RO-2566
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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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February 14, 2005
Project No. SJ11-55P-1.2004

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

Re: **Quarterly Monitoring Report – Fourth Quarter 2004**
Shell-branded Service Station
1155 Portola Avenue
Livermore, California

Dear Mr. Schultz:

Delta Environmental Consultants, Inc. (Delta), on behalf of Shell Oil Products US (Shell), has prepared the following fourth quarter 2004 groundwater monitoring and sampling report for the above referenced site. Groundwater sampling was performed by Blaine Tech Services (Blaine) at the direction of Delta. A site location map is included as Figure 1.

QUARTERLY GROUND WATER MONITORING PROGRAM

Groundwater monitoring wells were gauged and sampled by Blaine on December 23, 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 for total purgeable petroleum hydrocarbons as gasoline (TPH-G); benzene, toluene, ethylbenzene, and total xylenes (BTEX compounds); and methyl tert-butyl ether (MTBE) using EPA Method 8260B. Benzene and MTBE concentrations 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 has decreased by an average of 4.90 feet in site wells since last quarter. Depth to groundwater at the site typically fluctuates by about 11 feet annually. Well screens in Wells MW-1 through MW-4 are seasonally drowned by the rise and fall of the water table at the site. The groundwater gradient on September 1, 2004 was towards the west-northwest at a magnitude of 0.02 ft/ft. The groundwater gradient at the site has ranged between northwest and south-southwest since fourth quarter 2002 (initial gauging event).

MTBE was detected in Well MW-2 at 32 micrograms per liter (ug/l). The MTBE concentration in Well MW-2 remains below the historic high. BTEX compounds were detected in all site wells. Benzene was only detected in Well MW-4 at 0.55 ug/l. Siloxane peaks were found in the samples from Wells MW-1, MW-3, and MW-4 which the laboratory does not believe are gasoline related.

REMARKS

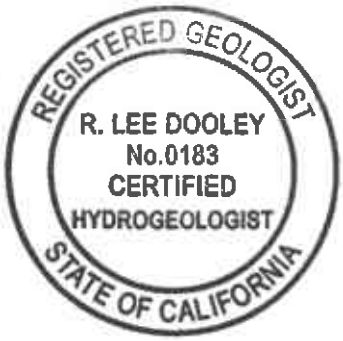
The information and recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. 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

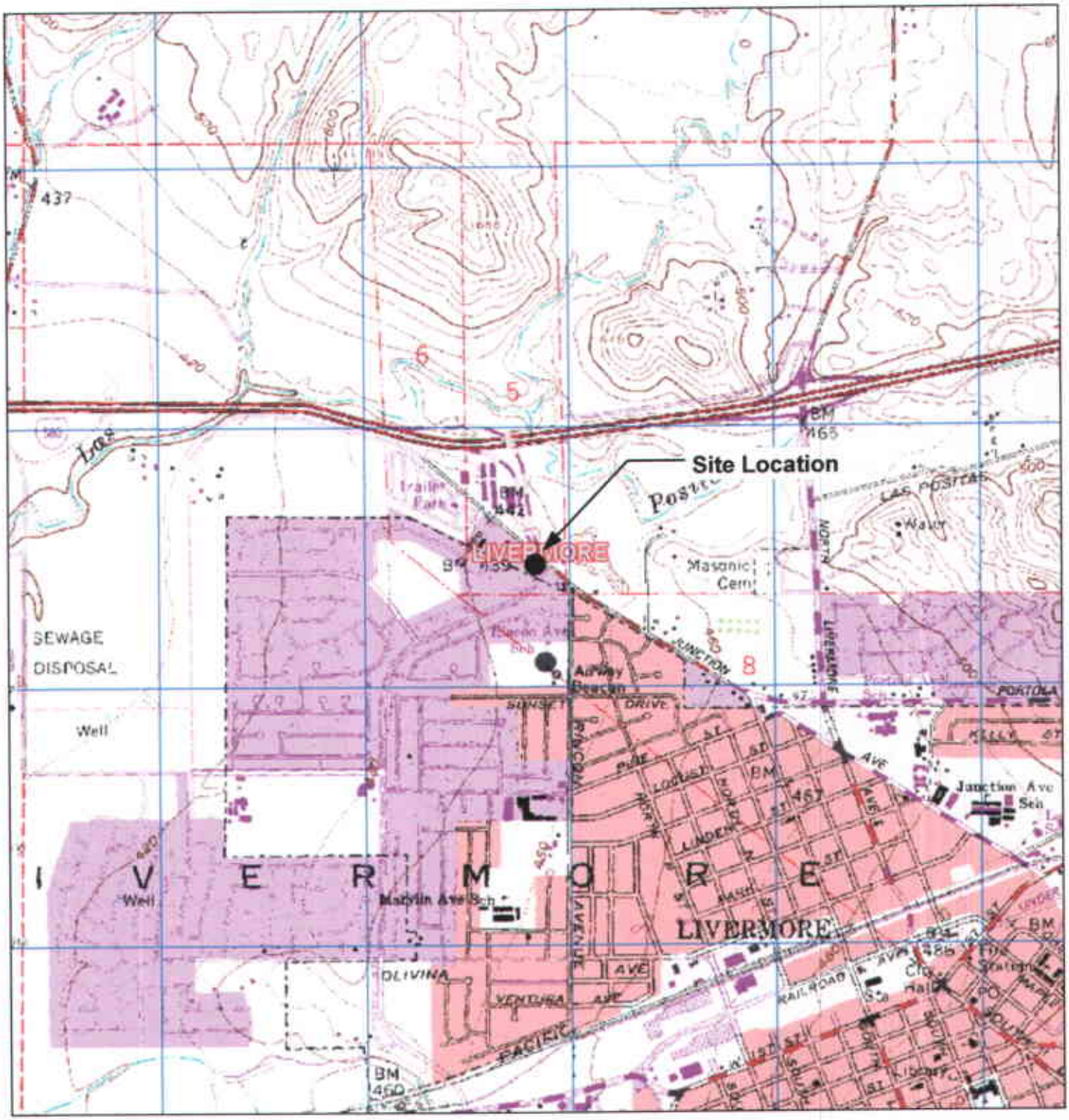
R. Lee Dooley
Senior Hydrogeologist
CHG 0183



Attachments: Figure 1 – Site Location Map
Figure 2 – Groundwater Elevation Contour Map, December 23, 2004
Figure 3 – Benzene and MTBE Concentration Map, December 23, 2004

Attachment A – Groundwater Monitoring and Sampling Report, January 19, 2005

cc: Karen Petryna, Shell Oil Products US, Carson
Danielle Stefani, Livermore-Pleasanton Fire Department, Livermore
Terrell & Kimberley Bass, Danville



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

North

QUADRANGLE LOCATION

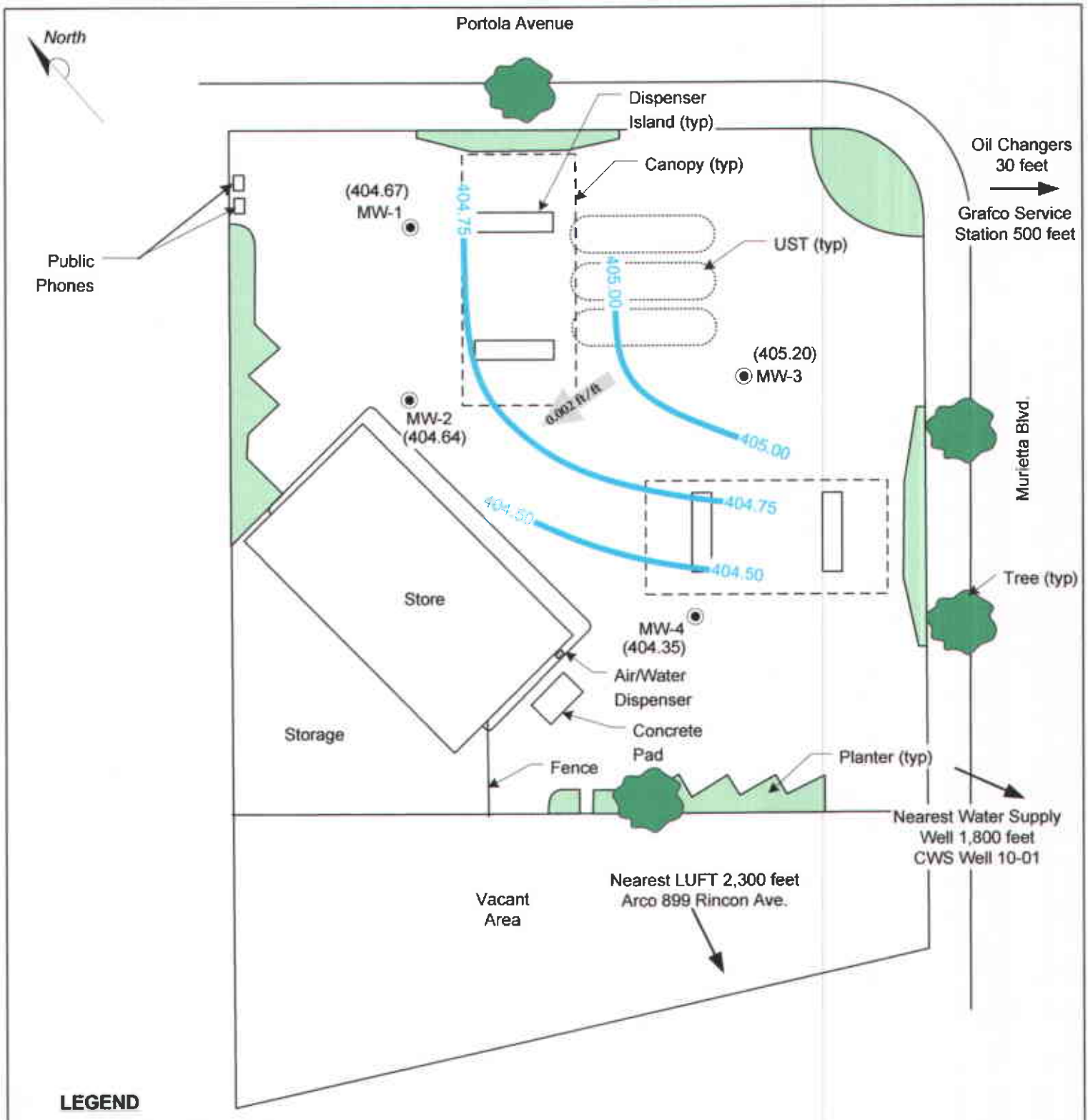
0 1,800 3,600
Scale, Feet

FIGURE 1
SITE LOCATION MAP

SHELL-BRANDED SERVICE STATION
1155 Portola Avenue
Livermore, California

PROJECT NO. SJ11-55P-1.2004	DRAWN BY VF 10/22/03
FILE NO. SJ11-55P-1.2004	PREPARED BY VF
REVISION NO.	REVIEWED BY

Delta
Environmental
Consultants, Inc.



LEGEND

MW-4 ◉ **GROUNDWATER MONITORING WELL**

(407.56) **GROUNDWATER ELEVATION (FEET - MSL), 12/23/04**

407.20 **GROUNDWATER ELEVATION CONTOUR**

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

0 30 FT

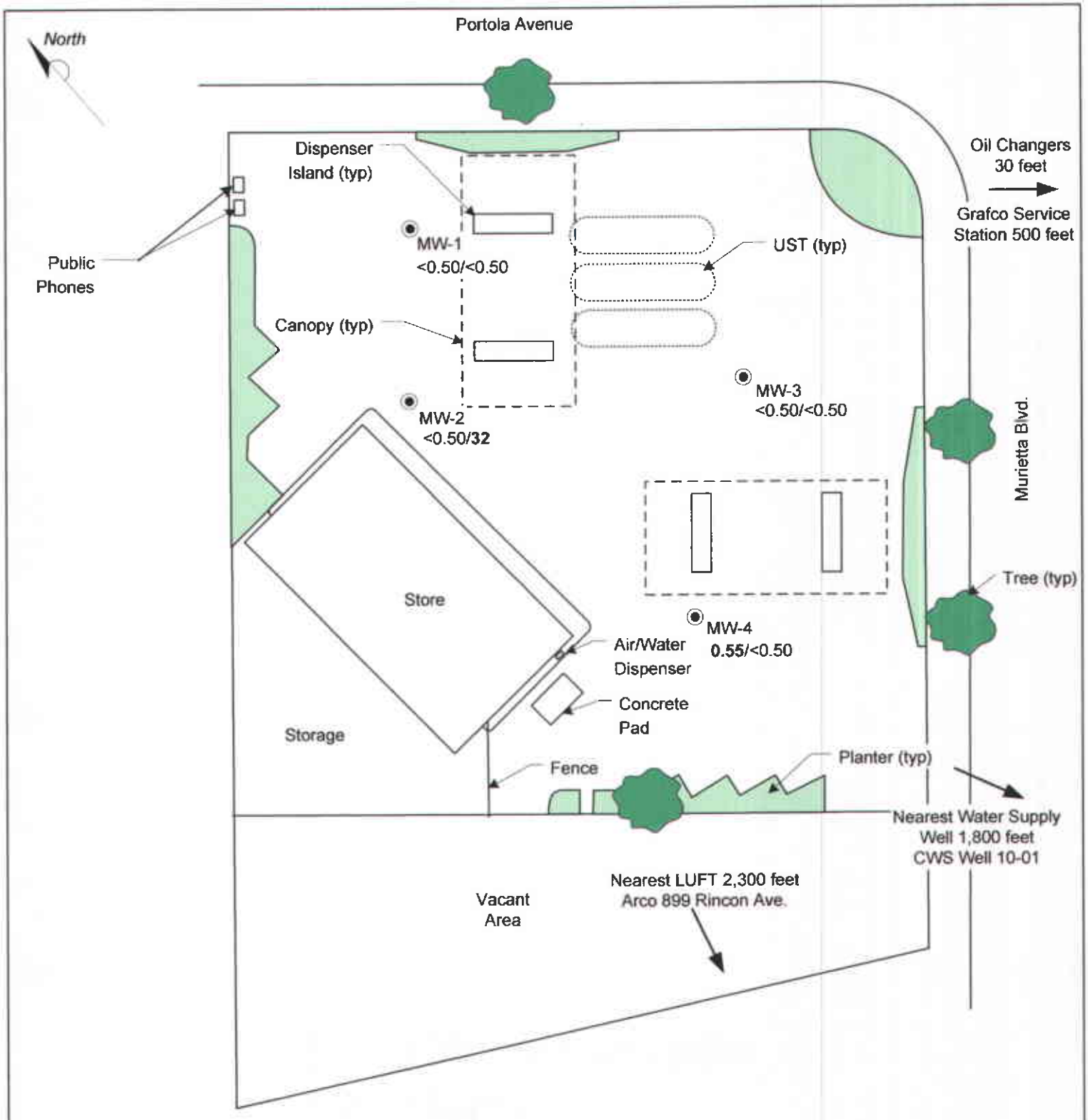
APPROX. SCALE

FIGURE 2
GROUNDWATER ELEVATION CONTOUR MAP,
DECEMBER 23, 2004

SHELL-BRANDED SERVICE STATION
1155 Portola Avenue
Livermore, California

PROJECT NO. SJ11-55P-1.2004	DRAWN BY VF 10/22/03
FILE NO. SJ11-55P-1.2004	PREPARED BY VF
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



LEGEND

MW-4 ◉ **GROUNDWATER MONITORING WELL**

64/53 **BENZENE/MTBE CONCENTRATIONS (UG/L), 12/23/04**

0 30 FT

APPROX. SCALE

FIGURE 3

BENZENE AND MTBE CONCENTRATIONS MAP, DECEMBER 23, 2004

SHELL-BRANDED SERVICE STATION
1155 Portola Avenue
Livermore, California

PROJECT NO. SJ11-55P-1.2004	DRAWN BY VF 10/22/03
FILE NO. SJ11-55P-1.2004	PREPARED BY VF
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

January 19, 2005

Karen Petryna
Shell Oil Products US
20945 South Wilmington Avenue
Carson, CA 90810

Fourth Quarter 2004 Groundwater Monitoring at
Shell-branded Service Station
1155 Portola Avenue
Livermore, CA

Monitoring performed on December 23, 2004

Groundwater Monitoring Report **041223-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
1155 Portola Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	TEPH (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.)	Screened Interval (ft.)	GW Elevation (MSL)
MW-1	12/05/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.12	40-59	NA
MW-1	12/20/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	78	<2.0	<2.0	<2.0	<50	NA	38.40	40-59	NA
MW-1	03/28/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	7.0	<2.0	<2.0	<2.0	<5.0	443.81	36.25	40-59	407.56
MW-1	06/26/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	1.4	<2.0	<2.0	<2.0	<5.0	443.81	39.53	40-59	404.28
MW-1	08/25/2003	64	NA	<0.50	<0.50	<0.50	<1.0	53	<2.0	<2.0	<2.0	<5.0	443.81	42.52	40-59	401.29
MW-1	12/09/2003	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	443.81	36.84	40-59	406.97
MW-1	03/08/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	3.9	<2.0	<2.0	<2.0	<5.0	443.81	31.75	40-59	412.06
MW-1	06/07/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	0.91	<2.0	<2.0	<2.0	<5.0	443.81	38.24	40-59	405.57
MW-1	09/01/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	4.7	NA	NA	NA	NA	443.81	44.66	40-59	399.15
MW-1	**12/23/2004**	**<50 c**	**NA**	**<0.50**	**2.3**	**1.4**	**3.6**	**<0.50**	**NA**	**NA**	**NA**	**NA**	**443.81**	**39.14**	**40-59**	**404.67**
MW-2	12/05/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.57	40-60	NA
MW-2	12/20/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	190	<2.0	<2.0	<2.0	<50	NA	40.00	40-60	NA
MW-2	03/28/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	46	<2.0	<2.0	<2.0	<5.0	444.61	37.40	40-60	407.21
MW-2	06/26/2003	<500	<50	<5.0	<5.0	<5.0	<10	330	<20	<20	<20	<50	444.61	40.51	40-60	404.10
MW-2	08/25/2003	<500	NA	<5.0	<5.0	<5.0	<10	400	<20	<20	<20	<50	444.61	43.38	40-60	401.23
MW-2	12/09/2003	<50	NA	<0.50	<0.50	<0.50	<1.0	27	<2.0	<2.0	<2.0	<5.0	444.61	37.92	40-60	406.69
MW-2	03/08/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	444.61	33.40	40-60	411.21
MW-2	06/07/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	85	<2.0	<2.0	<2.0	<5.0	444.61	39.18	40-60	405.43
MW-2	09/01/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	140	NA	NA	NA	NA	444.61	45.03	40-60	399.58
MW-2	**12/23/2004**	**<50**	**NA**	**<0.50**	**1.7**	**0.75**	**2.6**	**32**	**NA**	**NA**	**NA**	**NA**	**444.61**	**39.97**	**40-60**	**404.64**
MW-3	12/05/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.49	40-55	NA
MW-3	12/20/2002	<50	<50	<0.50	<0.50	<0.50	<0.50	8.7	<2.0	<2.0	<2.0	<50	NA	36.00	40-55	NA
MW-3	03/28/2003	<50	56	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	443.84	36.47	40-55	407.37
MW-3	06/26/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	443.84	38.70	40-55	405.14

WELL CONCENTRATIONS
Shell-branded Service Station
1155 Portola Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	TEPH (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.)	Screened Interval (ft.)	GW Elevation (MSL)
MW-3	08/25/2003	76 a	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	443.84	41.12	40-55	402.72
MW-3	12/09/2003	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	443.84	37.27	40-55	406.57
MW-3	03/08/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	120	<2.0	<2.0	<2.0	<5.0	443.84	32.49	40-55	411.35
MW-3	06/07/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	74	<2.0	<2.0	<2.0	<5.0	443.84	37.75	40-55	406.09
MW-3	09/01/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	443.84	43.29	40-55	400.55
MW-3	**12/23/2004**	**<50 c**	**NA**	**<0.50**	**2.3**	**1.5**	**4.3**	**<0.50**	**NA**	**NA**	**NA**	**NA**	**443.84**	**38.64**	**40-55**	**405.20**
MW-4	12/05/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.45	41-61	NA
MW-4	12/20/2002	<50	61	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	40.61	41-61	NA
MW-4	03/28/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	444.18	37.16	41-61	407.02
MW-4	06/26/2003	<50	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	444.18	40.05	41-61	404.13
MW-4	08/25/2003	67 a	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	444.18	43.04	41-61	401.14
MW-4	12/09/2003	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	444.18	37.62	41-61	406.56
MW-4	03/08/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	444.18	32.80	41-61	411.38
MW-4	06/07/2004	58 b	NA	0.82	1.2	<0.50	1.1	<0.50	<2.0	<2.0	<2.0	<5.0	444.18	38.94	41-61	405.24
MW-4	09/01/2004	<50	NA	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	444.18	44.18	41-61	400.00
MW-4	**12/23/2004**	**<50 c**	**NA**	**0.55**	**3.8**	**2.2**	**7.0**	**<0.50**	**NA**	**NA**	**NA**	**NA**	**444.18**	**39.83**	**41-61**	**404.35**

WELL CONCENTRATIONS
Shell-branded Service Station
1155 Portola Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	TEPH (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.)	Screened Interval (ft.)	GW Elevation (MSL)

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B.
TEPH = Total petroleum hydrocarbons as diesel by modified EPA Method 8015.
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:
a = Hydrocarbon does not match pattern of laboratory's standard.
b = Sample contains discrete peak in addition to gasoline.
c = The concentration reported reflects individual or discrete unidentified peaks not matching a typical fuel pattern.
Site surveyed November 25, 2002 by Mid Coast Engineers.

SEVERN TRENT STL

Submission#: 2004-12-0845

Blaine Tech Services, Inc.

January 10, 2005

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 041223-PC2
Project: 97495539
Site: 1155 Portola Ave., Livermore

Dear Mr.Gearhart,

Attached is our report for your samples received on 12/27/2004 11:00
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 02/10/2005 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: 2004-12-0845

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: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	12/23/2004 13:52	Water	1
MW-2	12/23/2004 14:22	Water	2
MW-3	12/23/2004 13:14	Water	3
MW-4	12/23/2004 12:45	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: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-1**
Sampled: 12/23/2004 13:52
Matrix: Water

Test(s): 8260B
Lab ID: 2004-12-0845 - 1
Extracted: 12/30/2004 01:29
QC Batch#: 2004/12/29-2C.66

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	1.00	12/30/2004 01:29	Q6
Benzene	ND	0.50	ug/L	1.00	12/30/2004 01:29	
Toluene	2.3	0.50	ug/L	1.00	12/30/2004 01:29	
Ethylbenzene	1.4	0.50	ug/L	1.00	12/30/2004 01:29	
Total xylenes	3.6	1.0	ug/L	1.00	12/30/2004 01:29	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	12/30/2004 01:29	
Surrogate(s)						
1,2-Dichloroethane-d4	102.9	73-130	%	1.00	12/30/2004 01:29	
Toluene-d8	88.1	81-114	%	1.00	12/30/2004 01:29	

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: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-2**	Lab ID:	2004-12-0845 - 2
Sampled:	12/23/2004 14:22	Extracted:	12/30/2004 01:51
Matrix:	Water	QC Batch#:	2004/12/29-2C.66

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	1.00	12/30/2004 01:51	
Benzene	ND	0.50	ug/L	1.00	12/30/2004 01:51	
Toluene	1.7	0.50	ug/L	1.00	12/30/2004 01:51	
Ethylbenzene	0.75	0.50	ug/L	1.00	12/30/2004 01:51	
Total xylenes	2.6	1.0	ug/L	1.00	12/30/2004 01:51	
Methyl tert-butyl ether (MTBE)	32	0.50	ug/L	1.00	12/30/2004 01:51	
Surrogate(s)						
1,2-Dichloroethane-d4	101.3	73-130	%	1.00	12/30/2004 01:51	
Toluene-d8	94.0	81-114	%	1.00	12/30/2004 01:51	

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: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	**MW-3**	Lab ID:	2004-12-0845 - 3
Sampled:	12/23/2004 13:14	Extracted:	12/30/2004 02:14
Matrix:	Water	QC Batch#:	2004/12/29-2C.66

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	1.00	12/30/2004 02:14	Q6
Benzene	ND	0.50	ug/L	1.00	12/30/2004 02:14	
Toluene	2.3	0.50	ug/L	1.00	12/30/2004 02:14	
Ethylbenzene	1.5	0.50	ug/L	1.00	12/30/2004 02:14	
Total xylenes	4.3	1.0	ug/L	1.00	12/30/2004 02:14	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	12/30/2004 02:14	
Surrogate(s)						
1,2-Dichloroethane-d4	100.5	73-130	%	1.00	12/30/2004 02:14	
Toluene-d8	89.4	81-114	%	1.00	12/30/2004 02:14	

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: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-4**
Sampled: 12/23/2004 12:45
Matrix: Water

Test(s): 8260B
Lab ID: 2004-12-0845 - 4
Extracted: 12/30/2004 02:36
QC Batch#: 2004/12/29-2C.66

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	1.00	12/30/2004 02:36	Q6
Benzene	0.55	0.50	ug/L	1.00	12/30/2004 02:36	
Toluene	3.8	0.50	ug/L	1.00	12/30/2004 02:36	
Ethylbenzene	2.2	0.50	ug/L	1.00	12/30/2004 02:36	
Total xylenes	7.0	1.0	ug/L	1.00	12/30/2004 02:36	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	12/30/2004 02:36	
Surrogate(s)						
1,2-Dichloroethane-d4	103.9	73-130	%	1.00	12/30/2004 02:36	
Toluene-d8	94.8	81-114	%	1.00	12/30/2004 02:36	

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

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Project: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2004/12/29-2C.66**

MB: 2004/12/29-2C.66-036 — Date Extracted: 12/29/2004 18:36

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline [Shell]	ND	50	ug/L	12/29/2004 18:36	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	12/29/2004 18:36	
Benzene	ND	0.5	ug/L	12/29/2004 18:36	
Toluene	ND	0.5	ug/L	12/29/2004 18:36	
Ethylbenzene	ND	0.5	ug/L	12/29/2004 18:36	
Total xylenes	ND	1.0	ug/L	12/29/2004 18:36	
Surrogates(s)					
1,2-Dichloroethane-d4	96.8	73-130	%	12/29/2004 18:36	
Toluene-d8	89.4	81-114	%	12/29/2004 18:36	

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

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Project: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2004/12/29-2C.66**

LCS 2004/12/29-2C.66-013 Extracted: 12/29/2004 Analyzed: 12/29/2004 18:13
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)	22.7		25	90.8			65-165	20		
Benzene	22.6		25	90.4			69-129	20		
Toluene	24.8		25	99.2			70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	451		500	90.2			73-130			
Toluene-d8	456		500	91.2			81-114			

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

Blaine Tech Services, Inc.

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Project: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Matrix Spike (MS / MSD) **Water** **QC Batch # 2004/12/29-2C.66**

MS/MSD

Lab ID: 2004-12-0838 - 001

MS: 2004/12/29-2C.66-029 Extracted: 12/29/2004 Analyzed: 12/29/2004 19:29
Dilution: 1.00

MSD: 2004/12/29-2C.66-052 Extracted: 12/29/2004 Analyzed: 12/29/2004 19:52
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	26.2	23.4	ND	25	104.8	93.6	11.3	65-165	20		
Benzene	25.8	25.5	ND	25	103.2	102.0	1.2	69-129	20		
Toluene	27.0	26.7	ND	25	108.0	106.8	1.1	70-130	20		
Surrogate(s)											
1,2-Dichloroethane-d4	442	431		500	88.4	86.2		73-130			
Toluene-d8	448	454		500	89.6	90.8		81-114			

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

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Phone: (408) 573-0555 Fax: (408) 573-7771

Project: 041223-PC2
97495539

Received: 12/27/2004 11:00

Site: 1155 Portola Ave., Livermore

Legend and Notes

Sample Comment

Lab ID: 2004-12-0845 -1

Siloxane peaks were found in the sample, which are not believed to be gasoline related. If they were to be quantified as gasoline, the concentration would be 59 ug/L

Lab ID: 2004-12-0845 -3

Siloxane peaks were found in the sample, which are not believed to be gasoline related. If they were to be quantified as gasoline, the concentration would be 97 ug/L

Lab ID: 2004-12-0845 -4

Siloxane peaks were found in the sample, which are not believed to be gasoline related. If they were to be quantified as gasoline, the concentration would be 71 ug/L

Result Flag

Q6

The concentration reported reflect(s) individual or discrete unidentified peaks not matching a typical fuel pattern.

LAB: STL

SHELL Chain Of Custody Record

99048

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

Karen Petryna

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

2004-12-0845

INCIDENT NUMBER (S&E ONLY): 9 7 4 9 5 5 3 9

SAP or CRMT NUMBER (TS/CRMT):

PAGE: 1 of 1

SAMPLING COMPANY:	LOG CODE:	SITE ADDRESS (Street and City):	GLOBAL ID NO.:
Blaine Tech Services	BTSS	1155 Portola Ave., Livermore	T0600194367

ADDRESS:	PROJECT CONTACT (Hardcopy or PDF Report to):	TELEPHONE:	FAX:	E-MAIL:
1680 Rogers Avenue, San Jose, CA 95112	Leon Gearhart	408-573-0555	408-573-7771	lgearhart@blainetech.com

EDF DELIVERABLE TO (Responsible Party or Designee):	PHONE NO.:	E-MAIL:	CONSULTANT PROJECT NO.:
Vera Fischer	(408)224-4724	vfischer@delta-env.com	841223-PC2 BTSS

SAMPLER NAME(S) (Print): P. Cornish

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:

GCMS 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)
	MW-1	12/27/04	1352	W	3	A	A		A	
	MW-2		1422		3	A	A		A	
	MW-3		1314		3	A	A		A	
	MW-4		1245		3	A	A		A	

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

TEMPERATURE ON RECEIPT C° 2

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
		12-27-04	1100
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
		12-27-04	1750
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

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

WELLHEAD INSPECTION CHECKLIST

Client Shell Date 12/23/04

Site Address 1155 Portola Ave., Livermore

Job Number 041223-PC2 Technician P. Cornish

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	✓		✓					
MW-2		✓	✓					✓
MW-3	✓		✓					
MW-4	✓		✓					

NOTES:

WELL GAUGING DATA

Project # 041225-PC2 Date 12/23/04 Client Shell

Site 1155 Portola 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-1	2					39.14	59.01	TOC	
MW-2	2					39.97	59.08	↓	
MW-3	2					38.64	54.32		
MW-4	2					39.83	59.00		

SHELL WELL MONITORING DATA SHEET

BTS #: 041223-PC2	Site: 1155 Portola Ave., Livermore
Sampler: PC	Date: 12/23/04
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 59.01	Depth to Water (DTW): 39.14
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]: 43.11	

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: _____

3.2 (Gals.) X	3	= 9.6 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 (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1335	65.8	7.0	854	>1000	3.2	brown
1340	66.0	6.9	853	>1000	6.4	↓
1344	65.7	7.0	858	>1000	9.6	

Did well dewater? Yes (No) Gallons actually evacuated: 9.6

Sampling Date: 12/23/04 Sampling Time: 1352 Depth to Water: 39.41

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 #: 041223-PC2	Site: 455 Portola Ave., Livermore
Sampler: PC	Date: 12/23/04
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 59.08	Depth to Water (DTW): 39.97
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVB) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 43.79	

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: _____

3.1 (Gals.) X	3	= 9.3 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 (uS))	Turbidity (NTUs)	Gals. Removed	Observations
1405	64.6	6.9	878	710000	3.1	brown
1410	65.2	6.9	881	710000	6.2	↓
1413	65.7	6.9	882	710000	9.3	↓

Did well dewater? Yes (No) Gallons actually evacuated: 9.3

Sampling Date: 12/23/04 Sampling Time: 1422 Depth to Water: 41.29

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 #: 041227-RR2	Site: 155 Portola Ave, Livermore
Sampler: RC	Date: 12/23/04
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 54.32	Depth to Water (DTW): 38.64
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]: 41.78	

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:_____

2.5 (Gals.) X 3 = 7.5 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
1258	64.7	7.2	949	71000	2.5	brown
1303	66.6	6.9	960	71000	5	↓
1307	67.3	6.9	959	71000	7.5	

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 12/23/04 Sampling Time: 1314 Depth to Water: 38.88

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 #: 041223-PC2	Site: 1155 Rutola Ave, Livermore
Sampler: PC	Date: 12/23/04
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 59.00	Depth to Water (DTW): 39.83
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]: 43.66	

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: ____

3.1 (Gals.) X	3	=	9.3 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
1224	63.1	7.5	1048	710000	3.1	brown
1230	64.8	7.4	976	872	6.2	↓
1235	64.4	7.3	964	553	9.3	

Did well dewater? Yes (No) Gallons actually evacuated: 9.3

Sampling Date: 12/23/04 Sampling Time: 1245 Depth to Water: 39.92

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