0	<1.0	<1.0	—	—	<1.00	<5	<1	<1	<1	53.9	
MW-4 *	08/14/08	32.47	4.39	28.08	<100	210 a	—	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	55.8	
MW-4 *	11/26/08	32.47	3.85	28.62	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2	<2	<2	53.0	
MW-4 *	02/05/09	32.47	3.76	28.71	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-4 *	05/11/09	32.47	3.65	28.82	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	<1.0	<10	<2.0	<2.0	<2.0	<1.00	
MW-4 *	08/31/09	32.47	4.11	28.36	—	—	—	<0.50	<0.50	<0.50	<0.50	<0.010	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<1.00	
MW-4	11/05/09	32.47	3.78	28.69	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	—	—	—	—	—	—	—	—	

TABLE 1

SUMMARY OF GROUNDWATER MONITORING DATA
 JIFFY LUBE FACILITY
 4902 25TH AVENUE NORTHEAST
 SEATTLE, WASHINGTON

					HYDROCARBONS			PRIMARY VOCs						OXYGENATES					LEAD	
Sample ID	Date	TOC	DTW	GWE	TPH _g	TPH _d	TPH _o	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	Total	
Model Toxics Control Act Method A Cleanup Levels					800/1000	500	500	5	1000	700	1000	0.01	5	20	NE	NE	NE	NE	NE	15

Notes:

DTW = Depth to Water in feet

GWE = Groundwater Elevation in feet above mean sea level.

TOC = Top of Casing in feet above mean sea level.

All results in micrograms per liter (µg/L) unless otherwise indicated.

TPHg = Total petroleum hydrocarbons as gasoline analyzed by NWTPH-Gx unless otherwise noted. The higher value is based on the assumption that no benzene is present in the groundwater sample. If any detectable amount of benzene is present in the groundwater sample, then the lower TPHg cleanup level is applicable.

TPH_d = Total petroleum hydrocarbons as diesel, analyzed by NWTPH-Dx with silica gel cleanup unless otherwise noted

TPH_o = Total petroleum hydrocarbons as oil, analyzed by NWTPH-Dx with silica gel cleanup unless otherwise noted.

VOCs = Volatile organic compounds

BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B unless otherwise noted.

EDB = 1,2-Dibromoethane analyzed by EPA Method 8011

EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B

MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B

TBA = Tertiary-butanol analyzed by EPA Method 8260B

DIPE = Di-isopropyl ether analyzed by EPA Method 8260B

ETBE = Ethyl tertiary-butyl ether analyzed by EPA Method 8260B

TAME = Tertiary-amyl methyl ether analyzed by EPA Method 8260B

Total Lead analyzed by EPA Method 6020

NE = Not established

<x = Not detected at laboratory reporting limit x

--- = Not analyzed

* = Sample also analyzed for one or more of the following: carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and naphthalene by EPA Method 8270C-SIM, polychlorinated biphenyls (PCBs) by EPA Method 8082, and halogenated volatile organic compounds (HVOCs) by EPA Method 8260B. For those constituents analyzed, no concentrations exceeded the laboratory method detection limits. Please see applicable laboratory report(s) for more information.

a = The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

APPENDIX A

BLAINE TECH SERVICES, INC. - FIELD FORMS

AUGUST 31, 2009

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the challenges arising there under applicable to the work.



DS/250 Flare Jacket

WELLHEAD INSPECTION FORM

Client: Shell Site: 97605414 Date: 8/31/09
 Job #: 090831-SL1 Technician: SL Page: 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check Indicates deficiency											Well Not Inspected (explain in notes)	Notes (list if cap or lock replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)	
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty.)	Tabs stripped (list qty.)	Tabs broken (list qty.)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade			Other (explain in notes)
MW-1	X														
MW-2	X														
MW-3	X														
MW-4	X														

Notes: _____

SHELL BILL OF LADING

SOURCE RECORD **BILL OF LADING**

FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT SHELL FACILITIES IN THE STATE OF WASHINGTON OR OREGON. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS, IS MADE UP INTO LOADS OF APPROPRIATE SIZE TO BE TRANSPORTED & PROCESSED BY A SHELL APPROVED WASTE HAULER.

The contractor performing this work is BLAINE TECH SERVICES, INC. 22727 72ND Ave South, Suite D - 102, Kent, WA 98032. Blaine Tech Services, Inc. is authorized by SHELL OIL COMPANY (SHELL) to recover, collect, apportion into loads, and haul the Non-Hazardous Well Purgewater that is drawn from wells at the SHELL facility indicated below and to deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one Shell facility to BTS; from one Shell facility to BTS via another Shell facility; or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of SHELL.

This Source Record **BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the SHELL facility described below:

INCIDENT # 97605414 Carol Campagna
4902 25th Shell Engineer
Seattle
 street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-1	3.0		
MW-2	3.0		
MW-3	2.4		
MW-4	3.6		
added equip.		any other	
rinse water		adjustments	
TOTAL GALS. RECOVERED <u>12.0</u>		loaded onto BTS vehicle # <u>71</u>	
BTS event #	time	date	
<u>090831-561</u>	<u>1000</u>	<u>8/31/09</u>	
signature <u>GLLO</u>			

RECEIVED AT		time	date
BTS Kent			
unloaded by			
signature			

Project # 090831-94 Date 8/31/09 Client Shell
Site 4902 25th Seattle

[illegible]

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>040821-SL</u>	Client: <u>Shell</u>
Sampler: <u>SL</u>	Start Date: <u>8/31/09</u>
Well I.D.: <u>MW-1</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: <u>7.70</u>	Depth to Water Pre: <u>3.03</u> Post: <u>3.10</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSi556</u>

Purge Method: 2" Grundfos Pump ~~Peristaltic Pump~~ Bladder Pump
 Sampling Method: Dedicated Tubing ~~New Tubing~~ Other _____
 Flow Rate: 200 mL/min Pump Depth: 5'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
0850	20.25	6.61	531	13	1.16	-19.0	600	PTW 3.10
0853	20.29	6.66	532	10	0.91	-22.1	1200	3.10
0856	20.34	6.71	533	10	1.20	-24.9	1800	3.10
0859	20.38	6.71	533	9	1.26	-25.7	2400	3.10
0902	20.40	6.70	535	9	1.22	-26.1	3000	3.10

Did well dewater? Yes ☐ No ☒	Amount actually evacuated: <u>2.1030L</u>
Sampling Time: <u>0904</u>	Sampling Date: <u>8/31/09</u>
Sample I.D.: <u>MW-1</u>	Laboratory: <u>CAScience</u>
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 090831-SL	Client: Shell
Sampler: SL	Start Date: 8/31/09
Well I.D.: MW-2	Well Diameter: 3 4 6 8
Total Well Depth: 7.45	Depth to Water Pre: 3.43 Post: 3.50
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump
 Sampling Method: Dedicated Tubing
 Flow Rate: 200 mL/min
 Pump Depth: 6'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
0919	20.74	6.86	501	11	2.52	-438	600	3.50
0922	20.75	6.90	502	9	1.74	-46.4	1200	3.50
0925	20.76	6.92	498	7	2.28	-48.2	1800	3.50
0928	20.77	6.92	496	7	2.27	-48.9	2400	3.50
0931	20.77	6.93	495	6	2.21	-49.6	3000	3.50

Did well dewater? Yes ☒ No	Amount actually evacuated: 3.0L
Sampling Time: 0935	Sampling Date: 8/31/09
Sample I.D.: MW-2	Laboratory: CA Science
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: <u>090821-SL</u>	Client: <u>Shell</u>
Sampler: <u>SL</u>	Start Date: <u>8/31/09</u>
Well I.D.: <u>MW-3</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth: <u>7.10</u>	Depth to Water Pre: <u>2.50</u> Post: <u>2.50</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>YSI 556</u>

Purge Method: 2" Grundfos Pump
 Sampling Method: Dedicated Tubing
 Flow Rate: 200 mL/min

☒ Peristaltic Pump
☐ Bladder Pump
☐ New Tubing
 Pump Depth: 5'
 Other: _____

Time	Temp. (C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
0951	21.40	6.90	449	10	2.80	-562	600	2.50
0954	21.30	6.99	451	7	0.96	-590	1200	2.50
0957	21.33	6.99	451	6	0.91	-60.0	1800	2.50
1000	21.32	7.01	452	4	0.95	-61.2	2400	2.50

Did well dewater? Yes ☐ No ☒ Amount actually evacuated: 2.42

Sampling Time: 1000 Sampling Date: 8/31/09

Sample I.D.: MW-3 Laboratory: CALSience

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

Equipment Blank I.D.: @ _____ Duplicate I.D.: _____

LOW FLOW WELL MONITORING DATA SHEET

Project #: 090821-SL	Client: Shell
Sampler: SL	Start Date: 8/31/09
Well I.D.: MW-4	Well Diameter: 2 3 4 6 8
Total Well Depth: 12.90	Depth to Water Pre: 4.11 Post: 4.11
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump

Sampling Method: Dedicated Tubing

Flow Rate: 200 ml/min

☒ Peristaltic Pump

New Tubing

Pump Depth: 9'

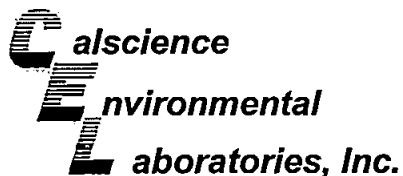
Bladder Pump

Other:

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Observations
0817	19.49	7.48	640	7	2.37	-116.0	600	4.11
0820	19.24	7.19	610	5	2.42	-98.6	1200	4.11
0823	19.18	7.06	600	5	2.59	-91.4	1800	4.11
0826	19.14	7.00	586	6	2.49	-87.7	2400	4.11
0829	19.11	6.95	579	4	2.52	-87.9	3000	4.11
0832	19.08	6.94	573	4	2.59	-87.1	3600	4.11

Did well dewater? Yes ☒ No	Amount actually evacuated: 3.62
Sampling Time: 0835	Sampling Date: 8/31/09
Sample I.D.: MW-4	Laboratory: CA Science
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @	Duplicate I.D.:

APPENDIX B
LABORATORY ANALYTICAL REPORT
AUGUST 31, 2009



September 15, 2009

Dan Koskela
Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject: **Calscience Work Order No.: 09-09-0136**
Client Reference: **4902 25th Ave., NE. Seattle, WA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/2/2009 and analyzed in accordance with the attached chain-of-custody.

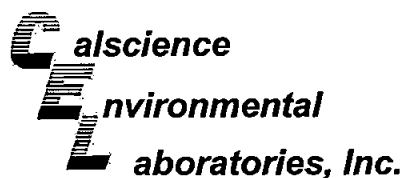
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Philip Samelle for

Calscience Environmental
Laboratories, Inc.
Jessie Lee
Project Manager



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 09/02/09
Work Order No: 09-09-0136
Preparation: EPA 3020A Total
Method: EPA 6020

Project: 4902 25th Ave., NE. Seattle, WA

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	09-09-0136-1-A	08/31/09 09:05	Aqueous	ICP/MS 03	09/02/09	09/03/09 00:36	090902L04

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.00100	1		mg/L

MW-2	09-09-0136-2-A	08/31/09 09:35	Aqueous	ICP/MS 03	09/02/09	09/03/09 00:40	090902L04
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.00100	1		mg/L

MW-3	09-09-0136-3-A	08/31/09 10:00	Aqueous	ICP/MS 03	09/02/09	09/03/09 00:44	090902L04
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.00100	1		mg/L

MW-4	09-09-0136-4-A	08/31/09 08:35	Aqueous	ICP/MS 03	09/02/09	09/03/09 00:48	090902L04
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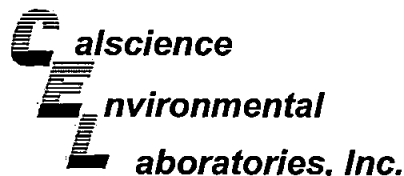
Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.00100	1		mg/L

Method Blank	096-06-003-2.323	N/A	Aqueous	ICP/MS 03	09/02/09	09/02/09 21:09	090902L04
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.00100	1		mg/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL: (714) 895-5494 • FAX: (714) 894-7501



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 09/02/09
Work Order No: 09-09-0136
Preparation: EPA 3510C
Method: EPA 8082
Units: ug/L

Project: 4902 25th Ave., NE. Seattle, WA

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	09-09-0136-3-H	08/31/09 10:00	Aqueous	GC 31	09/04/09	09/11/09 19:42	090904L01

Comment(s): -Results were evaluated to the MDL, concentrations $\geq$ to the MDL but $<$ RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	0.50	0.077	1		Aroclor-1248	ND	0.50	0.050	1	
Aroclor-1221	ND	0.50	0.050	1		Aroclor-1254	ND	0.50	0.050	1	
Aroclor-1232	ND	0.50	0.050	1		Aroclor-1260	ND	0.50	0.12	1	
Aroclor-1242	ND	0.50	0.050	1		Aroclor-1262	ND	0.50	0.050	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Decachlorobiphenyl	91	50-135				2,4,5,6-Tetrachloro-m-Xylene	84	50-135			

MW-4	09-09-0136-4-H	08/31/09 08:35	Aqueous	GC 31	09/04/09	09/11/09 20:01	090904L01
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Comment(s): -Results were evaluated to the MDL, concentrations $\geq$ to the MDL but $<$ RL, if found, are qualified with a "J" flag.

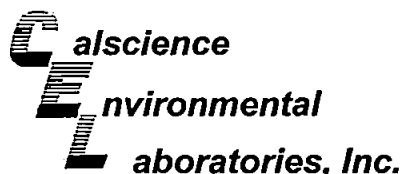
Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	0.50	0.077	1		Aroclor-1248	ND	0.50	0.050	1	
Aroclor-1221	ND	0.50	0.050	1		Aroclor-1254	ND	0.50	0.050	1	
Aroclor-1232	ND	0.50	0.050	1		Aroclor-1260	ND	0.50	0.12	1	
Aroclor-1242	ND	0.50	0.050	1		Aroclor-1262	ND	0.50	0.050	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Decachlorobiphenyl	100	50-135				2,4,5,6-Tetrachloro-m-Xylene	79	50-135			

Method Blank	099-12-527-133	N/A	Aqueous	GC 31	09/04/09	09/08/09 19:02	090904L01
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Comment(s): -Results were evaluated to the MDL, concentrations $\geq$ to the MDL but $<$ RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Aroclor-1016	ND	0.50	0.077	1		Aroclor-1248	ND	0.50	0.050	1	
Aroclor-1221	ND	0.50	0.050	1		Aroclor-1254	ND	0.50	0.050	1	
Aroclor-1232	ND	0.50	0.050	1		Aroclor-1260	ND	0.50	0.12	1	
Aroclor-1242	ND	0.50	0.050	1		Aroclor-1262	ND	0.50	0.050	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Decachlorobiphenyl	120	50-135				2,4,5,6-Tetrachloro-m-Xylene	121	50-135			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 09/02/09
Work Order No: 09-09-0136
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: 4902 25th Ave., NE. Seattle, WA

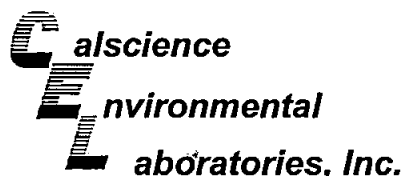
Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3	09-09-0136-3-E	08/31/09 10:00	Aqueous	GC/MS Z	09/02/09	09/02/09 19:32	090902L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.50	1		1,2-Dichloropropane	ND	0.50	0.036	1	
Bromodichloromethane	ND	0.50	0.041	1		c-1,3-Dichloropropene	ND	0.50	0.028	1	
Bromoform	ND	0.50	0.11	1		t-1,3-Dichloropropene	ND	0.50	0.032	1	
Bromomethane	ND	0.50	0.19	1		Ethylbenzene	ND	0.50	0.079	1	
Carbon Tetrachloride	ND	0.50	0.045	1		Methylene Chloride	ND	0.50	0.13	1	
Chlorobenzene	ND	0.50	0.38	1		1,1,2,2-Tetrachloroethane	ND	0.50	0.098	1	
Chloroethane	ND	0.50	0.067	1		Tetrachloroethene	ND	0.50	0.027	1	
2-Chloroethyl Vinyl Ether	ND	5.0	3.4	1		Toluene	ND	0.50	0.46	1	
Chloroform	ND	0.50	0.087	1		1,1,1-Trichloroethane	ND	0.50	0.046	1	
Chloromethane	ND	0.50	0.069	1		1,1,2-Trichloroethane	ND	0.50	0.086	1	
Dibromochloromethane	ND	0.50	0.048	1		Trichloroethene	ND	0.50	0.036	1	
1,2-Dichlorobenzene	ND	0.50	0.029	1		Trichlorofluoromethane	ND	0.50	0.031	1	
1,3-Dichlorobenzene	ND	0.50	0.028	1		Vinyl Chloride	ND	0.50	0.041	1	
1,4-Dichlorobenzene	ND	0.50	0.025	1		Xylenes (total)	ND	0.50	0.32	1	
Dichlorodifluoromethane	ND	0.50	0.031	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.067	1	
1,1-Dichloroethane	ND	0.50	0.026	1		Tert-Butyl Alcohol (TBA)	ND	10	2.1	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,1-Dichloroethene	ND	0.50	0.039	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
c-1,2-Dichloroethene	ND	0.50	0.029	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
t-1,2-Dichloroethene	ND	0.50	0.046	1							
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual		
1,2-Dichloroethane-d4	92	80-128			Dibromofluoromethane	99	80-127				
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	96	68-120				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 09/02/09
Work Order No: 09-09-0136
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: 4902 25th Ave., NE. Seattle, WA

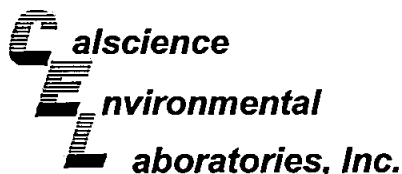
Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	09-09-0136-4-E	08/31/09 08:35	Aqueous	GC/MS Z	09/02/09	09/02/09 20:00	090902L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.50	1		1,2-Dichloropropane	ND	0.50	0.036	1	
Bromodichloromethane	ND	0.50	0.041	1		c-1,3-Dichloropropene	ND	0.50	0.028	1	
Bromoform	ND	0.50	0.11	1		t-1,3-Dichloropropene	ND	0.50	0.032	1	
Bromomethane	ND	0.50	0.19	1		Ethylbenzene	ND	0.50	0.079	1	
Carbon Tetrachloride	ND	0.50	0.045	1		Methylene Chloride	ND	0.50	0.13	1	
Chlorobenzene	ND	0.50	0.38	1		1,1,2,2-Tetrachloroethane	ND	0.50	0.098	1	
Chloroethane	ND	0.50	0.067	1		Tetrachloroethene	ND	0.50	0.027	1	
2-Chloroethyl Vinyl Ether	ND	5.0	3.4	1		Toluene	ND	0.50	0.46	1	
Chloroform	ND	0.50	0.087	1		1,1,1-Trichloroethane	ND	0.50	0.046	1	
Chloromethane	0.13	0.50	0.069	1	J	1,1,2-Trichloroethane	ND	0.50	0.086	1	
Dibromochloromethane	ND	0.50	0.048	1		Trichloroethene	ND	0.50	0.036	1	
1,2-Dichlorobenzene	ND	0.50	0.029	1		Trichlorofluoromethane	ND	0.50	0.031	1	
1,3-Dichlorobenzene	ND	0.50	0.028	1		Vinyl Chloride	ND	0.50	0.041	1	
1,4-Dichlorobenzene	ND	0.50	0.025	1		Xylenes (total)	ND	0.50	0.32	1	
Dichlorodifluoromethane	ND	0.50	0.031	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.067	1	
1,1-Dichloroethane	ND	0.50	0.026	1		Tert-Butyl Alcohol (TBA)	ND	10	2.1	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,1-Dichloroethene	ND	0.50	0.039	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
c-1,2-Dichloroethene	ND	0.50	0.029	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
t-1,2-Dichloroethene	ND	0.50	0.046	1							
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual		
1,2-Dichloroethane-d4	93	80-128			Dibromofluoromethane	96	80-127				
Toluene-d8	98	80-120			1,4-Bromofluorobenzene	95	68-120				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 09/02/09
Work Order No: 09-09-0136
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: 4902 25th Ave., NE. Seattle, WA

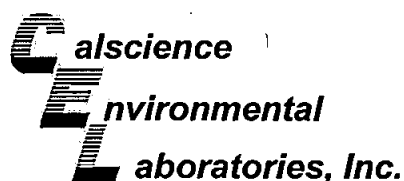
Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-10-025-1,200	N/A	Aqueous	GC/MS.Z	09/02/09	09/02/09 11:41	090902L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Benzene	ND	0.50	0.50	1		1,2-Dichloropropane	ND	0.50	0.036	1	
Bromodichloromethane	ND	0.50	0.041	1		c-1,3-Dichloropropene	ND	0.50	0.028	1	
Bromoform	ND	0.50	0.11	1		t-1,3-Dichloropropene	ND	0.50	0.032	1	
Bromomethane	ND	0.50	0.19	1		Ethylbenzene	ND	0.50	0.079	1	
Carbon Tetrachloride	ND	0.50	0.045	1		Methylene Chloride	0.22	0.50	0.13	1	J
Chlorobenzene	ND	0.50	0.38	1		1,1,2,2-Tetrachloroethane	ND	0.50	0.098	1	
Chloroethane	ND	0.50	0.067	1		Tetrachloroethene	ND	0.50	0.027	1	
2-Chloroethyl Vinyl Ether	ND	5.0	3.4	1		Toluene	ND	0.50	0.46	1	
Chloroform	ND	0.50	0.087	1		1,1,1-Trichloroethane	ND	0.50	0.046	1	
Chloromethane	ND	0.50	0.069	1		1,1,2-Trichloroethane	ND	0.50	0.086	1	
Dibromochloromethane	ND	0.50	0.048	1		Trichloroethene	ND	0.50	0.036	1	
1,2-Dichlorobenzene	ND	0.50	0.029	1		Trichlorofluoromethane	ND	0.50	0.031	1	
1,3-Dichlorobenzene	ND	0.50	0.028	1		Vinyl Chloride	ND	0.50	0.041	1	
1,4-Dichlorobenzene	ND	0.50	0.025	1		Xylenes (total)	ND	0.50	0.32	1	
Dichlorodifluoromethane	ND	0.50	0.031	1		Methyl-t-Butyl Ether (MTBE)	ND	0.50	0.067	1	
1,1-Dichloroethane	ND	0.50	0.026	1		Tert-Butyl Alcohol (TBA)	ND	10	2.1	1	
1,2-Dichloroethane	ND	0.50	0.080	1		Diisopropyl Ether (DIPE)	ND	0.50	0.028	1	
1,1-Dichloroethene	ND	0.50	0.039	1		Ethyl-t-Butyl Ether (ETBE)	ND	0.50	0.036	1	
c-1,2-Dichloroethene	ND	0.50	0.029	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	0.030	1	
t-1,2-Dichloroethene	ND	0.50	0.046	1							
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual		
1,2-Dichloroethane-d4	93	80-128			Dibromofluoromethane	96	80-127				
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	92	68-120				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

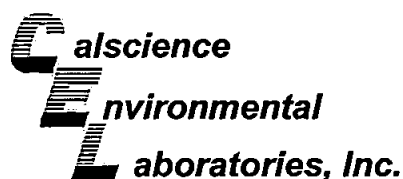
Date Received: 09/02/09
Work Order No: 09-09-0136
Preparation: EPA 3005A Filt.
Method: EPA 6020

Project 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-09-0074-1	Aqueous	ICP/MS 03	09/02/09	09/02/09	090902S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	112	106	79-121	5	0-10	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

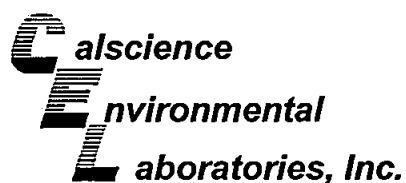
Date Received: 09/02/09
Work Order No: 09-09-0136
Preparation: EPA 5030B
Method: EPA 8260B

Project 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-08-2178-15	Aqueous	GC/MS Z	09/02/09	09/02/09	090902S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	104	76-124	1	0-20	
Toluene	105	103	80-120	1	0-20	
Ethylbenzene	107	104	78-126	3	0-20	
Methyl-t-Butyl Ether (MTBE)	89	84	67-121	4	0-49	
Tert-Butyl Alcohol (TBA)	105	120	36-162	13	0-30	
Diisopropyl Ether (DIPE)	99	99	60-138	0	0-45	
Ethyl-t-Butyl Ether (ETBE)	88	85	69-123	4	0-30	
Tert-Amyl-Methyl Ether (TAME)	88	85	65-120	4	0-20	
Ethanol	90	92	30-180	2	0-72	
1,1-Dichloroethene	97	94	73-127	3	0-20	
1,2-Dibromoethane	109	107	80-120	3	0-20	
1,2-Dichlorobenzene	106	104	80-120	2	0-20	
Carbon Tetrachloride	97	96	74-134	1	0-20	
Chlorobenzene	106	104	80-120	2	0-20	
Trichloroethene	101	103	77-120	2	0-20	
Vinyl Chloride	106	104	72-126	2	0-20	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: N/A
Work Order No: 09-09-0136
Preparation: EPA 3020A Total
Method: EPA 6020

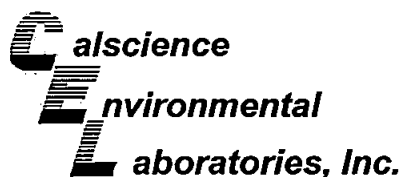
Project: 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
096-06-003-2,323	Aqueous	ICP/MS 03	09/02/09	09/02/09	090902L04

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	100	99	80-120	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

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Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

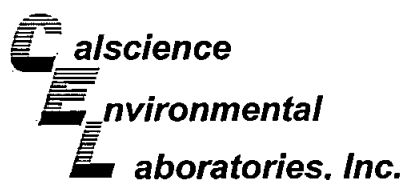
Date Received: N/A
Work Order No: 09-09-0136
Preparation: EPA 3510C
Method: EPA 8082

Project: 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-527-133	Aqueous	GC 31	09/04/09	09/08/09	090904L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Aroclor-1260	100	99	50-135	1	0-25	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: N/A
Work Order No: 09-09-0136
Preparation: EPA 5030B
Method: EPA 8260B

Project: 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-10-025-1,200	Aqueous	GC/MS Z	09/02/09	09/02/09	090902L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	110	108	80-120	73-127	3	0-20	
Carbon Tetrachloride	101	100	74-134	64-144	1	0-20	
Chlorobenzene	111	111	80-120	73-127	0	0-20	
1,2-Dibromoethane	105	111	79-121	72-128	5	0-20	
1,2-Dichlorobenzene	110	106	80-120	73-127	3	0-20	
1,1-Dichloroethene	102	106	78-126	70-134	4	0-28	
Ethylbenzene	115	112	80-120	73-127	3	0-20	
Toluene	110	108	80-120	73-127	2	0-20	
Trichloroethene	110	110	79-127	71-135	0	0-20	
Vinyl Chloride	108	109	72-132	62-142	1	0-20	
Methyl-t-Butyl Ether (MTBE)	86	88	69-123	60-132	2	0-20	
Tert-Butyl Alcohol (TBA)	107	108	63-123	53-133	0	0-20	
Diisopropyl Ether (DIPE)	100	102	59-137	46-150	2	0-37	
Ethyl-t-Butyl Ether (ETBE)	86	90	69-123	60-132	5	0-20	
Tert-Amyl-Methyl Ether (TAME)	86	89	70-120	62-128	4	0-20	
Ethanol	121	92	28-160	6-182	28	0-57	

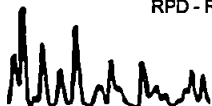
Total number of LCS compounds : 16

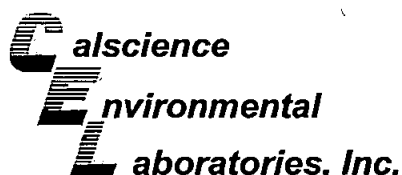
Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference, CL - Control Limit





Glossary of Terms and Qualifiers



Work Order Number: 09-09-0136

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.

05/2008 Revealor

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: BTS

DATE: 9/2/09

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen)

Temperature 2.9 °C – 0.2°C (CF) = 2.7 °C ☐ Blank ☒ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☐ Air ☐ Filter ☐ Metals Only ☐ PCBs Only

Initial: WB

CUSTODY SEALS INTACT:

☐ Cooler ☐ _____ ☐ No (Not Intact) ☒ Not Present ☐ N/A

Initial: WB

☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not Present

Initial: WB

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	☒	☐	☐
COC document(s) received complete.....	☒	☐	☐

☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.

☐ COC not relinquished. ☐ No date relinquished. ☐ No time relinquished.

Sampler's name indicated on COC..... ☒ ☐ ☐

Sample container label(s) consistent with COC..... ☒ ☐ ☐

Sample container(s) intact and good condition..... ☒ ☐ ☐

Correct containers and volume for analyses requested..... ☒ ☐ ☐

Analyses received within holding time..... ☒ ☐ ☐

Proper preservation noted on COC or sample container..... ☒ ☐ ☐

☐ Unpreserved vials received for Volatiles analysis

Volatile analysis container(s) free of headspace..... ☒ ☐ ☐

Tedlar bag(s) free of condensation..... ☐ ☐ ☒

CONTAINER TYPE:

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve ☐ EnCores® ☐ TerraCores® ☐ _____

Water: ☐ VOA ☒ VOAh ☐ VOAna₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☒ 1AGB ☐ 1AGBna₂ ☐ 1AGBs

☐ 500AGB ☐ 500AGJ ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 500PB ☐ 500PBna

☐ 250PB ☒ 250PBn ☐ 125PB ☐ 125PBznnna ☐ 100PJ ☐ 100PJna₂ ☐ _____ ☐ _____ ☐ _____

Air: ☐ Tedlar® ☐ Summa® ☐ _____ Other: ☐ _____ Checked/Labeled by: WB

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelop Reviewed by: BL

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ Na: NaOH p: H₃PO₄ s: H₂SO₄ znnna: ZnAc₂+NaOH f: Field-filtered Scanned by: WB



ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Jessie Lee
CalScience - Garden Grove, CA
7440 Lincoln Way

Garden Grove, CA 92841

Report Summary

Monday September 14, 2009

Report Number: L420865

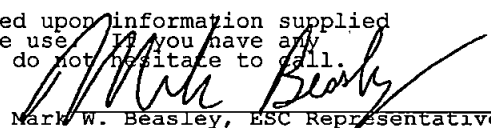
Samples Received: 09/04/09

Client Project: 09-09-0136

Description:

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


Mark W. Beasley, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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REPORT OF ANALYSIS

Jessie Lee
CalScience - Garden Grove, CA
7440 Lincoln Way
Garden Grove, CA 92841

September 14, 2009

Date Received : September 04, 2009
Description :

Sample ID : MW-3

Collected By :
Collection Date : 08/31/09 10:00

ESC Sample # : L420865-01

Site ID :

Project # : 09-09-0136

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Ethylene Dibromide	BDL	0.010	ug/l	8011	09/11/09	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 09/14/09 09:26 Printed: 09/14/09 09:27



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REPORT OF ANALYSIS

Jessie Lee
CalScience - Garden Grove, CA
7440 Lincoln Way
Garden Grove, CA 92841

September 14, 2009

Date Received : September 04, 2009
Description :

Sample ID : MW-4

Collected By :
Collection Date : 08/31/09 08:35

ESC Sample # : L420865-02

Site ID :

Project # : 09-09-0136

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Ethylene Dibromide	BDL	0.010	ug/l	8011	09/11/09	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 09/14/09 09:26 Printed: 09/14/09 09:27

Summary of Remarks For Samples Printed
09/14/09 at 09:27:03

TSR Signing Reports: 134
R5 - Desired TAT

Use ESC key CALSCIGCA-SHELLAK for all Shell Alaska work Incidence # = project number SAP # =
Site ID Site Address = project name

Sample: L420865-01 Account: CALSCIGCA Received: 09/04/09 09:00 Due Date: 09/14/09 00:00 RPT Date: 09/14/09 09:26

Sample: L420865-02 Account: CALSCIGCA Received: 09/04/09 09:00 Due Date: 09/14/09 00:00 RPT Date: 09/14/09 09:26



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CalScience - Garden Grove, CA
Jessie Lee
7440 Lincoln Way

Quality Assurance Report
Level II

Garden Grove, CA 92841

L420865

September 14, 2009

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Ethylene Dibromide	< .00001	mg/l			WG440083	09/11/09 09:40

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Ethylene Dibromide	mg/l	0.00	0.00		0.00	50	L420982-05	WG440083

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Ethylene Dibromide	mg/l	.00025	0.000267	107.	70-130	WG440083

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Ethylene Dibromide	mg/l	0.000201	0.000267	80.0	70-130	28.4	40	WG440083

Analyte	Units	MS Res	Matrix Spike		TV	% Rec	Limit	Ref Samp	Batch
			Ref Res						
Ethylene Dibromide	mg/l	0.00008	0.00	.0001		85.0	60-140	L420982-04	WG440083

Batch number / Run number / Sample number cross reference

WG440083: R898868: L420865-01 02

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Jessie Lee
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Quality Assurance Report
Level II

Garden Grove, CA 92841

L420865

September 14, 2009

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

o/c

APPENDIX C

BLAINE TECH SERVICES, INC. – FIELD FORMS

NOVEMBER 5, 2009

Job Clearance Form							
Station Address: 4902 25th Seattle		Work Order Number: 09105541		Date: 11/5/09			
Contractor Company Name: PTS		Contractor Name: SILVER		Contractor Title: 1		Contractor License Number: 57000815	
Problem/Work Description: Sample Well Gauge						Return Call: yes/no	
						Damage Claim: yes/no	
☒ SAFETY VEST ☐ PROTECTIVE CLOTHING ☒ HARD HAT ☒ GLOVES ☒ SHOES & BOOTS ☒ SAFETY GLASSES/GOOGLES ☐ HEARING PROTECTION ☐ WELDING PPE ☐ RESPIRATOR ☐ OTHER							
Contractor to complete this section below if circumstances on site or specific to this job may generate additional hazards that are not described in the JSA.							
Work description requires: Lower Risk - no JSA required Job with Risk / Higher Risk Work - JSA required Higher Risk - JSA required & appropriate check list completed (see below)							
Examples of Higher / Medium Risk: ☐ Work at heights in all cases on open steel - on closed steel no JSA present ☐ Touching or excavation related to live exposed tank / product lines ☐ Heavy Lifting ☐ Work in confined spaces (e.g. tank, interceptor or deep manhole entry) ☐ Hot work with risk of product or vapor ignition ☐ LPO system disassembly, installation or maintenance							
This form must be completed for each job and updated and re-signed if circumstances change or additional hazards identified.							
SIGN IN		Contractor Signature		SIGN OUT		Contractor Signature	
Operator gets to be signed by the Site Representative		SILVER		GENERAL SAFETY CHECKS • Was the work area fully set up and safe? • Are site personnel aware of risks of work including remaining isolated? • Are changes to equipment discussed and acknowledged? • All incidents, near incidents, process alterations reported? • Other:		Site Representative Signature 	
Plan operating check to be signed by Contractor Representative only		Jerry Lube					
GENERAL SAFETY CHECKS • Have all site personnel been informed? • Has hot delivery service been informed? • Is a hot delivery done? • Have hot work procedures been agreed - hot cutting out? • Are work areas cordoned off to protect workers, also staff & public? • Check							
PARTS - Original, Replaced and/or Discarded OI (include model and serial no. as appropriate)							

The contractor through its authorized representative shall sign, issue and be solely responsible for all job clearance forms and the obligations arising there under applicable to the work.

This form covers important procedures and is not intended to relieve the contractor from liability arising from the work in compliance with all applicable laws and regulations.

The Site Representative may require the contractor to stop work if it appears that the contractor or any of its workers are failing to comply with the requirements of the applicable form of the former or applicable safety requirement.

SHELL WELLHEAD REPAIR FORM (FOR REPAIR TECHNICIAN)

Job Number 091105-541

Page 1 of 1

Inspection Point (Well ID or description of location)	Well Inspected, Cleaned, Labeled - No Further Corrective Action Required	Replaced Cap	Replaced Lock	Replaced Lid Seal	Check Indicates deficiency										Well Not Inspected (explain in notes)	All Repairs Completed	Remaining Deficiencies Logged onto BLAINE Repair Order	Remaining Deficiencies Logged onto Notice of Deficient Condition - BLAINE Unable to Repair
					Casing	Annular Seal	Tabs / Bolts	Box Structure	Apron	Trip Hazard	Below Grade	Not Secureable by Design (12" diameter or less)	Lid not marked with words "MONITORING WELL"	Other Deficiency				
MU-1	☒																	
	Notes:																	
	Well box type / size:										Materials used:							
MU-2	☒																	
	Notes:																	
	Well box type / size:										Materials used:							
MU-3	☒																	
	Notes:																	
	Well box type / size:										Materials used:							
MU-4	☒																	
	Notes:																	
	Well box type / size:										Materials used:							
	Notes:																	
	Well box type / size:										Materials used:							
	Notes:																	
	Well box type / size:										Materials used:							
	Notes:																	
	Well box type / size:										Materials used:							
	Notes:																	
	Well box type / size:										Materials used:							

SHELL BILL OF LADING

SOURCE RECORD **BILL OF LADING**

FOR NON-HAZARDOUS PURGEWATER RECOVERED FROM GROUNDWATER WELLS AT SHELL FACILITIES IN THE STATE OF WASHINGTON OR OREGON. THE NON-HAZARDOUS PURGE- WATER WHICH HAS BEEN RECOVERED FROM GROUND- WATER WELLS, IS MADE UP INTO LOADS OF APPROPRIATE SIZE TO BE TRANSPORTED & PROCESSED BY A SHELL APPROVED WASTE HAULER.

The contractor performing this work is BLAINE TECH SERVICES, INC. 22727 72ND Ave South, Suite D - 102, Kent, WA 98032. Blaine Tech Services, Inc. is authorized by SHELL OIL COMPANY (SHELL) to recover, collect, apportion into loads, and haul the Non-Hazardous Well Purgewater that is drawn from wells at the SHELL facility indicated below and to deliver that purgewater to BTS. Transport routing of the Non-Hazardous Well Purgewater may be direct from one Shell facility to BTS; from one Shell facility to BTS via another Shell facility; or any combination thereof. The Non-Hazardous Well Purgewater is and remains the property of SHELL.

This **Source Record BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the SHELL facility described below:

97605414

INCIDENT # Carol Campagna
4902 25th Shell Engineer
Seattle

street number street name city state

WELL I.D.	GALS.	WELL I.D.	GALS.
MW-4	302		
added equip. rinse water	/	any other adjustments	/
TOTAL GALS. RECOVERED	32	loaded onto BTS vehicle #	77
BTS event #	09/05-SL1	time	0800
signature	[Signature]	date	11/15/02

RECEIVED AT		time	
BTS Kent		date	/ /
unloaded by			
signature			

TEST EQUIPMENT CALIBRATION LOG

[illegible]

WELL GAUGING DATA

Project # 091105-SL Date 11/5/09 Client Shell

Site 4902 25th Seattle

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or <u>702</u>	Notes
MW-1	0708	2					2.63	7.70	↓	
MW-2	0712	2					3.43	7.45		
MW-3	0715	2					2.79	7.10		
MW-4	0721	2					3.78	12.90		
									↓	

LOW FLOW WELL MONITORING DATA SHEET

Project #: 091105-54	Client: Shell
Sampler: GL	Start Date: 11/5/09
Well I.D.: MW-4	Well Diameter: 2 3 4 6 8
Total Well Depth: 12.90	Depth to Water Pre: 3.78 Post: 3.80
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: 151556

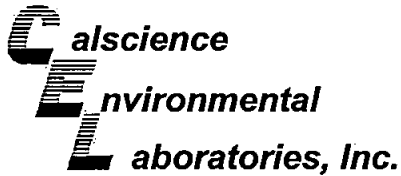
Purge Method: 2" Grundfos Pump ☒ Peristaltic Pump ☐ Bladder Pump ☐
 Sampling Method: Dedicated Tubing ☒ New Tubing ☐ Other ☐
 Flow Rate: 200 mL/min Pump Depth: 8'

Time	Temp. (°C or °F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
0741	17.04	7.88	645	17	3.88	128.7	600	8.10 3.80
0744	17.40	7.43	553	11	2.14	126.1	1200	3.80
0747	17.49	7.35	549	7	1.84	127.7	1800	3.80
0750	17.52	7.31	549	5	1.79	128.9	2400	3.80
0753	17.57	7.27	550	4	1.75	129.6	3000	3.80

Did well dewater? Yes ☐ No ☒	Amount actually evacuated: 3.02
Sampling Time: 0755	Sampling Date: 11/5/09
Sample I.D.: MW-4	Laboratory: CalScience
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @	Duplicate I.D.:

APPENDIX D

LABORATORY ANALYTICAL REPORT
NOVEMBER 5, 2009



November 18, 2009

Dan Koskela
Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject: **Calscience Work Order No.: 09-11-0513**
Client Reference: **4902 25th Ave., NE. Seattle, WA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/6/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

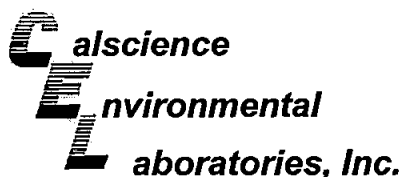
If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Xuan H. Dang".

Calscience Environmental
Laboratories, Inc.
Xuan H. Dang
Project Manager

A handwritten signature in black ink, appearing to read "Xuan H. Dang".



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 11/06/09
Work Order No: 09-11-0513
Preparation: EPA 3510C
Method: NWTPH-Dx
Units: mg/L

Project: 4902 25th Ave., NE. Seattle, WA

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	09-11-0513-1-D	11/05/09 07:55	Aqueous	GC 27	11/07/09	11/07/09 22:47	091107B07

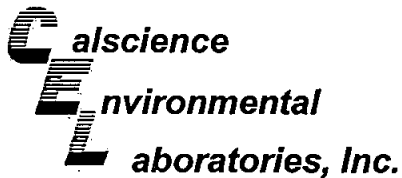
Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
TPH as Diesel Range	ND	0.10	1		TPH as Motor Oil Range	ND	0.10	1	
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	99	68-140							

Method Blank	099-12-840-157	N/A	Aqueous	GC 27	11/07/09	11/07/09 18:15	091107B07
--------------	----------------	-----	---------	-------	----------	----------------	-----------

Parameter	Result	RL	DF	Qual
TPH as Diesel Range	ND	0.10	1	
Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	90	68-140		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 11/06/09
Work Order No: 09-11-0513
Preparation: EPA 5030B
Method: NWTPH-Gx

Project: 4902 25th Ave., NE. Seattle, WA

Page 1 of 1

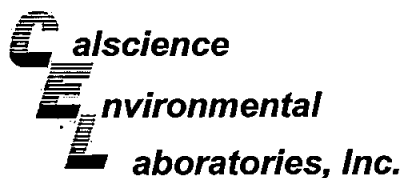
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	09-11-0513-1-C	11/05/09 07:55	Aqueous	GC 18	11/10/09	11/11/09 14:06	091110B02

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	0.10	1		mg/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	92	38-134			

Method Blank	099-12-743-380	N/A	Aqueous	GC 18	11/10/09	11/11/09 03:48	091110B02
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	0.10	1		mg/L
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	72	38-134			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: 11/06/09
Work Order No: 09-11-0513
Preparation: EPA 5030B
Method: EPA 8260B
Units: mg/L

Project: 4902 25th Ave., NE. Seattle, WA

Page 1 of 1

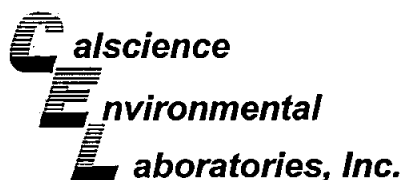
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	09-11-0513-1-B	11/05/09 07:55	Aqueous	GC/MS XX	11/12/09	11/12/09 18:15	091112L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.00050	1		Toluene	ND	0.0010	1	
Ethylbenzene	ND	0.0010	1		Xylenes (total)	ND	0.0010	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	112	80-132			1,2-Dichloroethane-d4	113	80-141		
Toluene-d8	95	80-120			1,4-Bromofluorobenzene	86	76-120		

Method Blank	099-10-006-31,309	N/A	Aqueous	GC/MS XX	11/12/09	11/12/09 17:15	091112L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.00050	1		Toluene	ND	0.0010	1	
Ethylbenzene	ND	0.0010	1		Xylenes (total)	ND	0.0010	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	112	80-132			1,2-Dichloroethane-d4	110	80-141		
Toluene-d8	95	80-120			1,4-Bromofluorobenzene	86	76-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

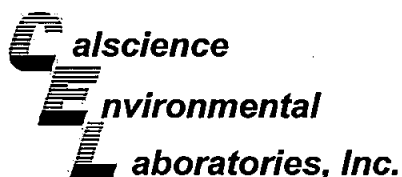
Date Received: 11/06/09
Work Order No: 09-11-0513
Preparation: EPA 5030B
Method: EPA 8015B (M)

Project 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
09-11-0363-2	Aqueous	GC 18	11/10/09	11/11/09	091110S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	95	95	68-122	0	0-18	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - Spike/Spike Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

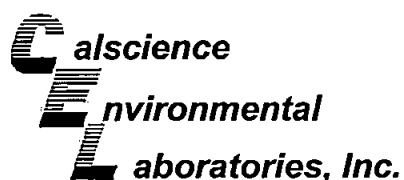
Date Received: 11/06/09
Work Order No: 09-11-0513
Preparation: EPA 5030B
Method: EPA 8260B

Project 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	GC/MS XX	11/12/09	11/12/09	091112S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	106	107	72-120	0	0-20	
Carbon Tetrachloride	103	102	63-135	1	0-20	
Chlorobenzene	105	103	80-120	2	0-20	
1,2-Dibromoethane	107	108	80-120	1	0-20	
1,2-Dichlorobenzene	108	106	80-120	1	0-20	
1,1-Dichloroethene	99	101	60-132	2	0-24	
Ethylbenzene	113	111	78-120	2	0-20	
Toluene	106	106	74-122	1	0-20	
Trichloroethene	103	102	69-120	1	0-20	
Vinyl Chloride	101	101	58-130	1	0-20	
Methyl-t-Butyl Ether (MTBE)	99	105	72-126	6	0-21	
Tert-Butyl Alcohol (TBA)	101	101	72-126	1	0-20	
Diisopropyl Ether (DIPE)	97	101	71-137	3	0-23	
Ethyl-t-Butyl Ether (ETBE)	98	84	74-128	16	0-20	
Tert-Amyl-Methyl Ether (TAME)	105	111	76-124	5	0-20	
Ethanol	103	93	35-167	10	0-48	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

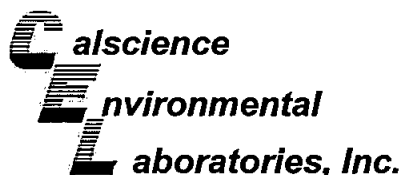
Date Received: N/A
Work Order No: 09-11-0513
Preparation: EPA 3510C
Method: NWTPH-Dx

Project: 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-840-157	Aqueous	GC 27	11/07/09	11/07/09	091107B07

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel Range	94	91	75-117	3	0-13	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

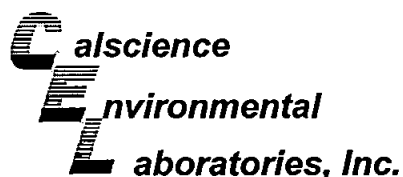
Date Received: N/A
Work Order No: 09-11-0513
Preparation: EPA 5030B
Method: NWTPH-Gx

Project: 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-743-380	Aqueous	GC 18	11/10/09	11/11/09	091110B02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	94	93	78-120	1	0-10	

RPD - Relative Percent Difference, CL - Control Limit



Quality Control - LCS/LCS Duplicate



Blaine Tech Services, Inc.
1680 Rogers Avenue
San Jose, CA 95112-1105

Date Received: N/A
Work Order No: 09-11-0513
Preparation: EPA 5030B
Method: EPA 8260B

Project: 4902 25th Ave., NE. Seattle, WA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number		
099-10-006-31,309	Aqueous	GC/MS XX	11/12/09	11/12/09	091112L01		
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	109	98	80-122	73-129	10	0-20	
Carbon Tetrachloride	107	97	68-140	56-152	10	0-20	
Chlorobenzene	104	97	80-120	73-127	8	0-20	
1,2-Dibromoethane	106	98	80-121	73-128	8	0-20	
1,2-Dichlorobenzene	107	100	80-120	73-127	7	0-20	
1,1-Dichloroethene	106	94	72-132	62-142	11	0-25	
Ethylbenzene	115	106	80-126	72-134	9	0-20	
Toluene	109	99	80-121	73-128	10	0-20	
Trichloroethene	108	97	80-123	73-130	11	0-20	
Vinyl Chloride	109	99	67-133	56-144	10	0-20	
Methyl-t-Butyl Ether (MTBE)	106	97	75-123	67-131	8	0-20	
Tert-Butyl Alcohol (TBA)	100	98	75-123	67-131	2	0-20	
Diisopropyl Ether (DIPE)	104	96	71-131	61-141	9	0-20	
Ethyl-t-Butyl Ether (ETBE)	85	99	76-124	68-132	15	0-20	
Tert-Amyl-Methyl Ether (TAME)	108	100	80-123	73-130	7	0-20	
Ethanol	101	96	61-139	48-152	5	0-27	

Total number of LCS compounds : 16

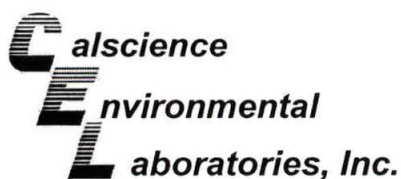
Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL: (714) 895-5494 • FAX: (714) 894-7501



Glossary of Terms and Qualifiers



Work Order Number: 09-11-0513

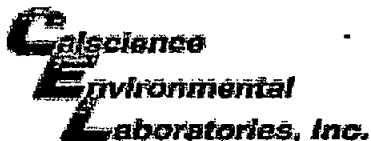
<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.



Shell Oil Products Chain Of Custody Record

05/2016 Review

* NWTPH-Dx w/ silica gel cleanup includes TPH-D + TPH-O



WORK ORDER #: 09-11-0513

SAMPLE RECEIPT FORMCooler 1 of 1CLIENT: Blaine TechDATE: 11 / 6 / 09**TEMPERATURE:** (Criteria: 0.0 °C – 6.0 °C, not frozen)Temperature 4.7 °C - 0.8 °C (CF) = 3.9 °C ☐ Blank ☒ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.☐ Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature: ☐ Air ☐ Filter ☐ Metals Only ☐ PCBs OnlyInitial: JP**CUSTODY SEALS INTACT:**☒ Cooler ☐ _____ ☐ No (Not Intact) ☐ Not Present ☐ N/AInitial: JP☐ Sample ☐ _____ ☐ No (Not Intact) ☒ Not PresentInitial: JP**SAMPLE CONDITION:**

Yes No N/A

Chain-Of-Custody (COC) document(s) received with samples..... ☒ ☐ ☐COC document(s) received complete..... ☒ ☐ ☐☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.☐ COC not relinquished. ☐ No date relinquished. ☐ No time relinquished.Sampler's name indicated on COC..... ☒ ☐ ☐Sample container label(s) consistent with COC..... ☒ ☐ ☐Sample container(s) intact and good condition..... ☒ ☐ ☐Correct containers and volume for analyses requested..... ☒ ☐ ☐Analyses received within holding time..... ☒ ☐ ☐Proper preservation noted on COC or sample container..... ☒ ☐ ☐☐ Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace..... ☒ ☐ ☐Tedlar bag(s) free of condensation..... ☐ ☐ ☒**CONTAINER TYPE:**Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve ☐ EnCores® ☐ TerraCores® ☐ _____Water: ☐ VOA ☒ VOA³ ☐ VOAn₂ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 1AGB ☐ 1AGBn₂ ☐ 1AGBs☐ 500AGB ☒ 500AGJ ² ☐ 500AGJs ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 1PB ☐ 500PB ☐ 500PBna☐ 250PB ☐ 250PBn ☐ 125PB ☐ 125PBznna ☐ 100PJ ☐ 100PJna₂ ☐ _____ ☐ _____ ☐ _____Air: ☐ Tedlar® ☐ Summa® Other: ☐ _____ Trip Blank Lot#: _____Checked by: JP

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelop

Reviewed by: JPPreservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ Na: NaOH p: H₃PO₄ s: H₂SO₄ znna: ZnAc₂*NaOH f: Field-filteredScanned by: JP