RO2525

Delta
Environmental Consultants, Inc.

Solving environment-related business problems worldwide

www.deltaenv.com

175 Bernal Road • Suite 200
San Jose, California 95119 USA

408.224.4724 800.477.7411
Fax 408.224.4518

Alameda DEC 1

Letter of Transmittal

To:	Alameda County Health Care Services Agency	Date:	12/7/2005
	Environmental Health Services - Environmental Protection		
	1131 Harbor Bay Parkway, Suite 250	Job No:	SJ31-8LI-1.2005
	Alameda, CA 94502-6577		
Attn:	Mr. Jerry Wickham		

We are sending the following items:

Date	Copies	Description
6-Dec-05	1	**Quarterly Monitoring Report - Fourth Quarter 2005**
		Former Shell-branded Service Station
		318 South Livermore Avenue
		Livermore, CA

These are transmitted:

☐ For your Information ☐ For action specified below ☐ For review and comment ☐ For your use ☒ As requested

Remarks

Copies to: Isabel Mejia, Shell Oil Products US
Denis Brown, Shell Oil Products
Betty Graham, RWQCB, Oakland
Chris Davidson, Redevelopment Agency, City of Livermore

By: Lena Martinez
Title: Project Manager Assistant/LFR

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A member of:
Inogen Environmental Alliance

RO2525
G

Shell Oil Products US

Alameda County
DEC 12 2005
Environmental

December 6, 2005

Re: **Former Shell-branded Service Station**
318 S. Livermore Avenue
Livermore, California

Dear Mr. Jerry Wickham:

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

Sincerely,
Shell Oil Products US

Denis L. Brown
Project Manager

20945 S. Wilmington Avenue, Carson, CA 90810 P: (559) 645-9306; F: (559) 645-5643

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December 6, 2005
Project No. SJ31-8LI-1.2005

DEC 19 2005

Mr. Jerry Wickham
Environmental Health Services – Environmental Protection
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Quarterly Monitoring Report – Fourth Quarter 2005**
Former Shell-branded Service Station
318 South Livermore Avenue
Livermore, California

Dear Mr. Wickham:

Delta Environmental Consultants, Inc. (Delta), on behalf of Shell Oil Products US (Shell), has prepared the following fourth quarter 2005 groundwater monitoring and sampling report for the above referenced site. A site location map is included as Figure 1.

BACKGROUND

On March 7, 2003, Shell received a notice of responsibility letter from the Alameda County Health Care Services Agency (ACHCSA) placing the site in the Local Oversight Program due to the presence of methyl tert-butyl ether (MTBE) in groundwater beneath the site. In a work plan, dated May 27, 2003, Delta proposed to continue quarterly sampling of site wells for the remainder of 2003 in order to monitor MTBE concentrations.

On December 10, 2003, site USTs, fuel dispensers, and associated product piping were removed. A fuel system removal report, dated January 16, 2004, was submitted by Delta to the ACHCSA.

A member of:
Inogen Environmental Alliance

QUARTERLY GROUND WATER MONITORING PROGRAM

Groundwater monitoring wells were gauged and sampled by Blaine Tech Services (Blaine), at the direction of Delta, on October 7, 2005. Depth to groundwater was measured in Wells MW-5 through MW-9. Wells MW-1 through MW-4 were previously destroyed. On September 15, 2005, Delta supervised the installation of one additional on-site monitoring well (MW-9) in the direction of the primary shallow groundwater gradient. Groundwater elevation data and contours are presented on Figure 2.

Groundwater samples were collected from Wells MW-5 through MW-9. Samples were submitted by Blaine to Severn Trent Laboratories, Inc. (STL) in Pleasanton, California for analysis for total purgeable petroleum hydrocarbons as gasoline (TPH-G); benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds); the fuel oxygenates MTBE, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA), 1,2-Dichloroethane (DCA), 1,2-Dibromoethane (EDB) and total lead. Analyses for petroleum hydrocarbons, fuel oxygenates, and 1,2-DCA was performed by EPA Method 8260B. Analysis for EDB was performed by EPA Method 504.1. Analysis for total lead was performed by EPA Method 6010B. Benzene and MTBE concentrations in groundwater are presented on Figure 3.

Blaine's groundwater monitoring and sampling report, which includes historical and current groundwater elevation data, historical and current analytical results, and field data records for the current monitoring event, is included as Attachment A.

DISCUSSION

Depth to groundwater in site wells (MW-6 through MW-8) has increased by an average of 5.5 feet since second quarter, consistent with historic water level fluctuations. Depth to groundwater in site Well MW-9 has increased by 0.18 feet since installation. The groundwater gradient on October 7, 2005 was toward the west at a magnitude of 0.02 feet/feet, consistent with previous data.

Analytical data from Wells MW-6 through MW-8 remains consistent from one quarter to the next. Petroleum hydrocarbons detections in Well MW-9 were consistent with analytical data from previous sampling on September 23, 2005. TPH-G was detected in Wells MW-7 and MW-9 at a concentration of 77 micromilligrams per liter (ug/l) and 400 ug/l, respectively. Well MW-9 also contained concentrations of BTEX compounds ranging from 1.2 ug/l (toluene) to 42 ug/l (benzene). MTBE was detected in Wells MW-7 and MW-9 at concentrations of 0.7 ug/l and 12 ug/l. TBA was only detected in Well MW-9 at a concentration of 9.4 ug/l. Fuel oxygenates DIPE, ETBE, and TAME remain below laboratory detection limits for at least the eighth consecutive monitoring event. The lead scavenger 1,2-DCA was detected in Well MW-7 and MW-9 at a concentration of 0.93 ug/l and 0.79 ug/l, respectively.

Delta is currently preparing a report documenting the results of additional over-excavation conducted in August and October 2005.

REMARKS

The information contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

Please call if you have any questions regarding the contents of this letter.

Sincerely,
Delta Environmental Consultants, Inc.

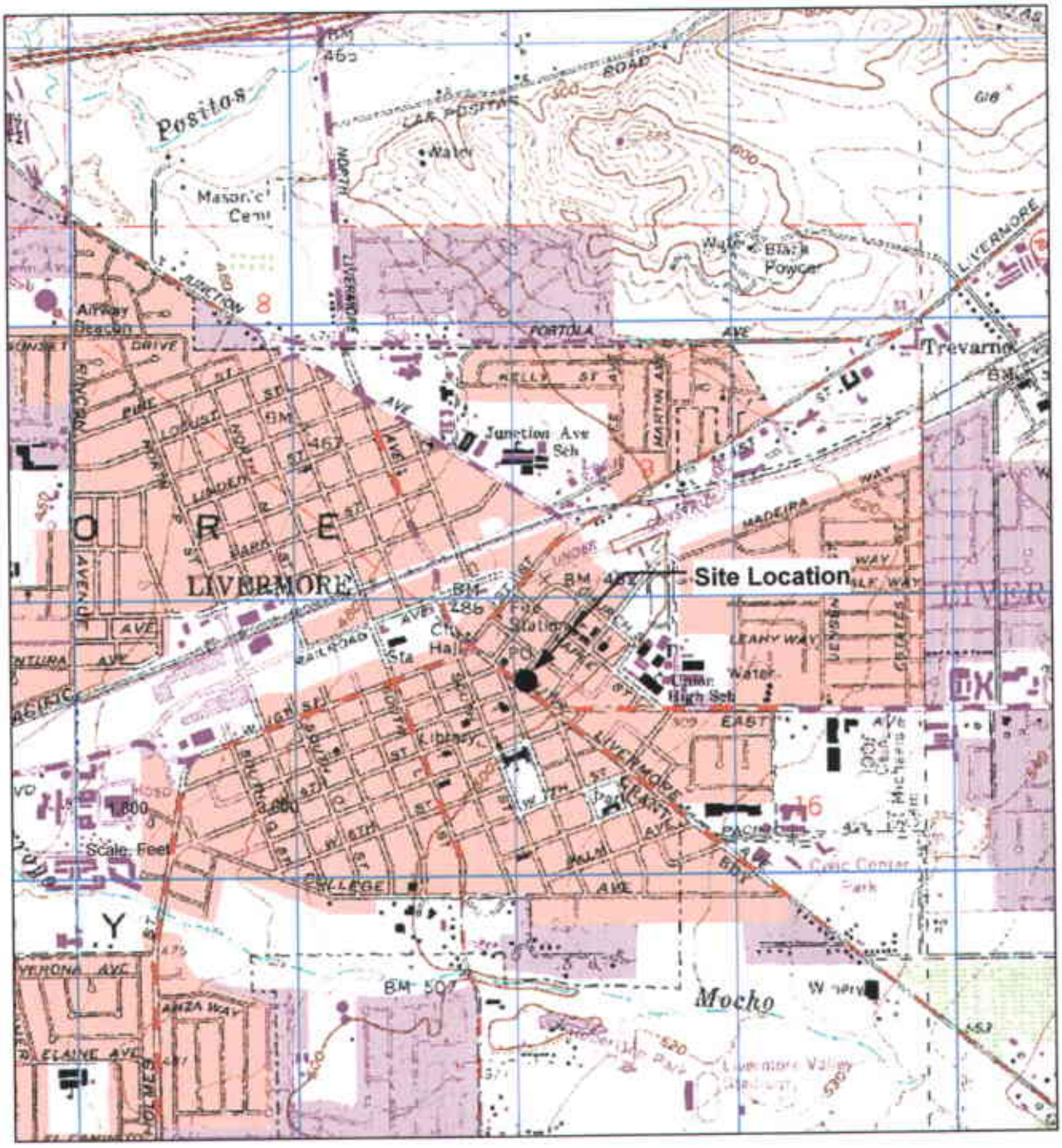
Heather Buckingham
Senior Staff Geologist

Debbie Arnold
Project Manager
PG 7745

Attachments: Figure 1 – Site Location Map
Figure 2 – Groundwater Elevation Contour Map, October 7, 2005
Figure 3 – Benzene and MTBE Concentrations Map, October 7, 2005

Attachment A – Groundwater Monitoring and Sampling Report, November 1, 2005

cc: Denis Brown, Shell Oil Products US, Carson
Betty Graham, RWQCB, Oakland
Chris Davidson, Redevelopment Agency, City of Livermore, Livermore



GENERAL NOTES:
Base Map from: DeLorme Yarmouth, ME 04096
Source Data: USGS

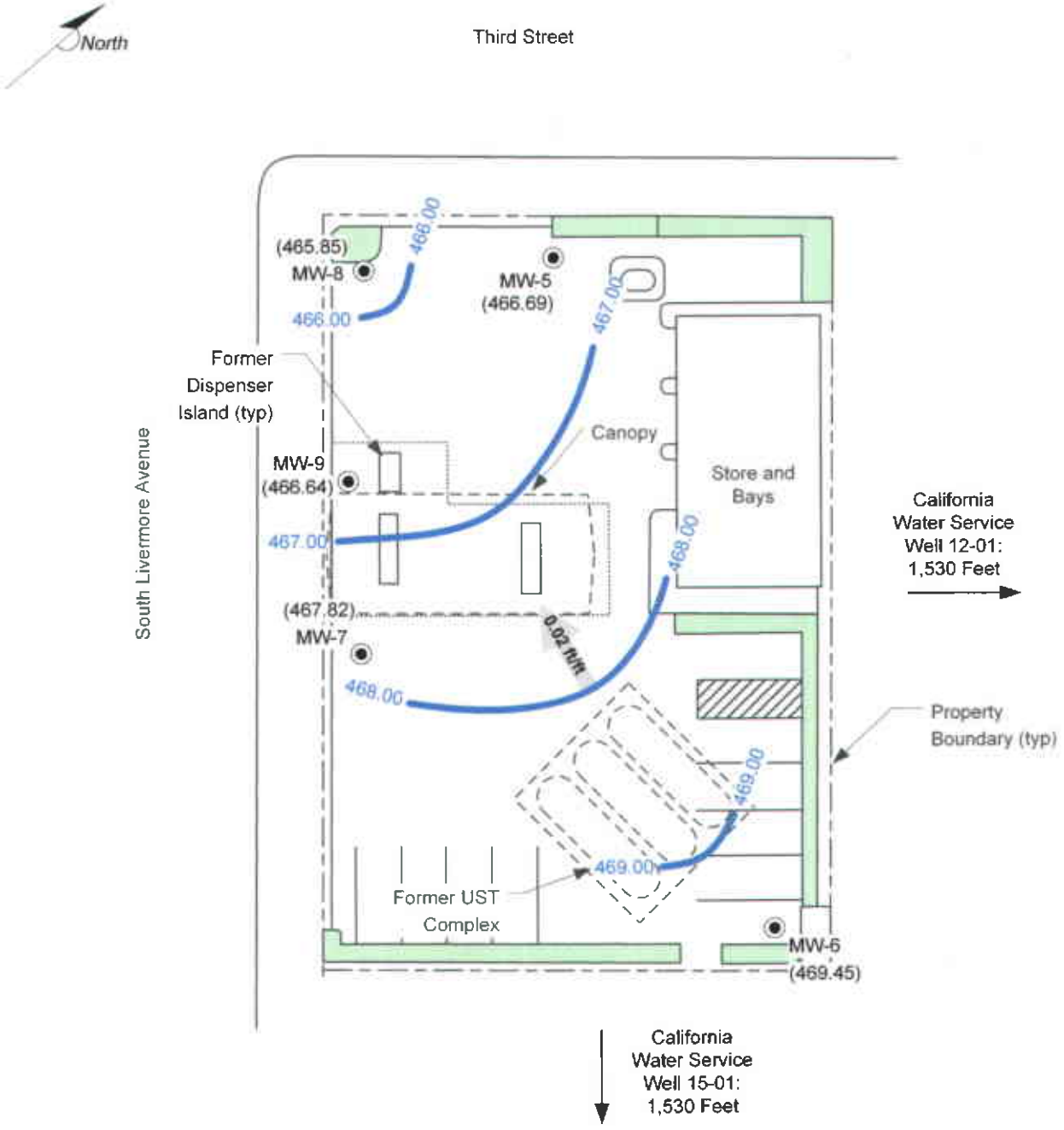
FIGURE 1

SITE LOCATION MAP

FORMER SHELL-BRANDED SERVICE STATION
318 South Livermore Avenue
Livermore, CA

PROJECT NO. SJ31-BLI-1.2005	DRAWN BY VF 9/25/03
FILE NO. SJ31-BLI-1.2005	PREPARED BY VF
REVISION NO. 2	REVIEWED BY

Delta Environmental Consultants, inc.



LEGEND

MW-6 **GROUNDWATER MONITORING WELL**

(467.82) **GROUNDWATER ELEVATION (MSL), 10/07/05**

468.00 **GROUNDWATER ELEVATION CONTOUR**

0.02 ft/ft **APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT**

0 30 FT

APPROX. SCALE

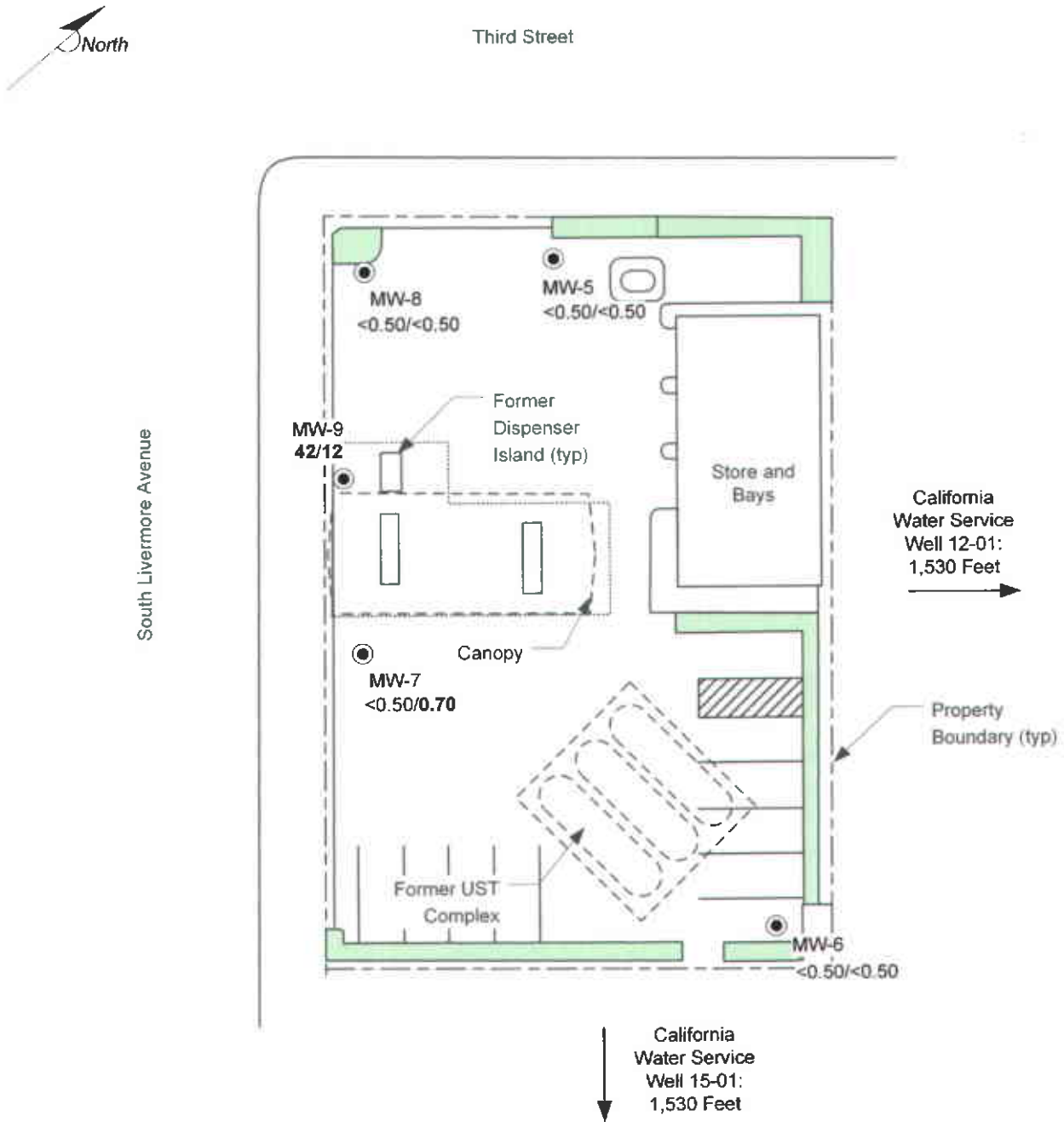
FIGURE 2

GROUNDWATER ELEVATION CONTOUR MAP, OCTOBER 7, 2005

FORMER SHELL-BRANDED SERVICE STATION
318 South Livermore Avenue
Livermore, California

PROJECT NO. SJ31-8LJ-1.2005	DRAWN BY JL 11/30/05
FILE NO. SJ31-8LJ-1.2005	PREPARED BY HB
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



LEGEND

MW-6 ◉ **GROUNDWATER MONITORING WELL**

<0.50/<0.50 **BENZENE / MTBE CONCENTRATIONS IN GROUNDWATER (UG/L), 10/07/05**

0 30 FT

APPROX. SCALE

FIGURE 3

BENZENE AND MTBE CONCENTRATION MAP, OCTOBER 7, 2005

FORMER SHELL-BRANDED SERVICE STATION
318 South Livermore Avenue
Livermore, California

PROJECT NO. SJ31-8LI-1.2005	DRAWN BY JL 11/30/05
FILE NO. SJ31-8LI-1.2005	PREPARED BY HB
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

Attachment A

GROUNDWATER MONITORING AND SAMPLING REPORT

BLAINE
TECH SERVICES INC.

GROUNDWATER SAMPLING SPECIALISTS
SINCE 1985

November 1, 2005

Denis Brown
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

Fourth Quarter 2005 Groundwater Monitoring at
Former Shell Service Station
318 South Livermore Avenue
Livermore, CA

Monitoring performed on October 7, 2005

Groundwater Monitoring Report **051007-BR-2**

This report covers the routine monitoring of groundwater wells at this former Shell facility. In accordance with standard procedures that conform to Regional Water Quality Control Board requirements, routine field data collection includes depth to water, total well depth, thickness of any separate immiscible layer, water column volume, calculated purge volume (if applicable), elapsed evacuation time (if applicable), total volume of water removed (if applicable), and standard water parameter instrument readings. Sample material is collected, contained, stored, and transported to the laboratory in conformance with EPA standards. Purgewater (if applicable) is, likewise, collected and transported to the Martinez Refining Company.

Basic field information is presented alongside analytical values excerpted from the laboratory report in the cumulative table of **WELL CONCENTRATIONS**. The full analytical report for the most recent samples and the field data sheets are attached to this report.

At a minimum, Blaine Tech Services, Inc. field personnel are certified on completion of a forty-hour Hazardous Materials and Emergency Response training course per 29 CFR 1910.120. Field personnel are also enrolled in annual eight-hour refresher courses.

Blaine Tech Services, Inc. conducts sampling and documentation assignments of this type as an independent third party. Our activities at this site consisted of objective data and sample collection only. No interpretation of analytical results, defining of hydrological conditions or formulation of recommendations was performed.

Please call if you have any questions.

Yours truly,

Mike Ninokata
Project Coordinator

MN/ks

attachments: Cumulative Table of WELL CONCENTRATIONS
Certified Analytical Report
Field Data Sheets

cc: Debbie Arnold
Delta Environmental
175 Bernal Road, Suite 200
San Jose, CA 95119

WELL CONCENTRATIONS
Former Shell Service Station
318 South Livermore Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-5	09/18/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-5	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	495.47	34.85	460.62
MW-5	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	495.47	37.26	458.21
MW-5	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	495.47	27.30	468.17
MW-5	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	495.47	27.84	467.63
MW-5	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	495.47	30.54	464.93
MW-5	11/13/2003	60	<0.50	1.5	1.7	9.6	<0.50	<2.0	<2.0	<2.0	<5.0	495.47	33.94	461.53
MW-5	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	495.47	26.59	468.88
MW-5	04/07/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	495.47	25.44	470.03
MW-5	07/21/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	495.47	32.34	463.13
MW-5	11/11/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	495.47	33.24	462.23
MW-5	01/26/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	495.47	26.80	468.67
MW-5	04/13/2005	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	495.47	22.58	472.89
MW-5	**10/07/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**495.47**	**28.78**	**466.69**
MW-6	09/18/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-6	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	497.57	35.41	462.16
MW-6	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	2.5	<2.0	<2.0	<2.0	<50	497.57	37.92	459.65
MW-6	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	497.57	27.71	469.86
MW-6	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	497.57	28.28	469.29
MW-6	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	497.57	30.56	467.01
MW-6	11/13/2003	90	<0.50	2.6	2.4	12	<0.50	<2.0	<2.0	<2.0	<5.0	497.57	34.18	463.39
MW-6	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	497.57	27.16	470.41
MW-6	04/07/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	497.57	25.88	471.69
MW-6	07/21/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	497.57	32.74	464.83
MW-6	11/11/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	497.57	33.75	463.82

WELL CONCENTRATIONS
Former Shell Service Station
318 South Livermore Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-6	01/26/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	497.57	26.89	470.68
MW-6	04/13/2005	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	497.57	23.05	474.52
MW-6	**10/07/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**497.57**	**28.12**	**469.45**
MW-7	09/18/2001	NA	<0.50	<0.50	<0.50	<0.50	1.2	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-7	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	2.0	<2.0	<2.0	<2.0	<50	495.58	34.29	461.29
MW-7	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	1.9	<2.0	<2.0	<2.0	<50	495.58	36.80	458.78
MW-7	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	0.89	<2.0	<2.0	<2.0	<50	495.58	26.75	468.83
MW-7	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0	4.0	<2.0	<2.0	<2.0	<5.0	495.58	27.31	468.27
MW-7	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	3.2	<2.0	<2.0	<2.0	<5.0	495.58	30.02	465.56
MW-7	11/13/2003	72	<0.50	0.62	0.57	3.2	1.4	<2.0	<2.0	<2.0	<5.0	495.58	33.85	461.73
MW-7	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	0.85	NA	NA	NA	NA	495.58	27.13	468.45
MW-7	04/07/2004	<50	<0.50	<0.50	<0.50	<1.0	0.71	NA	NA	NA	NA	495.58	25.13	470.45
MW-7	07/21/2004	<50	<0.50	<0.50	<0.50	<1.0	1.8	NA	NA	NA	NA	495.58	31.68	463.90
MW-7	11/11/2004	75	<0.50	<0.50	<0.50	<1.0	2.2	<2.0	<2.0	<2.0	<5.0	495.58	32.92	462.66
MW-7	01/26/2005	<50	<0.50	<0.50	<0.50	<1.0	1.8	<2.0	<2.0	<2.0	<5.0	495.58	26.60	468.98
MW-7	04/13/2005	<50	<0.50	<0.50	<0.50	<0.50	0.87	<0.50	<0.50	<0.50	<5.0	495.58	23.25	472.33
MW-7	**10/07/2005**	**77**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.70**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**495.58**	**27.76**	**467.82**
MW-8	09/18/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-8	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	6.9	<2.0	<2.0	<2.0	<50	494.90	34.46	460.44
MW-8	10/25/2002	140	<0.50	<0.50	<0.50	<0.50	2.2	3.3	<2.0	<2.0	<50	494.90	36.98	457.92
MW-8	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	494.90	27.35	467.55
MW-8	04/17/2003	<50	<0.50	<0.50	<0.50	<1.0	0.67	<2.0	<2.0	<2.0	<5.0	494.90	27.44	467.46
MW-8	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	0.50	<2.0	<2.0	<2.0	<5.0	494.90	32.29	462.61
MW-8	11/13/2003	260	1.5	2.3	2.9	16	1.4	<2.0	<2.0	<2.0	<5.0	494.90	33.08	461.82

WELL CONCENTRATIONS
Former Shell Service Station
318 South Livermore Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-8	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	0.92	NA	NA	NA	NA	494.90	26.18	468.72
MW-8	04/07/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	494.90	25.10	469.80
MW-8	07/21/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	494.90	31.97	462.93
MW-8	11/11/2004	<50	<0.50	<0.50	<0.50	<1.0	0.82	<2.0	<2.0	<2.0	<5.0	494.90	32.80	462.10
MW-8	01/26/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	494.90	26.00	468.90
MW-8	04/13/2005	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	494.90	22.81	472.09
MW-8	**10/07/2005**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**494.90**	**29.05**	**465.85**
MW-9	09/19/2005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.89	NA
MW-9	09/23/2005	290	53	2.7	7.8	34	12	<2.0	<2.0	<2.0	14	NA	27.95	NA
MW-9	**10/07/2005**	**400**	**42**	**1.2**	**3.7**	**22**	**12**	**<2.0**	**<2.0**	**<2.0**	**9.4**	**494.77**	**28.13**	**466.64**

WELL CONCENTRATIONS
Former Shell Service Station
318 South Livermore Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B.
MTBE = Methyl tertiary butyl ether
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
TBA = Tertiary butyl alcohol, analyzed by EPA Method 8260B
TOC = Top of Casing Elevation
GW = Groundwater
ug/L = Parts per billion
MSL = Mean sea level
ft. = Feet
<n = Below detection limit
NA = Not applicable

Notes:
Survey data provided by KHM Environmental Management, Inc.

SEVERN TRENT STL

Submission#: 2005-10-0246

Blaine Tech Services, Inc.

October 27, 2005

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Michael Ninokata

Project#: BTS#051007-BR2
Project: 97464709
Site: 318 S. Livermore Ave., Livermore

Attached is our report for your samples received on 10/11/2005 12:00
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 11/25/2005 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: mbrewer@stl-inc.com

Sincerely,

Melissa Brewer

Melissa Brewer
Project Manager

SEVERN TRENT STL

Submission: 2005-10-0246

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-5	10/07/2005 09:45	Water	1
MW-6	10/07/2005 11:10	Water	2
MW-7	10/07/2005 10:35	Water	3
MW-8	10/07/2005 10:05	Water	4
MW-9	10/07/2005 09:05	Water	5

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-5**
Sampled: 10/07/2005 09:45
Matrix: Water
pH: <2

Test(s): 8260B
Lab ID: 2005-10-0246 - 1
Extracted: 10/14/2005 20:59
QC Batch#: 2005/10/14-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	1.00	10/14/2005 20:59	
Benzene	ND	0.50	ug/L	1.00	10/14/2005 20:59	
Toluene	ND	0.50	ug/L	1.00	10/14/2005 20:59	
Ethylbenzene	ND	0.50	ug/L	1.00	10/14/2005 20:59	
Total xylenes	ND	1.0	ug/L	1.00	10/14/2005 20:59	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/14/2005 20:59	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/14/2005 20:59	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/14/2005 20:59	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/14/2005 20:59	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/14/2005 20:59	
1,2-DCA	ND	0.50	ug/L	1.00	10/14/2005 20:59	
Surrogate(s)						
1,2-Dichloroethane-d4	97.8	73-130	%	1.00	10/14/2005 20:59	
Toluene-d8	94.1	81-114	%	1.00	10/14/2005 20:59	

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-6**
Sampled: 10/07/2005 11:10
Matrix: Water
pH: <2

Test(s): 8260B
Lab ID: 2005-10-0246 - 2
Extracted: 10/14/2005 21:20
QC Batch#: 2005/10/14-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	1.00	10/14/2005 21:20	
Benzene	ND	0.50	ug/L	1.00	10/14/2005 21:20	
Toluene	ND	0.50	ug/L	1.00	10/14/2005 21:20	
Ethylbenzene	ND	0.50	ug/L	1.00	10/14/2005 21:20	
Total xylenes	ND	1.0	ug/L	1.00	10/14/2005 21:20	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/14/2005 21:20	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/14/2005 21:20	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/14/2005 21:20	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/14/2005 21:20	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/14/2005 21:20	
1,2-DCA	ND	0.50	ug/L	1.00	10/14/2005 21:20	
Surrogate(s)						
1,2-Dichloroethane-d4	100.2	73-130	%	1.00	10/14/2005 21:20	
Toluene-d8	92.2	81-114	%	1.00	10/14/2005 21:20	

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-7**
Sampled: 10/07/2005 10:35
Matrix: Water
pH: <2

Test(s): 8260B
Lab ID: 2005-10-0246 - 3
Extracted: 10/14/2005 21:41
QC Batch#: 2005/10/14-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	77	50	ug/L	1.00	10/14/2005 21:41	
Benzene	ND	0.50	ug/L	1.00	10/14/2005 21:41	
Toluene	ND	0.50	ug/L	1.00	10/14/2005 21:41	
Ethylbenzene	ND	0.50	ug/L	1.00	10/14/2005 21:41	
Total xylenes	ND	1.0	ug/L	1.00	10/14/2005 21:41	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/14/2005 21:41	
Methyl tert-butyl ether (MTBE)	0.70	0.50	ug/L	1.00	10/14/2005 21:41	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/14/2005 21:41	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/14/2005 21:41	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/14/2005 21:41	
1,2-DCA	0.93	0.50	ug/L	1.00	10/14/2005 21:41	
Surrogate(s)						
1,2-Dichloroethane-d4	95.9	73-130	%	1.00	10/14/2005 21:41	
Toluene-d8	93.9	81-114	%	1.00	10/14/2005 21:41	

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-8**
Sampled: 10/07/2005 10:05
Matrix: Water
pH: <2

Test(s): 8260B
Lab ID: 2005-10-0246 - 4
Extracted: 10/14/2005 22:03
QC Batch#: 2005/10/14-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	1.00	10/14/2005 22:03	
Benzene	ND	0.50	ug/L	1.00	10/14/2005 22:03	
Toluene	ND	0.50	ug/L	1.00	10/14/2005 22:03	
Ethylbenzene	ND	0.50	ug/L	1.00	10/14/2005 22:03	
Total xylenes	ND	1.0	ug/L	1.00	10/14/2005 22:03	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/14/2005 22:03	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/14/2005 22:03	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/14/2005 22:03	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/14/2005 22:03	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/14/2005 22:03	
1,2-DCA	ND	0.50	ug/L	1.00	10/14/2005 22:03	
Surrogate(s)						
1,2-Dichloroethane-d4	96.4	73-130	%	1.00	10/14/2005 22:03	
Toluene-d8	93.1	81-114	%	1.00	10/14/2005 22:03	

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-9**
Sampled: 10/07/2005 09:05
Matrix: Water
pH: <2

Test(s): 8260B
Lab ID: 2005-10-0246 - 5
Extracted: 10/14/2005 22:25
QC Batch#: 2005/10/14-2A.69

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	400	50	ug/L	1.00	10/14/2005 22:25	
Benzene	42	0.50	ug/L	1.00	10/14/2005 22:25	
Toluene	1.2	0.50	ug/L	1.00	10/14/2005 22:25	
Ethylbenzene	3.7	0.50	ug/L	1.00	10/14/2005 22:25	
Total xylenes	22	1.0	ug/L	1.00	10/14/2005 22:25	
tert-Butyl alcohol (TBA)	9.4	5.0	ug/L	1.00	10/14/2005 22:25	
Methyl tert-butyl ether (MTBE)	12	0.50	ug/L	1.00	10/14/2005 22:25	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/14/2005 22:25	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/14/2005 22:25	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/14/2005 22:25	
1,2-DCA	0.79	0.50	ug/L	1.00	10/14/2005 22:25	
Surrogate(s)						
1,2-Dichloroethane-d4	97.9	73-130	%	1.00	10/14/2005 22:25	
Toluene-d8	90.6	81-114	%	1.00	10/14/2005 22:25	

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2005/10/14-2A.69**

MB: 2005/10/14-2A.69-028 — Date Extracted: 10/14/2005 19:28

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	10/14/2005 19:28	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	10/14/2005 19:28	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	10/14/2005 19:28	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	10/14/2005 19:28	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	10/14/2005 19:28	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	10/14/2005 19:28	
1,2-DCA	ND	0.5	ug/L	10/14/2005 19:28	
Benzene	ND	0.5	ug/L	10/14/2005 19:28	
Toluene	ND	0.5	ug/L	10/14/2005 19:28	
Ethylbenzene	ND	0.5	ug/L	10/14/2005 19:28	
Total xylenes	ND	1.0	ug/L	10/14/2005 19:28	
Surrogates(s)					
1,2-Dichloroethane-d4	94.0	73-130	%	10/14/2005 19:28	
Toluene-d8	93.6	81-114	%	10/14/2005 19:28	

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2005/10/14-2A.69**

LCS 2005/10/14-2A.69-007 Extracted: 10/14/2005 Analyzed: 10/14/2005 19:07

LCSD

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	26.8		25	107.2			65-165	20		
Benzene	23.2		25	92.8			69-129	20		
Toluene	24.3		25	97.2			70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	442		500	88.4			73-130			
Toluene-d8	485		500	97.0			81-114			

Gas/BTEX Fuel Oxygenates by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Michael Ninokata

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2005/10/14-2A.69**

MW-5 >> MS

Lab ID: 2005-10-0246 - 001

MS: 2005/10/14-2A.69-017 Extracted: 10/14/2005

Analyzed: 10/14/2005 20:17

Dilution: 1.00

MSD: 2005/10/14-2A.69-038 Extracted: 10/14/2005

Analyzed: 10/14/2005 20:38

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level	Recovery %			Limits %		Flags	
	MS	MSD	Sample	ug/L	MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	28.5	24.5	ND	25	114.0	98.0	15.1	65-165	20		
Benzene	24.1	22.0	ND	25	96.4	88.0	9.1	69-129	20		
Toluene	24.6	22.9	ND	25	98.4	91.6	7.2	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	461	452		500	92.2	90.4		73-130			
Toluene-d8	455	482		500	91.0	96.4		81-114			

SEVERN TRENT STL

Submission: 2005-10-0246

Total Lead

Blaine Tech Services, Inc.
Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-5	10/07/2005 09:45	Water	1
MW-6	10/07/2005 11:10	Water	2
MW-7	10/07/2005 10:35	Water	3
MW-8	10/07/2005 10:05	Water	4
MW-9	10/07/2005 09:05	Water	5

Total Lead

Blaine Tech Services, Inc.

Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 3010A
Sample ID: **MW-5**
Sampled: 10/07/2005 09:45
Matrix: Water

Test(s): 6010B
Lab ID: 2005-10-0246 - 1
Extracted: 10/17/2005 12:22
QC Batch#: 2005/10/17-04.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Lead	0.012	0.0050	mg/L	1.00	10/18/2005 14:34	

Total Lead

Blaine Tech Services, Inc.
Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 3010A
Sample ID: **MW-6**
Sampled: 10/07/2005 11:10
Matrix: Water

Test(s): 6010B
Lab ID: 2005-10-0246 - 2
Extracted: 10/17/2005 12:22
QC Batch#: 2005/10/17-04.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Lead	ND	0.0050	mg/L	1.00	10/18/2005 14:50	

Total Lead

Blaine Tech Services, Inc.
Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 3010A
Sample ID: **MW-7**
Sampled: 10/07/2005 10:35
Matrix: Water

Test(s): 6010B
Lab ID: 2005-10-0246 - 3
Extracted: 10/17/2005 12:22
QC Batch#: 2005/10/17-04.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Lead	0.14	0.0050	mg/L	1.00	10/18/2005 14:53	

Total Lead

Blaine Tech Services, Inc.
Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 3010A
Sample ID: **MW-8**
Sampled: 10/07/2005 10:05
Matrix: Water

Test(s): 6010B
Lab ID: 2005-10-0246 - 4
Extracted: 10/17/2005 12:22
QC Batch#: 2005/10/17-04.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Lead	ND	0.0050	mg/L	1.00	10/18/2005 14:57	

Total Lead

Blaine Tech Services, Inc.

Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Prep(s): 3010A
Sample ID: **MW-9**
Sampled: 10/07/2005 09:05
Matrix: Water

Test(s): 6010B
Lab ID: 2005-10-0246 - 5
Extracted: 10/17/2005 12:22
QC Batch#: 2005/10/17-04.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Lead	0.020	0.0050	mg/L	1.00	10/18/2005 15:01	

Total Lead

Blaine Tech Services, Inc.

Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Batch QC Report

Prep(s): 3010A
Method Blank
MB: 2005/10/17-04.15-041

Water

Test(s): 6010B
QC Batch # 2005/10/17-04.15
Date Extracted: 10/17/2005 12:22

Compound	Conc.	RL	Unit	Analyzed	Flag
Lead	ND	0.0050	mg/L	10/18/2005 13:24	

Total Lead

Blaine Tech Services, Inc.
Attn.: Josh Kerns

1680 Rogers Avenue
San Jose, CA 95112-1105
Phone: (408) 573-0555 Fax: (408) 573-7771

Project: BTS#051007-BR2
97464709

Received: 10/11/2005 12:00

Site: 318 S. Livermore Ave., Livermore

Batch QC Report

Prep(s): 3010A

Test(s): 6010B

Laboratory Control Spike **Water** **QC Batch # 2005/10/17-04.15**

LCS 2005/10/17-04.15-042 Extracted: 10/17/2005 Analyzed: 10/18/2005 13:27

LCSD 2005/10/17-04.15-043 Extracted: 10/17/2005 Analyzed: 10/18/2005 13:30

Compound	Conc. mg/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Lead	0.506	0.507	0.500	101.2	101.4	0.2	80-120	20		

SEVERN TRENT STL

STL Denver
4955 Yarrow Street
Arvada, CO 80002

Tel: 303 736 0100 Fax: 303 431 7171
www.stl-inc.com

ANALYTICAL REPORT

Project Name: 97464709

Project/Reference Number: BTS#051007-BR2

STL-SF # 2005-10-0246

STL Denver Lot Number: D5J190381

Melissa Brewer

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Severn Trent Laboratories, Inc. / STL Denver

Michael P. Phillips

Michael P. Phillips
Project Manager

October 27, 2005

Table Of Contents

Standard Deliverables

Report Contents	Total Number of Pages

Standard Deliverables

*The **Cover Letter** and the **Report Cover** page are considered integral parts of this Standard Deliverable package. This report is incomplete unless all pages indicated in this Table of Contents are included.*

Project Narrative
Lot D5J190381

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted.

The test results presented in this report meet all requirements of NELAC, and any exceptions are noted. This report shall not be reproduced, except in full, without written permission from the laboratory.

Sample Arrival and Receipt

Five samples were received under chain of custody on October 19, 2005. The samples were received in good condition at a temperature of 1.7°C.

GC Semivolatiles, EPA-DW 504.1

No MS/MSD associated with batch 5293150 was performed due to insufficient sample volume.

No other anomalies were observed.

EXECUTIVE SUMMARY - Detection Highlights

D5J190381

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
NO DETECTABLE PARAMETERS				

METHODS SUMMARY

D5J190381

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
EDB/DBCP/123-TCP in Water by Microextraction and G	EPA-DW 504.1	SW846 8011

References:

EPA-DW "Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, December 1988 and its Supplements.

METHOD / ANALYST SUMMARY

D5J190381

ANALYTICAL METHOD	ANALYST	ANALYST ID
EPA-DW 504.1	Mike Dobransky	008777

References:

EPA-DW "Methods for the Determination of Organic Compounds in Drinking Water", EPA/600/4-88/039, December 1988 and its Supplements.

SAMPLE SUMMARY

D5J190381

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
HM46X	001	MW-5	10/07/05	09:45
HM460	002	MW-6	10/07/05	11:10
HM461	003	MW-7	10/07/05	10:35
HM462	004	MW-8	10/07/05	10:05
HM463	005	MW-9	10/07/05	09:05

NOTE(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 not 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 weight.

STL SAN FRANCISCO

Client Sample ID: MW-5

GC Semivolatiles

Lot-Sample #...: D5J190381-001 **Work Order #...:** HM46X1AA **Matrix.....:** WATER
Date Sampled...: 10/07/05 09:45 **Date Received..:** 10/19/05
Prep Date.....: 10/20/05 **Analysis Date..:** 10/20/05
Prep Batch #...: 5293150 **Analysis Time..:** 18:04
Dilution Factor: 1

Method.....: EPA-DW 504.1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2-Dibromoethane (EDB)	ND	0.020	ug/L	0.0036

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	106	(70 - 130)

STL SAN FRANCISCO

Client Sample ID: MW-6

GC Semivolatiles

Lot-Sample #...: D5J190381-002 **Work Order #...:** HM4601AA **Matrix.....:** WATER
Date Sampled...: 10/07/05 11:10 **Date Received..:** 10/19/05
Prep Date.....: 10/20/05 **Analysis Date..:** 10/20/05
Prep Batch #...: 5293150 **Analysis Time..:** 18:23
Dilution Factor: 1

Method.....: EPA-DW 504.1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2-Dibromoethane (EDB)	ND	0.020	ug/L	0.0036

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	77	(70 - 130)

STL SAN FRANCISCO

Client Sample ID: MW-7

GC Semivolatiles

Lot-Sample #...: D5J190381-003 **Work Order #...:** HM4611AA **Matrix.....:** WATER
Date Sampled...: 10/07/05 10:35 **Date Received..:** 10/19/05
Prep Date.....: 10/20/05 **Analysis Date..:** 10/20/05
Prep Batch #...: 5293150 **Analysis Time..:** 18:41
Dilution Factor: 1

Method.....: EPA-DW 504.1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2-Dibromoethane (EDB)	ND	0.020	ug/L	0.0036

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	82	(70 - 130)

STL SAN FRANCISCO

Client Sample ID: MW-8

GC Semivolatiles

Lot-Sample #...: D5J190381-004 **Work Order #...:** HM4621AA **Matrix.....:** WATER
Date Sampled...: 10/07/05 10:05 **Date Received..:** 10/19/05
Prep Date.....: 10/20/05 **Analysis Date..:** 10/20/05
Prep Batch #...: 5293150 **Analysis Time..:** 19:00
Dilution Factor: 1

Method.....: EPA-DW 504.1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2-Dibromoethane (EDB)	ND	0.020	ug/L	0.0036

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	95	(70 - 130)

STL SAN FRANCISCO

Client Sample ID: MW-9

GC Semivolatiles

Lot-Sample #...: D5J190381-005 **Work Order #...:** HM4631AA **Matrix.....:** WATER
Date Sampled...: 10/07/05 09:05 **Date Received..:** 10/19/05
Prep Date.....: 10/20/05 **Analysis Date..:** 10/20/05
Prep Batch #...: 5293150 **Analysis Time..:** 19:18
Dilution Factor: 1

Method.....: EPA-DW 504.1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,2-Dibromoethane (EDB)	ND	0.020	ug/L	0.0036

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	120	(70 - 130)

QC DATA ASSOCIATION SUMMARY

D5J190381

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	EPA-DW 504.1		5293150	
002	WATER	EPA-DW 504.1		5293150	
003	WATER	EPA-DW 504.1		5293150	
004	WATER	EPA-DW 504.1		5293150	
005	WATER	EPA-DW 504.1		5293150	

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: D5J190381 **Work Order #...:** HM5VX1AA **Matrix.....:** WATER
MB Lot-Sample #: D5J200000-150

Prep Date.....: 10/20/05 **Analysis Time..:** 17:08
Analysis Date..: 10/20/05 **Prep Batch #...:** 5293150
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,2-Dibromoethane (EDB)	ND	0.020	ug/L	EPA-DW 504.1

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	85	(70 - 130)

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: D5J190381 **Work Order #...:** HM5VX1AC **Matrix.....:** WATER
LCS Lot-Sample#: D5J200000-150
Prep Date.....: 10/20/05 **Analysis Date..:** 10/20/05
Prep Batch #...: 5293150 **Analysis Time..:** 16:30
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,2-Dibromoethane (EDB)	**105**	**(70 - 130)**	**EPA-DW 504.1**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	111	(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 Semivolatiles

Client Lot #...: D5J190381 **Work Order #...:** HM5VX1AC **Matrix.....:** WATER
LCS Lot-Sample#: D5J200000-150
Prep Date.....: 10/20/05 **Analysis Date..:** 10/20/05
Prep Batch #...: 5293150 **Analysis Time..:** 16:30
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
1,2-Dibromoethane (EDB)	**0.250**	**0.262**	**ug/L**	**105**	**EPA-DW 504.1**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dibromopropane	111	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

1,7 IRZ
10/19/05
100

SEVERN TRENT **STL**

Chain of Custody

Date Shipped: 10/18/2005

2005-10-0246 - 1

From:

STL San Francisco (CL)
1220 Quarry Lane
Pleasanton, CA 94566-4756

Project Manager:	Melissa Brewer		
Phone:	Ext:		
Fax:	(925) 484-1096		
Email:	mbrewer@stl-inc.com		

To:

STL Denver
4955 Yarrow Street
Arvada, CO 80002

Phone:	(303) 736-0100	Ext:	
Fax:	(303) 431-7171		
Contact:	Sample	Receiving	
Phone:	(303) 421-6611	Ext:	

CL Submission #: 2005-10-0246
CL PO #:

Project #: BTS#051007-BR2
Project Name: 97464709
EDF Global ID: T0600101249

Client Sample ID / Analysis	CL#	Sampled	Matrix / Method	TAT
MW-5	1	10/7/2005 9:45:00AM	Water	
EDF Field ID: MW-5				
Subcontract - Others /* EDB by 504.1 */				10 Day
MW-6	2	10/7/2005 11:10:00AM	Water	
EDF Field ID: MW-6				
Subcontract - Others /* EDB by 504.1 */				10 Day
MW-7	3	10/7/2005 10:35:00AM	Water	
EDF Field ID: MW-7				
Subcontract - Others /* EDB by 504.1 */				10 Day
MW-8	4	10/7/2005 10:05:00AM	Water	
EDF Field ID: MW-8				
Subcontract - Others /* EDB by 504.1 */				10 Day

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: [signature] Time: 1500	Signature: Time:	Signature: Time:
Printed Name: T. Bullock Date: 10/18/05	Printed Name: Date:	Printed Name: Date:
Company: STL-SF	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: 3.
Signature: [signature] Time: 0900	Signature: Time:	Signature: Time:
Printed Name: Aaron Birdsall Date: 10/19	Printed Name: Date:	Printed Name: Date:
Company: STL	Company:	Company:

SEVERN TRENT STL

Chain of Custody

Date Shipped: 10/18/2005

2005-10-0246 - 1

From:

STL San Francisco (CL)
1220 Quarry Lane
Pleasanton, CA 94566-4756

Project Manager:	Melissa Brewer		
Phone:	Ext:		
Fax:	(925) 484-1096		
Email:	mbrewer@stl-inc.com		

To:

STL Denver
4955 Yarrow Street
Arvada, CO 80002

Phone:	(303) 736-0100	Ext:	
Fax:	(303) 431-7171		
Contact:	Sample	Receiving	
Phone:	(303) 421-6611	Ext:	

CL Submission #: 2005-10-0246
CL PO #:

Project #: BTS#051007-BR2
Project Name: 97464709
EDF Global ID: T0600101249

Client Sample ID / Analysis	CL#	Sampled	Matrix / Method	TAT
MW-9	5	10/7/2005 9:05:00AM	Water	
EDF Field ID: MW-9				
Subcontract - Others */* EDB by 504.1 */*				**10 Day**

PLEASE INCLUDE QC WITH FAXED AND HARD-COPY RESULTS

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: [signature] Time: 1500	Signature Time	Signature Time
Printed Name: [signature] Date: 10/18/05	Printed Name Date	Printed Name Date
Company: STL-SF	Company	Company

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: 3.
Signature Time	Signature Time	Signature Time
Printed Name Date	Printed Name Date	Printed Name Date
Company	Company	Company

LAB: STL

SHELL Chain Of Custody Record

100301

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

Denis Brown

2005-10-0246

INCIDENT NUMBER (S&E ONLY): 9 7 4 6 4 7 0 9

SAP or CRMT NUMBER (TS/CRMT):

DATE: 10-7-05

PAGE: 1 of 1

SAMPLING COMPANY:	LOG CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	318 S. Livermore Ave., Livermore	T0600101249

ADDRESS:	EDF DELIVERABLE TO (Responsible Party or Designee):	PHONE NO.:	E-MAIL:	CONSULTANT PROJECT NO.:
1680 Rogers Avenue, San Jose, CA 95112	Heather Buckingham	(408)224-4724	hbuckingham@deltaenv.com	051007-BR2

PROJECT CONTACT (Hardcopy or PDF Report to):	TELEPHONE:	FAX:	E-MAIL:	BTS #
Leon Gearhart	408-573-0555	408-573-7771	lgearhart@blainetech.com	

SAMPLER NAME(S) (Print): B. Summerset

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☒ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED ☐

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by 8260	1,2-DCA by 8260	EDB by 504.1	Lead by 6010B
	mw-5	10-7	945	W	7	X	X		X	X	X	X
	mw-6		1110			X	X		X	X	X	X
	mw-7		1035			X	X		X	X	X	X
	mw-8		1005			X	X		X	X	X	X
	mw-9		905			X	X		X	X	X	X

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

TEMPERATURE ON RECEIPT C° 2

Relinquished by: (Signature)	Received by: (Signature) (Sample Custodian)	Date: 10-7-05	Time: 1405
Relinquished by: (Signature)	Received by: (Signature)	Date: 10-11-05	Time: 1200
Relinquished by: (Signature)	Received by: (Signature)	Date: 10-11-05	Time: 1620

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client.

10/16/00 Revision

Q&Q Graphic (714) 895-9702

LAB: STL

SHELL Chain Of Custody Record

100301

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

Denis Brown

2005-10-0246

INCIDENT NUMBER (S&E ONLY): 9 7 4 6 4 7 0 9

SAP or CRMT NUMBER (TS/CRMT):

DATE: 10-7-05

PAGE: 1 of 1

SAMPLING COMPANY:	LOG CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	318 S. Livermore Ave., Livermore	T0600101249

ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112

PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart

TELEPHONE: 408-573-0555 FAX: 408-573-7771 E-MAIL: lgearhart@blainetech.com

EDF DELIVERABLE TO (Responsible Party or Designee): Heather Buckingham PHONE NO.: (408)224-4724 E-MAIL: hbuckingham@deltaenv.com

CONSULTANT PROJECT NO.: 051007-BR2 BTS #

SAMPLER NAME(S) (Print): B. Summerset H

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☑ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

GC/MS MTBE CONFIRMATION: HIGHEST _____ HIGHEST per BORING _____ ALL _____

SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NOT NEEDED ☐

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH - Gas, Purgeable	BTEX	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by 8260	1,2-DCA by 8260	EDB by 504.1	Lead by 6010B
	mw-5	10-7	945	W	7	X	X		X	X	X	X
	mw-6		1110			X	X		X	X	X	X
	mw-7		1035			X	X		X	X	X	X
	mw-8		1005			X	X		X	X	X	X
	mw-9		905			X	X		X	X	X	X

FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes

TEMPERATURE ON RECEIPT C° 2

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Chain of Custody	10-7-05	1405
		10-11-05	1200
		10-11-05	1620

DISTRIBUTION: White with final report, Green to File, Yellow and Pink to Client

10/16/00 Revision

Q&D Graphic (714) 898-9702

WELLHEAD INSPECTION CHECKLIST

Date 10-7-05 Client Shell

Site Address 318 S. Livermore Ave Livermore

Job Number 050007-BR2 Technician B. Summerset

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-5						X		
MW-6	✓							
MW-7	✓							
MW-8	✓							
MW-9	✓							

NOTES:

WELL GAUGING DATA

Project # 051007-BR2 Date 10-7-05 Client Shell

Site 318 S. Livermore Ave Livermore

Well ID	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 TOC	
mw-5	2					28.78	55.00	TOC	2
mw-6	2					28.12	53.35		5
mw-7	2					27.76	50.90		4
mw-8	2					29.05	50.85		3
mw-9	4					28.13	31.55		1

SHELL WELL MONITORING DATA SHEET

BTS #: 051007-BR-2	Site: 9746 4709
Sampler: BR	Date: 10-7-05
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 55.00	Depth to Water (DTW): 28.78
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	34.02

Purge Method: 26.22 / Bailer, Disposable Bailer, Positive Air Displacement, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other ____

Sampling Method: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other: ____

4.2 (Gals.) X 3 = 12.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
930	67.8	7.0	1008	>1000	4.25	
935	67.4	7.0	1008	702	8.5	
940	67.2	7.1	1007	676	12.75	

Did well dewater? Yes (No) Gallons actually evacuated: 12.75

Sampling Date: 10-7-05 Sampling Time: 945 Depth to Water: 33.86

Sample I.D.: MW-5 Laboratory: (STL) Other ____

Analyzed for: TPH-G (2) BTEX (1) MTBE TPH-D Other: O&G's Lead EDB, 1,2 DCA

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 050107-BR-2	Site: 97464709
Sampler: BR	Date: 10-7-05
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 53.35	Depth to Water (DTW): 28.12
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 33.16	

Purge Method: 25.23
Bailer / Disposable Bailer / (Positive Air Displacement) / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method:
Bailer / Disposable Bailer / Extraction Port / Dedicated Tubing / Other:

4.1 (Gals.) X	3 =	12.1 Gals.	
1 Case Volume	Specified Volumes	Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1049	67.5	7.4	946	>1000	4.25	
1054	68.3	7.2	888	644	8.25	
1057	68.1	7.2	887	635	12.25	
		waited for	80% recharge			

Did well dewater? Yes (No) Gallons actually evacuated: 12.25

Sampling Date: 10-7-05 Sampling Time: 1010 Depth to Water: 33.16

Sample I.D.: MW-6 Laboratory: (STL) Other_____

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxys, (ecd), EDB, 1,2 DCA

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 051007-BR2	Site: 9846 4709
Sampler: BR	Date: 10-7-05
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 50.90	Depth to Water (DTW): 27.76
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 32.38	

Purge Method: 23.14
Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other____

Sampling Method:
Bailer / Disposable Bailer / Extraction Port / Dedicated Tubing / Other: ____

3.7 (Gals.) X	3	=	11.1 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1021	67.1	7.10	1106	>1000	3.75	
1025	67.4	6.9	1606	529	7.5	
1030	67.6	7.0	1125	522	11.25	
		waited for 80% recharge				

Did well dewater? Yes (No) Gallons actually evacuated: 11.25

Sampling Date: 10-7-05 Sampling Time: 1035 Depth to Water: 32.38

Sample I.D.: MW-7 Laboratory: (STL) Other____

Analyzed for: (TPH-G) BTEX MTBE TPH-D Other: Oxys, 1,2 DCA, EDB

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 051007-BR2	Site: 97464709
Sampler: BR	Date: 10-7-05
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 50.85	Depth to Water (DTW): 29.05
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 33.41	

Purge Method: 2", 8"
- Bailer
- Disposable Bailer
- (Positive Air Displacement)
- Electric Submersible
- Waterra
- Peristaltic
- Extraction Pump
- Other ___

Sampling Method:
- (Bailer)
- Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other: ___

3.5 (Gals.) X 3 = 10.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
957	67.3	7.2	988	789	3.5	
1000	67.3	7.0	988	765	7.0	
1004	67.3	7.0	992	759	10.5	

Did well dewater? Yes (No) Gallons actually evacuated: 10.5

Sampling Date: 10-7-05 Sampling Time: 1005 Depth to Water: 33.41

Sample I.D.: MW-8 Laboratory: (STL) Other ___

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: 6 Oxys, (Eq.), 1,2 EDA, EDB

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

SHELL WELL MONITORING DATA SHEET

BTS #: 651007-BR-2	Site: 97464-09
Sampler: BR	Date: 10-7-05
Well I.D.: MW-9	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 31.55	Depth to Water (DTW): 28.13
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 28.81	

Purge Method: 3.42
Bailer
Disposable Bailer
Positive Air Displacement
~~Electric~~ Submersible
Waterra
Peristaltic
Extraction Pump
Other_____

Sampling Method:
~~Bailer~~
Disposable Bailer
Extraction Port
Dedicated Tubing
Other:_____

2.2 (Gals.) X 3 = 6.7 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
856	67.3	6.2	597	632	2.25	
857	68.1	6.2	1087	>1000	4.5	
858	68.3	6.3	1118	>1000	6.75	

Did well dewater? Yes (No) Gallons actually evacuated: 6.75

Sampling Date: 10-7-05 Sampling Time: 905 Depth to Water: 28.81

Sample I.D.: MW-9 Laboratory: (STL) Other_____

Analyzed for: TPH-G (BTEX) MTBE TPH-D Other: Oxys, (1,2) 1,2 DCA, EDB

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV