R02506

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Consultants, Inc.

Solving environment-related business problems worldwide

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

408.224.4724 800.477.7411
Fax 408.225.8506

Letter of Transmittal

To: Local Oversight Program Manager — Date: 8/20/2004

Alameda County Environmental Health Services

1131 Harbor Bay Pkwy, Ste 250 — Job No: SJ11-55P-1.2004

Alameda CA 94502-6540

Attn: Ms. Donna Drogos

We are sending the following items:

Date	Copies	Description
17-Aug-04	1	**Quarterly Monitoring Report - Second Quarter 2004**
		Shell-branded Service Station
		1155 Portola 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:

By: Vera Fischer

Title: Senior Staff Geologist

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August 17, 2004
Project No. SJ11-55P-1.2004

Ms. Donna Drogos
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 – Second Quarter 2004**
Shell-branded Service Station
1155 Portola Avenue
Livermore, California

Dear Ms. Drogos:

Delta Environmental Consultants, Inc. (Delta), on behalf of Shell Oil Products US (Shell), has prepared the following second 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 June 7, 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 the five fuel oxygenates: methyl tert-butyl ether (MTBE), diisopropyl ether (DIPE), ethyl-tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), and tert-butanol (TBA), 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 increased by an average of 5.92 feet in site wells since last quarter. Depth to groundwater at the site typically fluctuates by about 6 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 June 7, 2004 was towards the west at a magnitude of 0.014 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 Wells MW-1 through MW-3 at concentrations ranging from 0.91 micrograms per liter (ug/l) to 85 ug/l. MTBE concentrations remain below historic highs. BTEX compounds were detected for the first time in Well MW-4. Benzene was detected at 0.82 ug/l. Toluene and xylenes were also detected just above the method reporting limit. TPH-G was detected for the second time in Well MW-4 at 58 ug/l. The hydrocarbon reported as gasoline did not match the laboratory's standard, and contined a discrete peak in addition to gasoline. All other analytes tested were below laboratory detection limits for all site wells.

In the first quarter 2003 monitoring report, Delta proposed to reduce the sampling frequency of DIPE, ETBE, TAME, and TBA from quarterly to annually, due to these constituents never having been detected in six consecutive quarters of monitoring. DIPE, ETBE, TAME, and TBA remain below laboratory detection limits for the seventh consecutive quarter. Delta now plans to implement this reduction during the third quarter 2004.

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

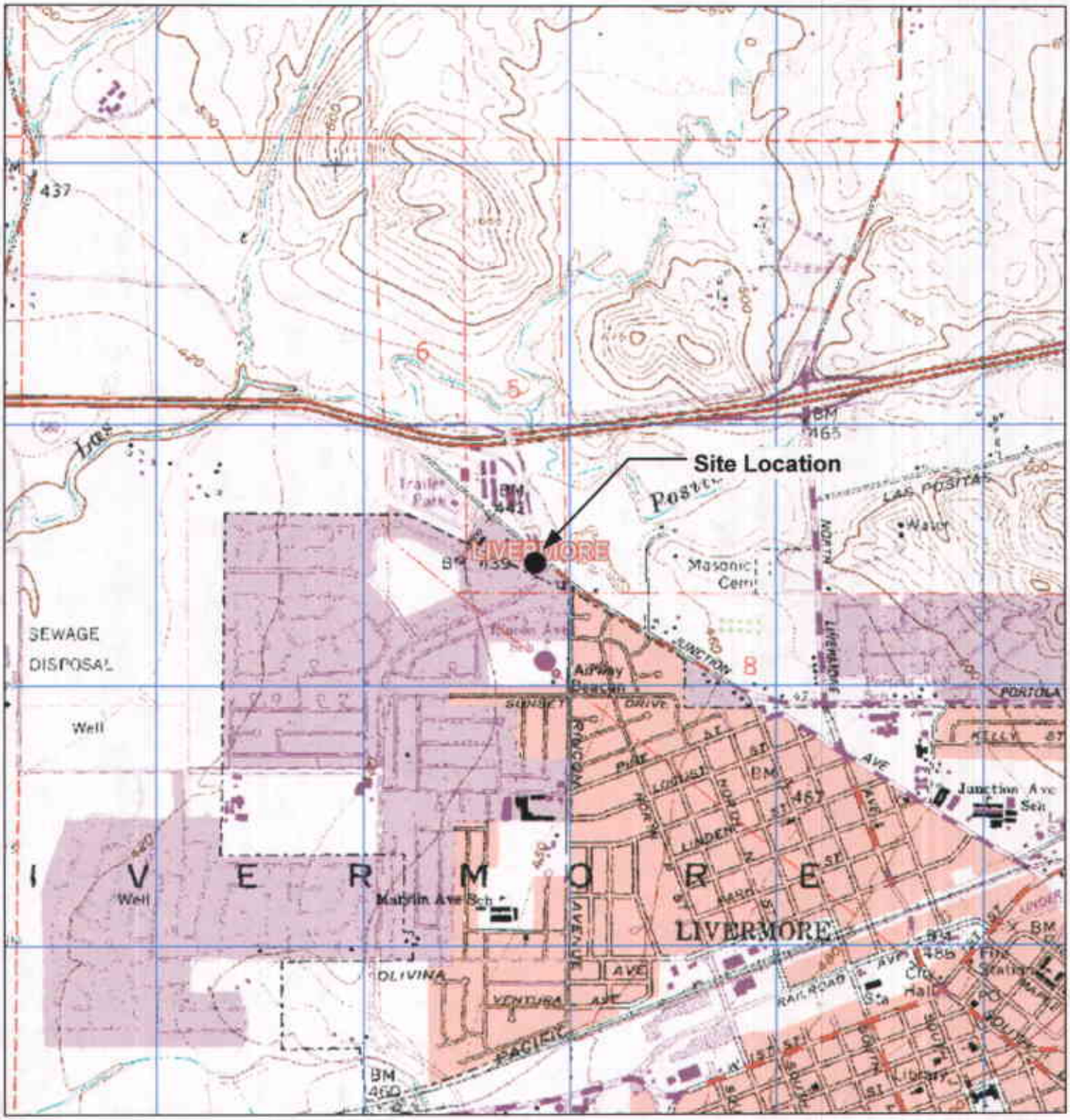
REGISTERED GEOLOGIST
DEBORAH
ARNOLD
NO. 7745
STATE OF CALIFORNIA

Debbie Arnold
Project Manager
RG 7745

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

Attachment A – Groundwater Monitoring and Sampling Report, June 28, 2004

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

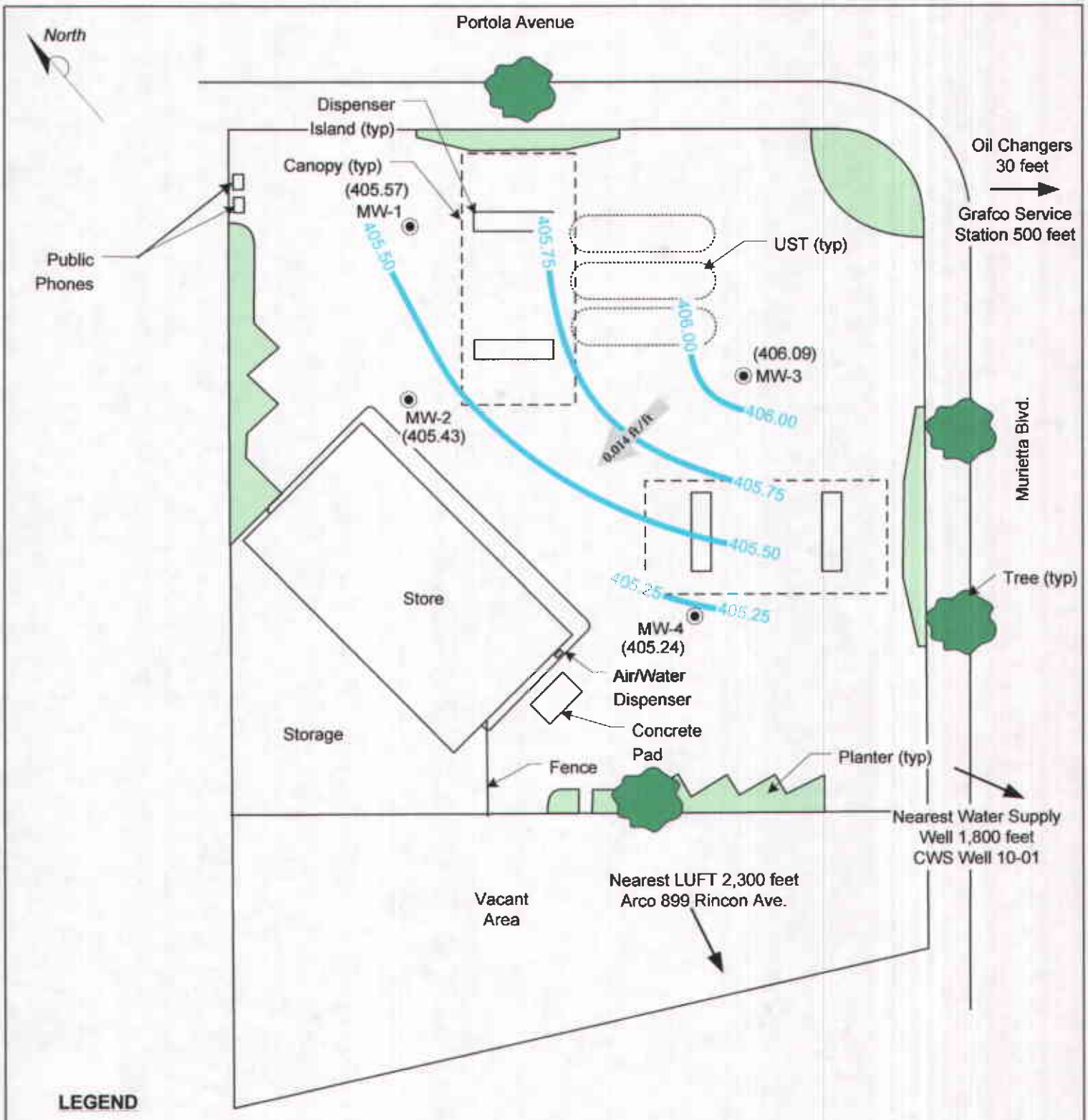
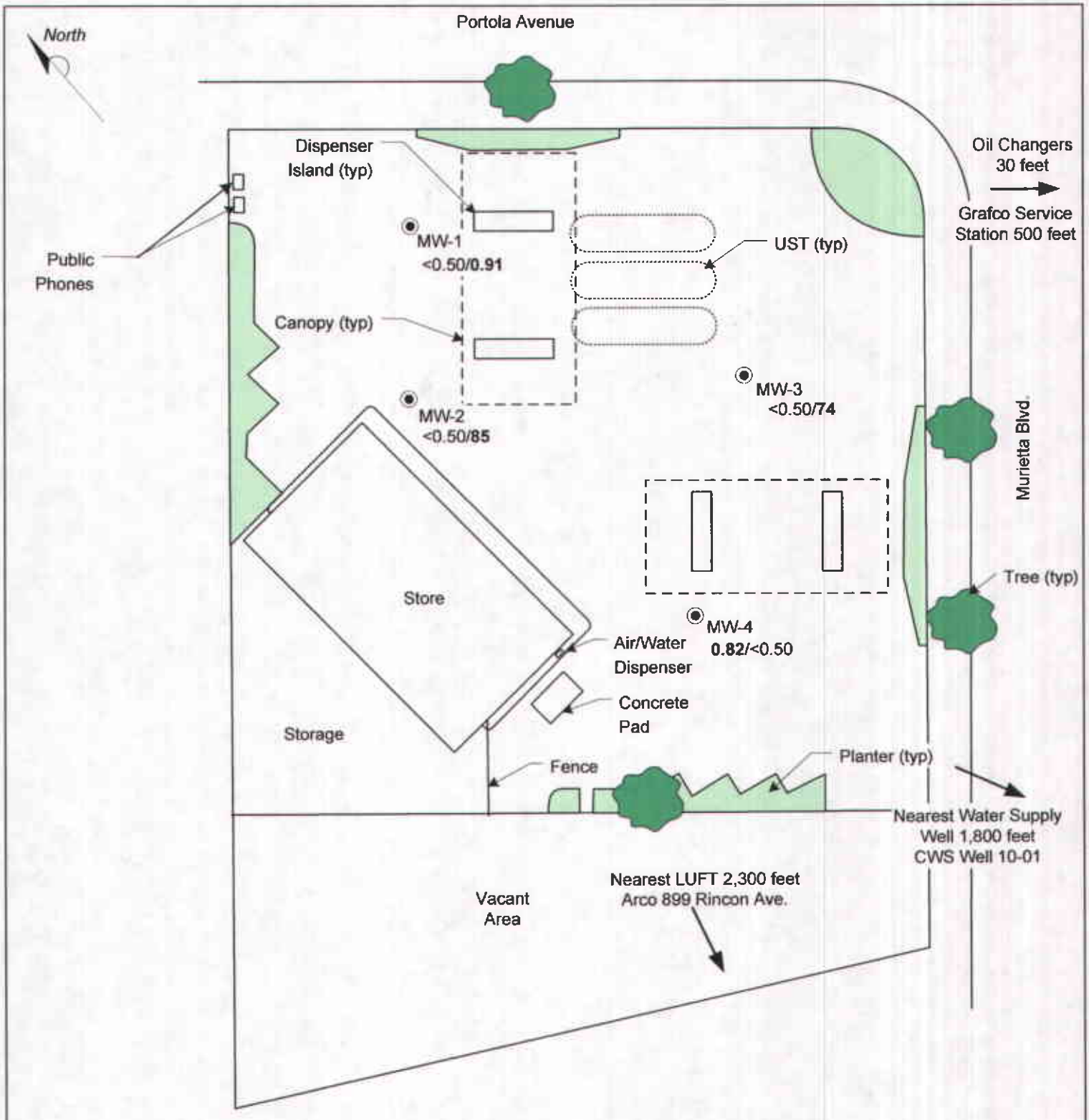


FIGURE 2
GROUNDWATER ELEVATION CONTOUR MAP,
JUNE 7, 2004

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), 6/7/04**

0 30 FT

APPROX. SCALE

FIGURE 3
BENZENE AND MTBE CONCENTRATIONS MAP, JUNE 7, 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.

1680 ROGERS AVENUE
SAN JOSE, CA 95112-1105
(408) 573-7771 FAX
(408) 573-0555 PHONE
CONTRACTOR'S LICENSE #746684
www.blainetech.com

June 28, 2004

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

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

Monitoring performed on June 07, 2004

Groundwater Monitoring Report **040607-MD-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-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-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
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**

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-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**

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

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

TBA = Tertiary butyl alcohol or Tertiary Butanol

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

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)

Notes:

a = Hydrocarbon does not match pattern of laboratory's standard.

b = Sample contains discrete peak in addition to gasoline.

Site surveyed November 25, 2002 by Mid Coast Engineers.

SEVERN TRENT STL

Submission#: 2004-06-0277

Blaine Tech Services, Inc.

June 22, 2004

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 040607-MD2
Project: 97495539
Site: 1155 Portola Ave., Livermore

Dear Mr.Gearhart,

Attached is our report for your samples received on 06/08/2004 14:27
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 07/23/2004 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.
You can also contact me via email. My email address is: vvancil@stl-inc.com

Sincerely,

Vincent Vancil
Project Manager

SEVERN TRENT STL

Submission #: 2004-06-0277

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	06/07/2004 15:25	Water	1
MW-2	06/07/2004 15:00	Water	2
MW-3	06/07/2004 15:50	Water	3
MW-4	06/07/2004 14:35	Water	4

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-1**
Sampled: 06/07/2004 15:25
Matrix: Water

Test(s): 8260B
Lab ID: 2004-06-0277 - 1
Extracted: 6/15/2004 10:38
QC Batch#: 2004/06/15-1C.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	06/15/2004 10:38	
Benzene	ND	0.50	ug/L	1.00	06/15/2004 10:38	
Toluene	ND	0.50	ug/L	1.00	06/15/2004 10:38	
Ethylbenzene	ND	0.50	ug/L	1.00	06/15/2004 10:38	
Total xylenes	ND	1.0	ug/L	1.00	06/15/2004 10:38	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	06/15/2004 10:38	
Methyl tert-butyl ether (MTBE)	0.91	0.50	ug/L	1.00	06/15/2004 10:38	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	06/15/2004 10:38	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	06/15/2004 10:38	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	06/15/2004 10:38	
Surrogate(s)						
1,2-Dichloroethane-d4	97.2	76-130	%	1.00	06/15/2004 10:38	
Toluene-d8	102.3	78-115	%	1.00	06/15/2004 10:38	

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-2**
Sampled: 06/07/2004 15:00
Matrix: Water

Test(s): 8260B
Lab ID: 2004-06-0277 - 2
Extracted: 6/15/2004 12:29
QC Batch#: 2004/06/15-1C.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	06/15/2004 12:29	
Benzene	ND	0.50	ug/L	1.00	06/15/2004 12:29	
Toluene	ND	0.50	ug/L	1.00	06/15/2004 12:29	
Ethylbenzene	ND	0.50	ug/L	1.00	06/15/2004 12:29	
Total xylenes	ND	1.0	ug/L	1.00	06/15/2004 12:29	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	06/15/2004 12:29	
Methyl tert-butyl ether (MTBE)	85	0.50	ug/L	1.00	06/15/2004 12:29	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	06/15/2004 12:29	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	06/15/2004 12:29	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	06/15/2004 12:29	
Surrogate(s)						
1,2-Dichloroethane-d4	94.7	76-130	%	1.00	06/15/2004 12:29	
Toluene-d8	99.5	78-115	%	1.00	06/15/2004 12:29	

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-3**
Sampled: 06/07/2004 15:50
Matrix: Water

Test(s): 8260B
Lab ID: 2004-06-0277 - 3
Extracted: 6/15/2004 12:51
QC Batch#: 2004/06/15-1C.62

Analysis Flag: ,gs (See Legend and Note Section)

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	06/15/2004 12:51	
Benzene	ND	0.50	ug/L	1.00	06/15/2004 12:51	
Toluene	ND	0.50	ug/L	1.00	06/15/2004 12:51	
Ethylbenzene	ND	0.50	ug/L	1.00	06/15/2004 12:51	
Total xylenes	ND	1.0	ug/L	1.00	06/15/2004 12:51	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	06/15/2004 12:51	
Methyl tert-butyl ether (MTBE)	74	0.50	ug/L	1.00	06/15/2004 12:51	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	06/15/2004 12:51	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	06/15/2004 12:51	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	06/15/2004 12:51	
Surrogate(s)						
1,2-Dichloroethane-d4	99.0	76-130	%	1.00	06/15/2004 12:51	
Toluene-d8	102.1	78-115	%	1.00	06/15/2004 12:51	

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Prep(s): 5030B
Sample ID: **MW-4**
Sampled: 06/07/2004 14:35
Matrix: Water

Test(s): 8260B
Lab ID: 2004-06-0277 - 4
Extracted: 6/15/2004 13:13
QC Batch#: 2004/06/15-1C.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	58	50	ug/L	1.00	06/15/2004 13:13	dp
Benzene	0.82	0.50	ug/L	1.00	06/15/2004 13:13	
Toluene	1.2	0.50	ug/L	1.00	06/15/2004 13:13	
Ethylbenzene	ND	0.50	ug/L	1.00	06/15/2004 13:13	
Total xylenes	1.1	1.0	ug/L	1.00	06/15/2004 13:13	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	06/15/2004 13:13	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	06/15/2004 13:13	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	06/15/2004 13:13	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	06/15/2004 13:13	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	06/15/2004 13:13	
Surrogate(s)						
1,2-Dichloroethane-d4	98.6	76-130	%	1.00	06/15/2004 13:13	
Toluene-d8	99.7	78-115	%	1.00	06/15/2004 13:13	

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Batch QC Report

Prep(s): 5030B — Test(s): 8260B

Method Blank — **Water** — **QC Batch # 2004/06/15-1C.62**

MB: 2004/06/15-1C.62-056 — Date Extracted: 06/15/2004 07:56

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	06/15/2004 07:56	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	06/15/2004 07:56	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	06/15/2004 07:56	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	06/15/2004 07:56	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	06/15/2004 07:56	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	06/15/2004 07:56	
Benzene	ND	0.5	ug/L	06/15/2004 07:56	
Toluene	ND	0.5	ug/L	06/15/2004 07:56	
Ethylbenzene	ND	0.5	ug/L	06/15/2004 07:56	
Total xylenes	ND	1.0	ug/L	06/15/2004 07:56	
Surrogates(s)					
1,2-Dichloroethane-d4	98.2	76-130	%	06/15/2004 07:56	
Toluene-d8	103.8	78-115	%	06/15/2004 07:56	

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike **Water** **QC Batch # 2004/06/15-1C.62**

LCS 2004/06/15-1C.62-012 Extracted: 06/15/2004 Analyzed: 06/15/2004 07:12

LCSD 2004/06/15-1C.62-034 Extracted: 06/15/2004 Analyzed: 06/15/2004 07:34

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Methyl tert-butyl ether (MTBE)	27.6	24.8	25	110.4	99.2	10.7	65-165	20		
Benzene	26.0	26.1	25	104.0	104.4	0.4	69-129	20		
Toluene	26.8	26.9	25	107.2	107.6	0.4	70-130	20		
Surrogates(s)										
1,2-Dichloroethane-d4	466	458	500	93.2	91.6		76-130			
Toluene-d8	503	509	500	100.6	101.8		78-115			

Gas/BTEX Fuel Oxygenates 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: 040607-MD2
97495539

Received: 06/08/2004 14:27

Site: 1155 Portola Ave., Livermore

Legend and Notes

Sample Comment

Lab ID: 2004-06-0277 -3

gs-Siloxane peaks were found in the sample which are not believed to be gasoline related. If quantified as gasoline, concentration would be 100 ug/L.

Result Flag

dp

Sample contains discrete peak in addition to gasoline.

LAB: STL

SHELL Chain Of Custody Record

86674

Lab Identification (if necessary):
Address:
City, State, Zip:

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

Karen Petryna

2004-06-0277

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: Blaine Tech Services	LOG CODE: BTSS
SITE ADDRESS (Street and City): 1155 Portola Ave., Livermore	GLOBAL ID NO.: pending
ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112	
EDF DELIVERABLE TO (Responsible Party or Designee): Debbie Arnold	PHONE NO.: (408)224-4724
E-MAIL: darnold@khm1.com	CONSULTANT PROJECT NO.: 040607-MD2 BTS #
PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart	
TELEPHONE: 408-573-0555	FAX: 408-573-7771
E-MAIL: lgearhart@blainetech.com	SAMPLER NAME(S) (Print): John DeJong
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

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

TEMPERATURE ON RECEIPT C°: 5°c

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
	MW-1	6/7/4	1525	W	3	✓	✓			✓	
	MW-2	↓	1500	↓	3	✓	✓			✓	
	MW-3	↓	1550	↓	3	✓	✓			✓	
	MW-4	↓	1435	↓	3	✓	✓			✓	

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	[signature]	6/8/04	1427
[signature] 6/8/04 1707	[signature]	6/8/04	1707

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

10/16/00 Revision

WELLHEAD INSPECTION CHECKLIST

Client Shell Date 6/7/04

Site Address 1155 Portola Ave., Livermore

Job Number 040607-MD2 Technician MD

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 # 040607-MO2 Date 6-7-04 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					38.24	59.00		
MW-2	2					39.18	59.20		
MW-3	2					37.75	54.31		
MW-4	2					38.94	58.95		

SHELL WELL MONITORING DATA SHEET

BTS #: 040607-MD2	Site: 97495539
Sampler: MD	Date: 6/7/04
Well I.D.: MW-1	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 59.00	Depth to Water (DTW): 38.24
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]: 42.39

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: _____

1 Case Volume		Specified Volumes		Calculated Volume
3.3	(Gals.) X	3	=	9.9 Gals.

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
1511	70.0	6.9	880	71000	3.3	cloudy, tan
1515	70.0	6.9	883	>1000	6.6	"
1520	69.6	6.9	887	71000	9.9	cloudy, tan

Did well dewater? Yes (No) Gallons actually evacuated: 9.9

Sampling Date: 6/7/04 Sampling Time: 1525 Depth to Water: 38.41

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

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

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 #: 040607-MW2	Site: 9749.5539
Sampler: MM	Date: 6/7/04
Well I.D.: MW-2	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 59.20	Depth to Water (DTW): 39.18
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]: 43.18	

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: _____

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

3.2 (Gals.) X 3 = 9.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Time	Temp (°F)	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1447	70.8	7.2	913	71000	3.2	Cloudy, tan
1450	70.0	7.0	907	71000	6.4	"
1454	69.8	7.0	910	71000	9.6	Cloudy, tan

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

Sampling Date: 6/7/04 Sampling Time: 1500 Depth to Water: 39.91

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

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

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 #: 040607-MW2	Site: 97495539
Sampler: MD	Date: 6/7/04
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 54.31	Depth to Water (DTW): 37.75
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]: 41.06	

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:_____

2.6 (Gals.) X 3 = 7.8 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
1535	71.0	7.0	911	>1000	2.6	cloudy, tan
1537	70.3	6.9	913	>1000	5.2	"
1540	69.9	7.0	914	>1000	7.8	cloudy, tan

Did well dewater? Yes (No) Gallons actually evacuated: 7.8

Sampling Date: 6/7/04 Sampling Time: 1550 Depth to Water: 37.81

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

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

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 #: 040607-MW2	Site: 97495539
Sampler: MM	Date: 6/7/04
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 58.95	Depth to Water (DTW): 38.94
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]: 42.94	

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
1421	71.8	7.4	1033	71000	3.2	cloudy, tan
1425	70.7	7.4	1032	690	6.4	"
1430	70.1	7.3	1027	434	9.6	cloudy, tan

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

Sampling Date: 6/7/04 Sampling Time: 1435 Depth to Water: 39.18

Sample I.D.: ~~X~~ MW-4 Laboratory: (STL) Other_____

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

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