TO-2524

Delta
Environmental
Consultants, Inc.

Solving environment-related business problems worldwide

www.deltaenv.com

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San Jose, California 95119 USA

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September 20, 2004
Project No. SJ80-9ST-1.2004

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

Re: **Semi-Annual Monitoring Report – Third Quarter 2004**
Shell-branded Service Station
809 East Stanley Blvd.
Livermore, California

Dear Mr. Schultz:

Delta Environmental Consultants, Inc. (Delta), on behalf of Shell Oil Products US (Shell), has prepared the following third quarter 2004 groundwater monitoring and sampling report for the above referenced site. A site location map is included as Figure 1.

On March 7, 2003, Shell received a notice of responsibility letter from the Alameda County Health Care Services Agency 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. During the fourth quarter 2003, Delta recommended reducing the sampling frequency from quarterly to semi-annually in the first and third quarters.

QUARTERLY GROUND WATER MONITORING PROGRAM

Groundwater monitoring wells were gauged and sampled by Blaine Tech Services (Blaine), at the direction of Delta, on July 27, 2004. Depth to groundwater was measured in Wells MW-1 through MW-4. Groundwater elevation data and contours are presented on Figure 2.

Groundwater samples were collected from Wells MW-1 through MW-4. Samples were submitted by Blaine to Severn Trent Laboratories, Inc. (STL) in Pleasanton, California for analysis of total purgeable petroleum hydrocarbons as gasoline (TPH-G); benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds) and the fuel oxygenate methyl tert-butyl ether (MTBE) using EPA Method 8260B.

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 has increased an average of 2.79 feet in site wells since last quarter. The groundwater gradient on July 27, 2004 was toward the northeast at a magnitude of 0.005 feet/feet, consistent with previous data.

All analytes tested were below laboratory detection limits during the third quarter 2004. MTBE has been below the laboratory detection limit in Well MW-3 for the last two consecutive monitoring events. Delta will next sample wells in the first quarter of 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.

Vera Fischer
Senior Staff Geologist

R. Lee Dooley
Senior Hydrogeologist
CHG 0183

REGISTERED GEOLOGIST
R. LEE DOOLEY
No. 0183
CERTIFIED
HYDROGEOLOGIST
EXP. 04/05
STATE OF CALIFORNIA

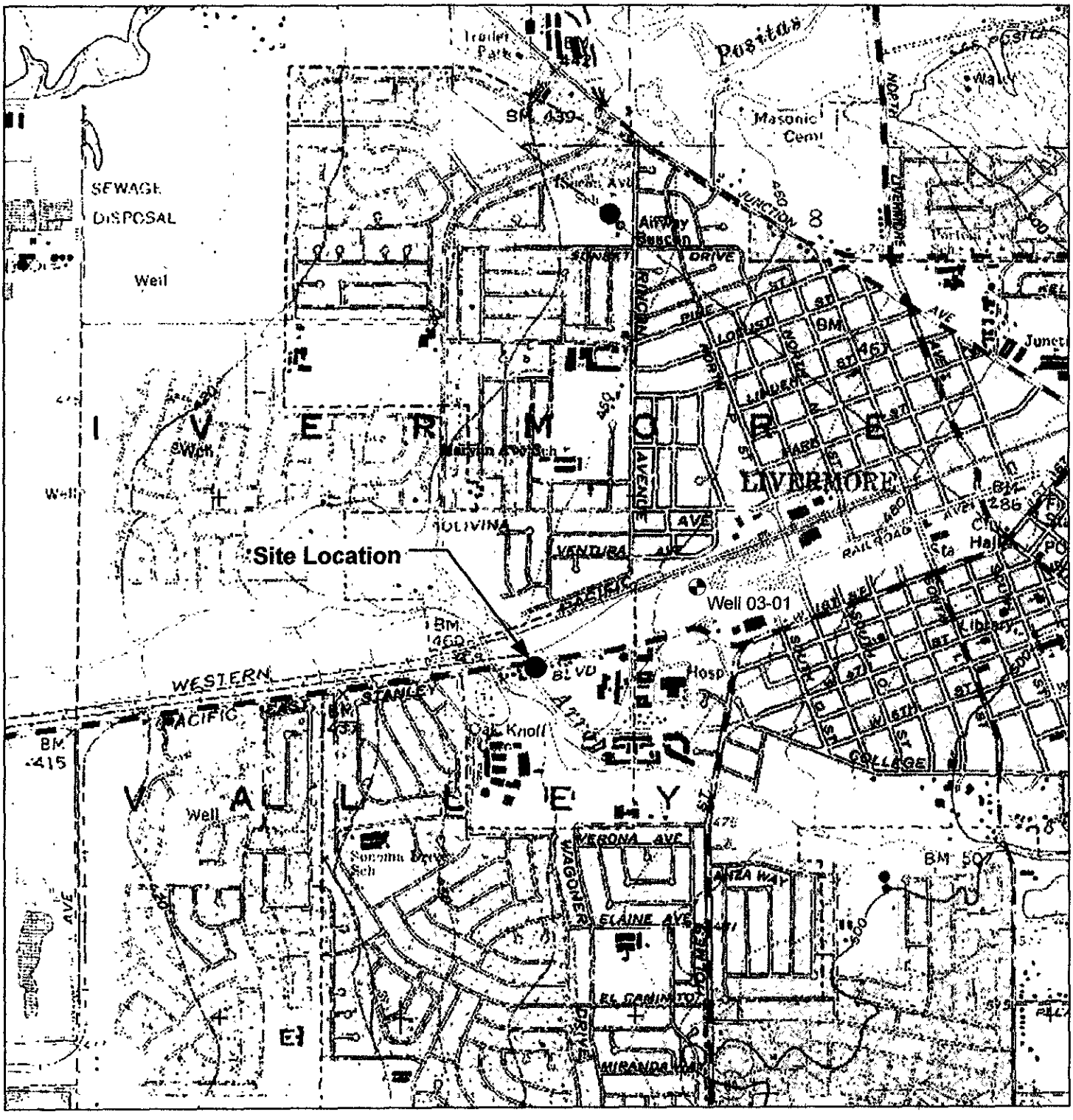
SJ8-09ST-1.2004/3Q04 QMR

Attachments:

Figure 1 – Site Location Map
Figure 2 – Groundwater Elevation Contour Map, July 27, 2004

Attachment A – Groundwater Monitoring and Sampling Report, August 31, 2004

cc: Karen Petryna, Shell Oil Products US, Carson
Betty Graham, RWQCB – Oakland



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

QUADRANGLE LOCATION

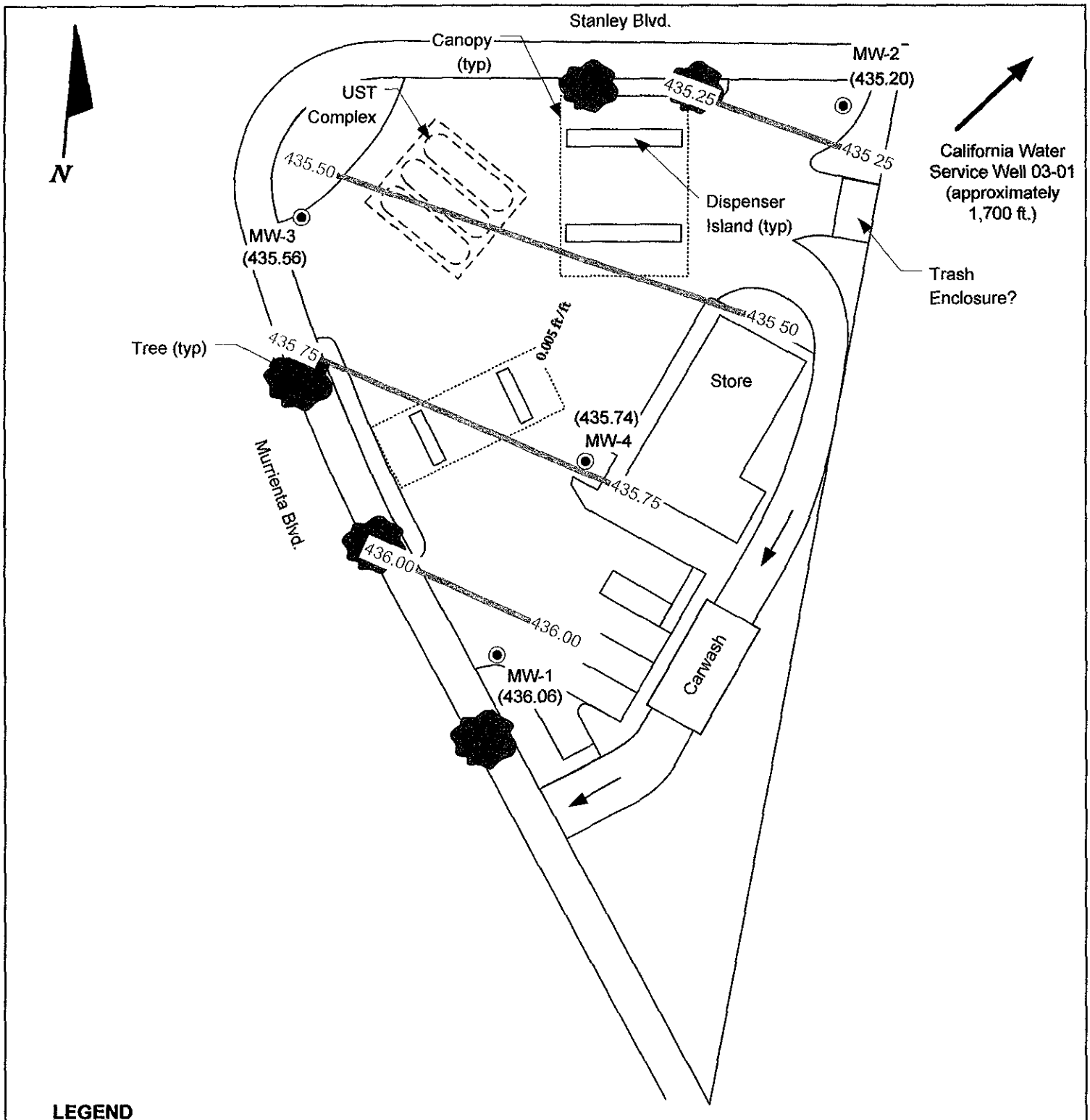
FIGURE 1

SITE LOCATION MAP

Shell-branded Service Station
809 East Stanley Blvd.
Livermore, California

PROJECT NO SJ80-9ST-1.2004	DRAWN BY VF 12/01/03
FILE NO. SJ80-9ST-1 2004	PREPARED BY VF
REVISION NO. 1	REVIEWED BY DA

Delta
Environmental
Consultants, Inc



LEGEND

MW-1◉ **GROUNDWATER MONITORING WELL**

(436.37) **GROUNDWATER ELEVATION (FEET-MSL), 7/27/04**

436 20 **GROUNDWATER ELEVATION CONTOUR**

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

0 40 FT

APPROX. SCALE

FIGURE 2
GROUNDWATER ELEVATION CONTOUR MAP,
JULY 27, 2004

Shell-branded Service Station
809 East Stanley Ave.
Livermore, California

PROJECT NO. SJ80-9ST-1 2004	DRAWN BY VF 12/01/03
FILE NO SJ8-09ST-1.2004	PREPARED BY VF
REVISION NO 1	REVIEWED BY DA

Delta Environmental Consultants, Inc.

Attachment A

GROUNDWATER MONITORING AND SAMPLING REPORT

BLAINE
TECH SERVICES INC.

GROUNDWATER SAMPLING SPECIALISTS
SINCE 1985

August 31, 2004

Karen Petryna
Shell Oil Products US
P.O. Box 7869
Burbank, CA 91510-7869

Third Quarter 2004 Groundwater Monitoring at
Shell-branded Service Station
809 East Stanley Boulevard
Livermore, CA

Monitoring performed on July 27, 2004

Groundwater Monitoring Report **040727-PC-2**

This report covers the routine monitoring of groundwater wells at this Shell-branded 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,

Leon Gearhart
Project Coordinator

LG/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
Shell-branded Service Station
809 East Stanley Boulevard
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-1	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-1	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	20.06	435.43
MW-1	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	19.71	435.78
MW-1	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	18.05	437.44
MW-1	4/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	455.49	17.57	437.92
MW-1	7/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	455.49	18.76	436.73
MW-1	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	5.0	455.49	20.01	435.48
MW-1	1/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	455.49	16.58	438.91
MW-1	**7/27/2004**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**NA**	**NA**	**NA**	**NA**	**455.49**	**19.43**	**436.06**
MW-2	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-2	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	20.40	434.44
MW-2	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	20.17	434.67
MW-2	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	18.30	436.54
MW-2	4/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.84	17.93	436.91
MW-2	7/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.84	19.01	435.83
MW-2	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.84	20.36	434.48
MW-2	1/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.84	16.99	437.85
MW-2	**7/27/2004**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**NA**	**NA**	**NA**	**NA**	**454.84**	**19.64**	**435.20**
MW-3	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	3.6	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-3	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.87	19.95	434.92
MW-3	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	0.83	<2.0	<2.0	<2.0	<50	454.87	19.63	435.24
MW-3	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.87	17.90	436.97
MW-3	4/21/2003	<50	<0.50	<0.50	<0.50	<1.0	0.71	<2.0	<2.0	<2.0	<5.0	454.87	17.45	437.42
MW-3	7/17/2003	<50	<0.50	<0.50	<0.50	<1.0	0.69	<2.0	<2.0	<2.0	<5.0	454.87	18.69	436.18

WELL CONCENTRATIONS
Shell-branded Service Station
809 East Stanley Boulevard
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-3	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	0.64	<2.0	<2.0	<2.0	<5.0	454.87	19.90	434.97
MW-3	1/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.87	16.50	438.37
MW-3	**7/27/2004**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**NA**	**NA**	**NA**	**NA**	**454.87**	**19.31**	**435.56**
MW-4	9/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-4	7/9/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	21.15	435.09
MW-4	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	20.85	435.39
MW-4	1/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	19.15	437.09
MW-4	4/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	456.24	18.65	437.59
MW-4	7/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	456.24	19.87	436.37
MW-4	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	456.24	21.12	435.12
MW-4	1/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	456.24	17.65	438.59
MW-4	**7/27/2004**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**NA**	**NA**	**NA**	**NA**	**456.24**	**20.50**	**435.74**

WELL CONCENTRATIONS
Shell-branded Service Station
809 East Stanley Boulevard
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 or tertiary butanol, 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#: 2004-07-0837

Blaine Tech Services, Inc.

August 10, 2004

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 040727-PC2
Project: 97461964
Site: 809 E. Stanley Blvd., Livermore

Dear Mr.Gearhart,

Attached is our report for your samples received on 07/28/2004 15:10
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 09/11/2004 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: 2004-07-0837

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Leon Gearhart

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

Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	07/27/2004 12:10	Water	1
MW-2	07/27/2004 13:22	Water	2
MW-3	07/27/2004 11:32	Water	3
MW-4	07/27/2004 12:42	Water	4

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-1**	Lab ID:	2004-07-0837 - 1
Sampled:	07/27/2004 12:10	Extracted:	8/5/2004 08:55
Matrix:	Water	QC Batch#:	2004/08/05-1B.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	08/05/2004 08:55	
Benzene	ND	0.50	ug/L	1.00	08/05/2004 08:55	
Toluene	ND	0.50	ug/L	1.00	08/05/2004 08:55	
Ethylbenzene	ND	0.50	ug/L	1.00	08/05/2004 08:55	
Total xylenes	ND	1.0	ug/L	1.00	08/05/2004 08:55	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	08/05/2004 08:55	
Surrogate(s)						
1,2-Dichloroethane-d4	104.7	76-130	%	1.00	08/05/2004 08:55	
Toluene-d8	97.5	78-115	%	1.00	08/05/2004 08:55	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-2**	Lab ID:	2004-07-0837 - 2
Sampled:	07/27/2004 13:22	Extracted:	8/5/2004 09:17
Matrix:	Water	QC Batch#:	2004/08/05-1B.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	08/05/2004 09:17	
Benzene	ND	0.50	ug/L	1.00	08/05/2004 09:17	
Toluene	ND	0.50	ug/L	1.00	08/05/2004 09:17	
Ethylbenzene	ND	0.50	ug/L	1.00	08/05/2004 09:17	
Total xylenes	ND	1.0	ug/L	1.00	08/05/2004 09:17	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	08/05/2004 09:17	
Surrogate(s)						
1,2-Dichloroethane-d4	107.1	76-130	%	1.00	08/05/2004 09:17	
Toluene-d8	101.3	78-115	%	1.00	08/05/2004 09:17	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-3**	Lab ID:	2004-07-0837 - 3
Sampled:	07/27/2004 11:32	Extracted:	8/5/2004 09:39
Matrix:	Water	QC Batch#:	2004/08/05-1B.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	08/05/2004 09:39	
Benzene	ND	0.50	ug/L	1.00	08/05/2004 09:39	
Toluene	ND	0.50	ug/L	1.00	08/05/2004 09:39	
Ethylbenzene	ND	0.50	ug/L	1.00	08/05/2004 09:39	
Total xylenes	ND	1.0	ug/L	1.00	08/05/2004 09:39	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	08/05/2004 09:39	
Surrogate(s)						
1,2-Dichloroethane-d4	106.6	76-130	%	1.00	08/05/2004 09:39	
Toluene-d8	106.0	78-115	%	1.00	08/05/2004 09:39	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.

Attn.: Leon Gearhart

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

Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Prep(s): 5030B
Sample ID: **MW-4**
Sampled: 07/27/2004 12:42
Matrix: Water

Test(s): 8260B
Lab ID: 2004-07-0837 - 4
Extracted: 8/5/2004 10:01
QC Batch#: 2004/08/05-1B.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	08/05/2004 10:01	
Benzene	ND	0.50	ug/L	1.00	08/05/2004 10:01	
Toluene	ND	0.50	ug/L	1.00	08/05/2004 10:01	
Ethylbenzene	ND	0.50	ug/L	1.00	08/05/2004 10:01	
Total xylenes	ND	1.0	ug/L	1.00	08/05/2004 10:01	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	08/05/2004 10:01	
Surrogate(s)						
1,2-Dichloroethane-d4	103.1	76-130	%	1.00	08/05/2004 10:01	
Toluene-d8	100.3	78-115	%	1.00	08/05/2004 10:01	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Leon Gearhart

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

Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2004/08/05-1B.62**

MB: 2004/08/05-1B.62-021 — Date Extracted: 08/05/2004 08:21

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	08/05/2004 08:21	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	08/05/2004 08:21	
Benzene	ND	0.5	ug/L	08/05/2004 08:21	
Toluene	ND	0.5	ug/L	08/05/2004 08:21	
Ethylbenzene	ND	0.5	ug/L	08/05/2004 08:21	
Total xylenes	ND	1.0	ug/L	08/05/2004 08:21	
Surrogates(s)					
1,2-Dichloroethane-d4	108.4	76-130	%	08/05/2004 08:21	
Toluene-d8	99.8	78-115	%	08/05/2004 08:21	

Gas/BTEX/MTBE by 8260B (C6-C12)

Blaine Tech Services, Inc.
Attn.: Leon Gearhart

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

Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2004/08/05-1B.62**

LCS 2004/08/05-1B.62-038 Extracted: 08/05/2004 Analyzed: 08/05/2004 07:38

LCSD 2004/08/05-1B.62-016 Extracted: 08/05/2004 Analyzed: 08/05/2004 07:16

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	23.5	22.6	25	94.0	90.4	3.9	65-165	20		
Benzene	25.1	24.8	25	100.4	99.2	1.2	69-129	20		
Toluene	26.1	27.2	25	104.4	108.8	4.1	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	484	487	500	96.8	97.4		76-130			
Toluene-d8	485	505	500	97.0	101.0		78-115			

Gas/BTEX/MTBE by 8260B (C6-C12)

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Project: 040727-PC2
97461964

Received: 07/28/2004 15:10

Site: 809 E. Stanley Blvd., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2004/08/05-1B.62**

MW-4 >> MS

Lab ID: 2004-07-0837 - 004

MS: 2004/08/05-1B.62-024 Extracted: 08/05/2004 Analyzed: 08/05/2004 10:24
Dilution: 1.00

MSD: 2004/08/05-1B.62-046 Extracted: 08/05/2004 Analyzed: 08/05/2004 10:46
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	20.5	23.7	ND	25	82.0	94.8	14.5	65-165	20		
Benzene	24.6	25.6	ND	25	98.4	102.4	4.0	69-129	20		
Toluene	26.0	28.3	ND	25	104.0	113.2	8.5	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	503	516		500	100.6	103.2		76-130			
Toluene-d8	472	512		500	94.4	102.4		78-115			

LAB: STL

SHELL Chain Of Custody Record

88198

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

- [x] SCIENCE & ENGINEERING
- [ ] TECHNICAL SERVICES
- [ ] CRMT HOUSTON

Karen Petryna

2004-07-0837

INCIDENT NUMBER (S&E ONLY)							
9	7	4	6	1	9	6	4

SAP or CRMT NUMBER (TS/CRMT)

DATE: 7/27/04

PAGE: 1 of 1

SAMPLING COMPANY: Blaine Tech Services	LOG CODE: BTSS	SITE ADDRESS (Street and City): 809 E. Stanley Blvd., Livermore	GLOBAL ID NO.: T0600101276
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112		EDF DELIVERABLE TO (Responsible Party or Designee): Vera Fischer; PHONE NO.: (408)244-4724; E-MAIL: vfischer@deltaenv.com	CONSULTANT PROJECT NO.: BTS 040727-PC2
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart		SAMPLER NAME(S) (Print): P.Cornish	LAB USE ONLY
TELEPHONE: 408-573-0555; FAX: 408-573-7771; E-MAIL: lgearhart@blainetech.com			

TURNAROUND TIME (BUSINESS DAYS): [x] 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 (8021B - 5ppb RL)	MTBE (8260B - 0.5ppb RL)	Oxygenates (5) by (8260B)	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	MW-1	7/27/04	1210	W	3	X	X		X		TEMPERATURE ON RECEIPT C° 3.0
	MW-2	↓	1322	↓	3	X	X		X		
	MW-3	↓	1132	↓	3	X	X		X		
	MW-4	↓	1242	↓	3	X	X		X		

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	[signature]	7/28/04	1510
[signature] 7/28/04 1631	[signature]	7/28/04	1631

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

10/16/00 Revision

WELLHEAD INSPECTION CHECKLIST

Client Shell Date 7/27/04

Site Address 809 E. Stanley Blvd., Livermore

Job Number 040727-PC2 Technician P. Carrish

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1	X		X					
MW-2	X		X					
MW-3	X		X					
MW-4	X		X					

NOTES:

WELL GAUGING DATA

Project # 040727-PC2 Date 7/27/04 Client Shell

Site 809 E. Stanley Blvd., 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-1	2					19.43	47.66		
MW-2	2					19.64	47.01		
MW-3	2					19.31	47.42		
MW-4	2					20.50	49.73		

SHELL WELL MONITORING DATA SHEET

BTS #: 040727-PC2	Site: 809 S. Stanley Blvd., Livermore
Sampler: PC	Date: 7/27/04
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.66	Depth to Water (DTW): 19.43
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]: 25.08	

Purge Method: Bailer; Disposable Bailer; ✓Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: ✓Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

4.5 (Gals.) X	3 =	13.5 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
1150	68.5	7.3	508	7000	4.5	brown
1158	67.6	7.3	508	900	9	↓
1204	68.0	7.2	509	808	13.5	

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Date: 7/27/04 Sampling Time: 1210 Depth to Water: 19.70

Sample I.D.: MW-1 Laboratory: (STL) Other____

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

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 #: 040727-PC2	Site: 809 E. Stanley Blvd., Livermore
Sampler: PC	Date: 7/27/04
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.01	Depth to Water (DTW): 19.64
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]: 25.11	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; ~~Electric Submersible~~; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: X Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

4.4 (Gals.) X 3 = 13.2 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
1300	69.7	7.3	524	820	4.4	brown
1306	70.1	7.3	532	656	8.8	↓
1314	69.6	7.3	527	199	13.2	

Did well dewater? Yes (No) Gallons actually evacuated: 13.2

Sampling Date: 7/27/04 Sampling Time: 1322 Depth to Water: 20.09

Sample I.D.: MW-2 Laboratory: (STL) Other____

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

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 #: 040723-R2	Site: 809 E. Stanley Ave., Livermore
Sampler: PC	Date: 7/27/04
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.42	Depth to Water (DTW): 19.31
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (TOC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 24.93	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: (Bailer); Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

4.5 (Gals.) X	3	=	13.5	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	radius^2 * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1110	69.1	6.7	628	>1000	4.5	brown
1116	68.8	7.1	543	899	9	↓
1124	68.3	7.2	529	644	13.5	

Did well dewater? Yes (No) Gallons actually evacuated: 13.5

Sampling Date: 7/27/04 Sampling Time: 1132 Depth to Water: 19.38

Sample I.D.: MW-3 Laboratory: (STL) Other____

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

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 #: 040727-PC2	Site: 809 E. Stanley Blvd., Livermore
Sampler: PC	Date: 7/27/04
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.73	Depth to Water (DTW): 20.50
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]: 25.95	

Purge Method: Bailer; Disposable Bailer; (K) Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: (1) Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

4.4 (Gals.) X	3	=	13.2 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	radius^2 * 0.163

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1224	68.8	7.1	530	891	4.4	cloudy
1230	68.4	7.1	531	606	8.8	↓
1235	68.9	7.2	532	209	13.2	↓

Did well dewater? Yes (No) Gallons actually evacuated: 13.2

Sampling Date: 7/27/04 Sampling Time: 1242 Depth to Water: 21.01

Sample I.D.: MW-4 Laboratory: (STL) Other____

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

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