



Solving environment-related business problems worldwide

www.deltaenv.com

175 Bernal Road • Suite 200
San Jose, California 95119 USA
408.224.4724 800 477 7411
Fax 408.225.8506

December 30, 2003
Project No. SJ80-9ST-1.000G

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

Alameda County
DEC 31 2003
Environmental Health

Re: **Quarterly Monitoring Report – Fourth Quarter 2003**
Shell-branded Service Station
809 East Stanley Blvd.
Livermore, California

Dear Mr. Seery:

Delta Environmental Consultants, Inc. (Delta), on behalf of Shell Oil Products US (Shell), has prepared the following fourth quarter 2003 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.

QUARTERLY GROUND WATER MONITORING PROGRAM

Groundwater monitoring wells were gauged and sampled by Blaine Tech Services (Blaine), at the direction of Delta, on October 20, 2003. 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-t-butyl ether (ETBE), tert-amyl methyl ether (TAME), and tert-butanol (TBA), using EPA Method 8260B. Benzene and MTBE concentrations in groundwater are presented on Figure 3.

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

DISCUSSION

The groundwater gradient on October 20, 2003 was toward the northeast at a magnitude of 0.005 feet/feet, consistent with previous data.

MTBE was detected in Well MW-3 at 0.64 micrograms per liter (ug/l). The MTBE concentration in Well MW-3 has decreased from 0.83 ug/l in October 2002. TBA was detected in Well MW-1 at 5.0 ug/l (the laboratory reporting limit). All other analytes were below laboratory detection limits.

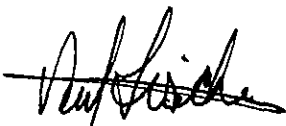
Based on the decreasing MTBE concentration in Well MW-3, Delta recommends that the sampling frequency be reduced from quarterly to semi-annual monitoring in the first and third quarters. Delta also recommends that DIPE, ETBE, TAME, and TBA be eliminated from the monitoring program. These analytes have been below the laboratory detection limits for all four quarters of 2003.

REMARKS

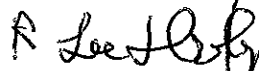
The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract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

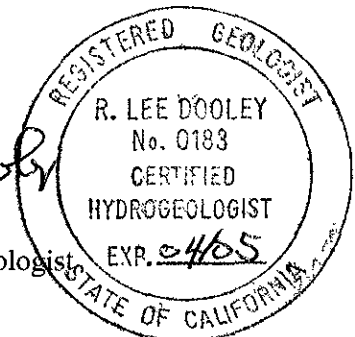
Sincerely,
Delta Environmental Consultants, Inc.



Vera Fischer
Staff Geologist



R. Lee Dooley
Senior Hydrogeologist,
CHG 0183



December 30, 2003

Page 3

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, November 26, 2003

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



Solving environment-related business problems worldwide

175 Bernal Road • Suite 200
San Jose, California 95119 USA
408.224.4724 800.477.7411
Fax 408.225.8506

Alameda County
DEC 31 2003
Environmental Health

www.deltaenv.com

To: Alameda County Environmental Health Services Date: 12/30/2003
 1131 Harbor Bay Pkwy
 Alameda CA 94502 Job No: SJ80-9ST-1.000G

Attn: Mr. Scott Seery

We are sending the following items:

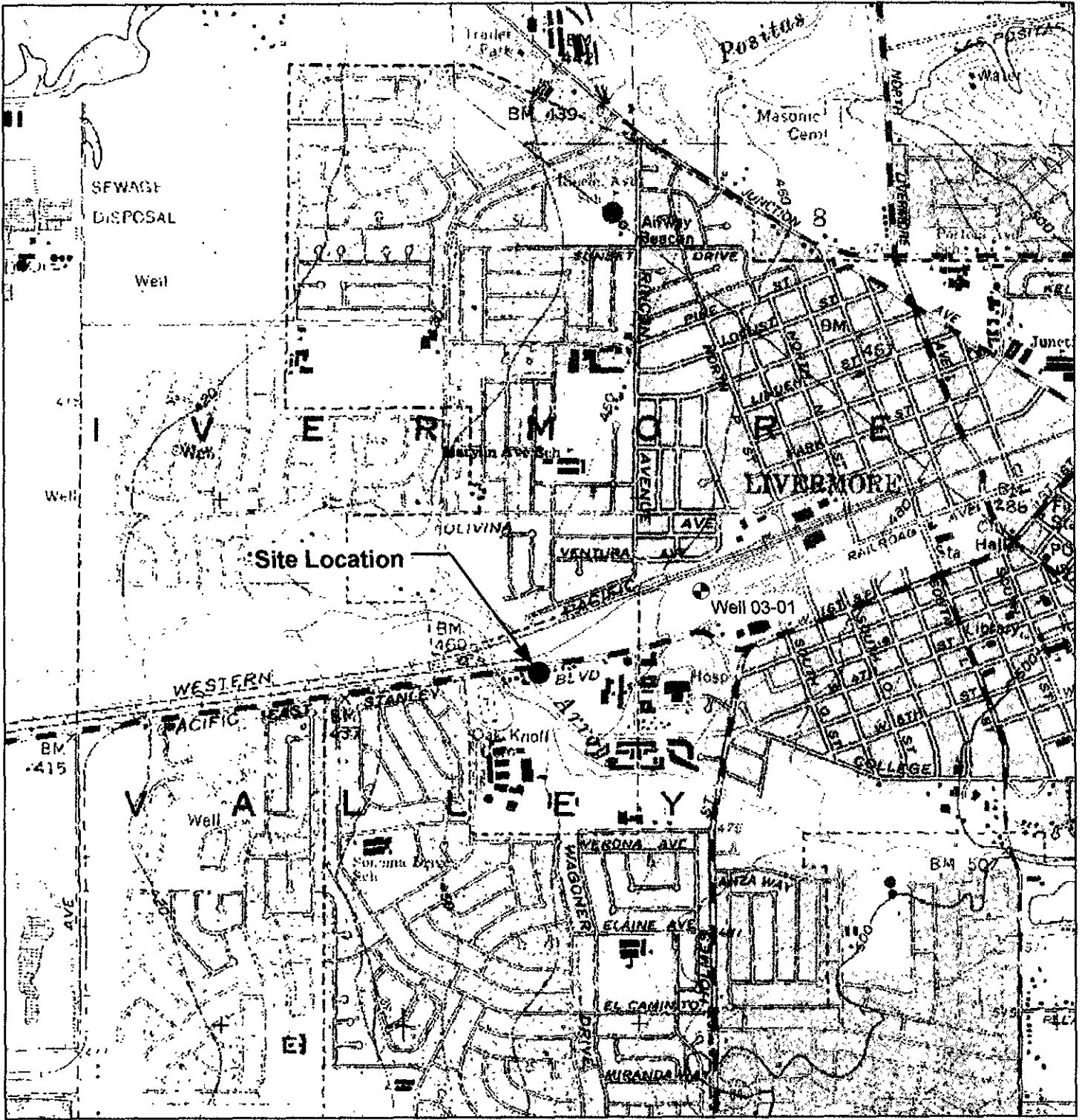
Description		
30-Dec-03	1	4Q03 Quarterly Monitoring Report
		Shell-branded Service Station
		809 East Stanley Blvd
		Livermore, CA

These are transmitted:

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

Copies to: By: Vera Fischer
 Title: Staff Geologist

The information contained in this transmission is confidential and only intended for the addressee. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or action taken in reliance on the contents of this facsimile transmittal is strictly prohibited. If you have received this facsimile in error, please call us immediately to arrange for the return of these documents



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



QUADRANGLE LOCATION

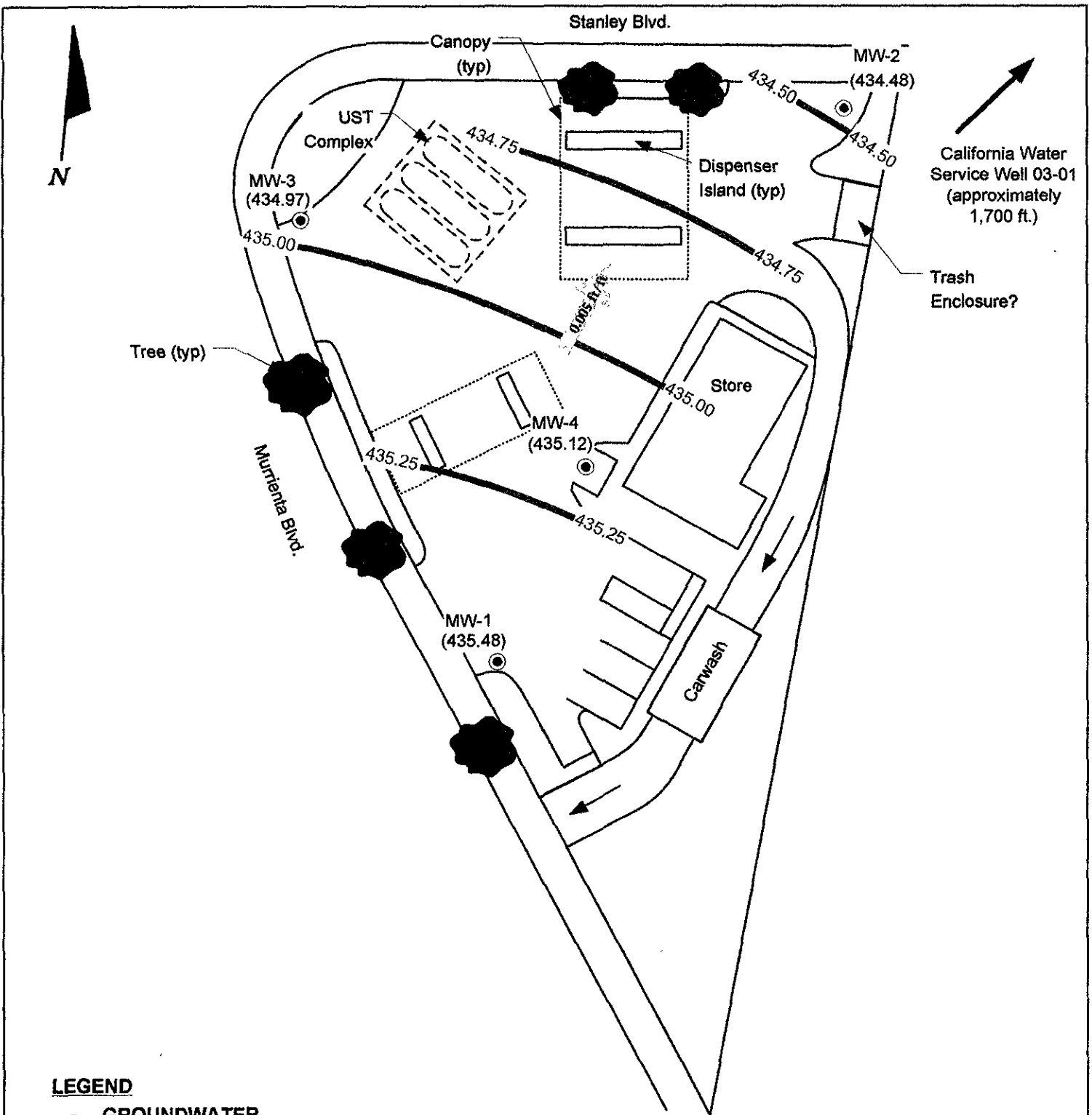


FIGURE 1
 SITE LOCATION MAP

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

PROJECT NO. SJ80-9ST-1.000G	DRAWN BY VF 12/01/03
FILE NO. SJ80-9ST-1.000G	PREPARED BY VF
REVISION NO. 1	REVIEWED BY DA





California Water Service Well 03-01 (approximately 1,700 ft.)

Trash Enclosure?

LEGEND

- MW-1 ● **GROUNDWATER MONITORING WELL**
- **PLANTER**
- (436.37) **GROUNDWATER ELEVATION (FEET-MSL), 10/20/03**
- 436.20 — **GROUNDWATER ELEVATION CONTOUR**
- 0.005 ft./ft. **APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT**

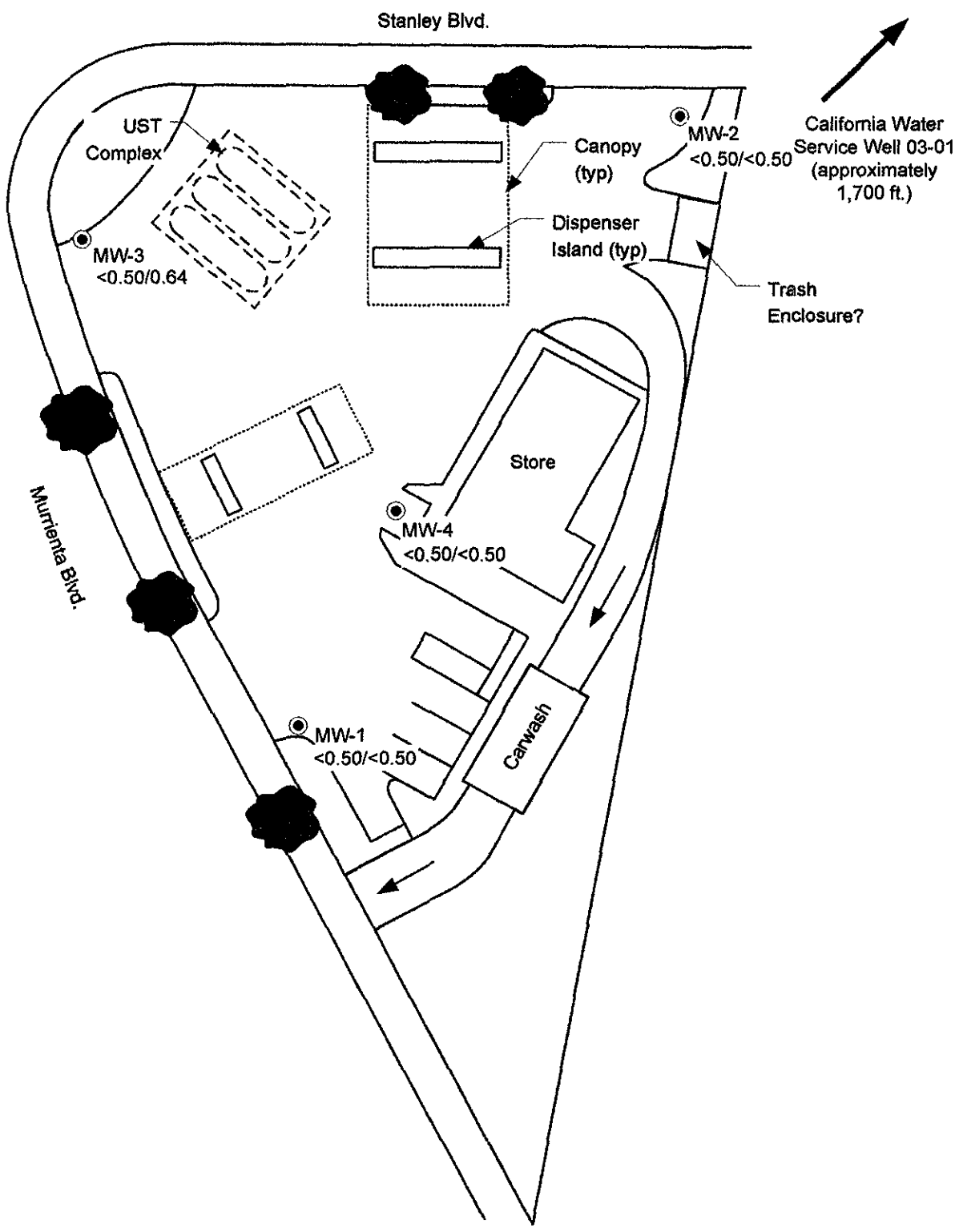


FIGURE 2
GROUNDWATER ELEVATION CONTOUR MAP,
OCTOBER 20, 2003

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

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





LEGEND

- MW-1 ● **GROUNDWATER MONITORING WELL**
- **PLANTER**
- <math><0.50/<0.50</math> **BENZENE/MTBE CONCENTRATIONS IN GROUNDWATER (ug/l), 10/20/03**



FIGURE 3
Benzene and MTBE Concentration Map, October 20, 2003

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

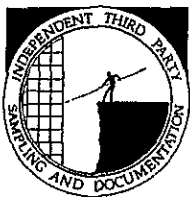
PROJECT NO. SJ80-9ST-1.000G	DRAWN BY VF
FILE NO. SJ8-09ST-1.000G	PREPARED BY VF
REVISION NO. 1	REVIEWED BY DA

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

November 26, 2003

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

Fourth Quarter 2003 Groundwater Monitoring at
Shell-branded Service Station
809 East Stanley Boulevard
Livermore, CA

Monitoring performed on October 20, 2003

Groundwater Monitoring Report **031020-PC-1**

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. Purge water (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/jt

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)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-1	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	455.49	20.06	435.43
MW-1	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	455.49	19.71	435.78
MW-1	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	455.49	18.05	437.44
MW-1	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	455.49	17.57	437.92
MW-1	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	455.49	18.76	436.73
MW-1	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	455.49	20.01	435.48
MW-2	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.84	20.40	434.44
MW-2	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.84	20.17	434.67
MW-2	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.84	18.30	436.54
MW-2	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	454.84	17.93	436.91
MW-2	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	454.84	19.01	435.83
MW-2	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	454.84	20.36	434.48
MW-3	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.87	19.95	434.92
MW-3	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	0.83	454.87	19.63	435.24
MW-3	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	454.87	17.90	436.97
MW-3	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	0.71	454.87	17.45	437.42
MW-3	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	0.69	454.87	18.69	436.18
MW-3	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	0.64	454.87	19.90	434.97
MW-4	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	456.24	21.15	435.09
MW-4	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	456.24	20.85	435.39
MW-4	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	456.24	19.15	437.09
MW-4	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	456.24	18.65	437.59
MW-4	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	456.24	19.87	436.37

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)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-4	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	456.24	21.12	435.12

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

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.

Blaine Tech Services, Inc.

November 04, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 031020-PC1

Project: 97461964

Site: 809 E. Stanley Blvd., Livermore

Dear Mr.Gearhart,

Attached is our report for your samples received on 10/20/2003 14:40

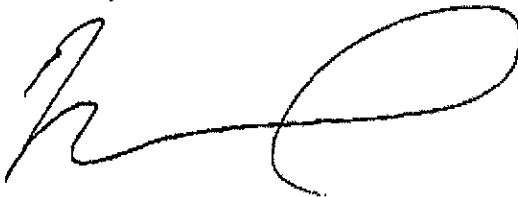
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 12/04/2003 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 Laboratories, Inc.

STL San Francisco * 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

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: 031020-PC1
97461964

Received: 10/20/2003 14:40

Site: 809 E. Stanley Blvd., Livermore

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	10/20/2003 10:40	Water	1
MW-2	10/20/2003 12:00	Water	2
MW-3	10/20/2003 13:00	Water	3
MW-4	10/20/2003 11:20	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: 031020-PC1
97461964

Received: 10/20/2003 14:40

Site: 809 E. Stanley Blvd., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-1	Lab ID:	2003-10-0727 - 1
Sampled:	10/20/2003 10:40	Extracted:	10/29/2003 20:46
Matrix:	Water	QC Batch#:	2003/10/29-1E.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/29/2003 20:46	
Benzene	ND	0.50	ug/L	1.00	10/29/2003 20:46	
Toluene	ND	0.50	ug/L	1.00	10/29/2003 20:46	
Ethylbenzene	ND	0.50	ug/L	1.00	10/29/2003 20:46	
Total xylenes	ND	1.0	ug/L	1.00	10/29/2003 20:46	
tert-Butyl alcohol (TBA)	5.0	5.0	ug/L	1.00	10/29/2003 20:46	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/29/2003 20:46	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/29/2003 20:46	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/29/2003 20:46	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/29/2003 20:46	
Surrogate(s)						
1,2-Dichloroethane-d4	99.8	76-130	%	1.00	10/29/2003 20:46	
Toluene-d8	93.5	78-115	%	1.00	10/29/2003 20:46	

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: 031020-PC1
97461964

Received: 10/20/2003 14:40

Site: 809 E. Stanley Blvd., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-2	Lab ID:	2003-10-0727 - 2
Sampled:	10/20/2003 12:00	Extracted:	10/29/2003 21:08
Matrix:	Water	QC Batch#:	2003/10/29-1E.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/29/2003 21:08	
Benzene	ND	0.50	ug/L	1.00	10/29/2003 21:08	
Toluene	ND	0.50	ug/L	1.00	10/29/2003 21:08	
Ethylbenzene	ND	0.50	ug/L	1.00	10/29/2003 21:08	
Total xylenes	ND	1.0	ug/L	1.00	10/29/2003 21:08	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/29/2003 21:08	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/29/2003 21:08	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/29/2003 21:08	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/29/2003 21:08	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/29/2003 21:08	
Surrogate(s)						
1,2-Dichloroethane-d4	101.4	76-130	%	1.00	10/29/2003 21:08	
Toluene-d8	100.6	78-115	%	1.00	10/29/2003 21:08	

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: 031020-PC1
97461964

Received: 10/20/2003 14:40

Site: 809 E. Stanley Blvd., Livermore

Prep(s):	5030B	Test(s):	8260B
Sample ID:	MW-3	Lab ID:	2003-10-0727 - 3
Sampled:	10/20/2003 13:00	Extracted:	10/29/2003 21:30
Matrix:	Water	QC Batch#:	2003/10/29-1E.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/29/2003 21:30	
Benzene	ND	0.50	ug/L	1.00	10/29/2003 21:30	
Toluene	ND	0.50	ug/L	1.00	10/29/2003 21:30	
Ethylbenzene	ND	0.50	ug/L	1.00	10/29/2003 21:30	
Total xylenes	ND	1.0	ug/L	1.00	10/29/2003 21:30	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/29/2003 21:30	
Methyl tert-butyl ether (MTBE)	0.64	0.50	ug/L	1.00	10/29/2003 21:30	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/29/2003 21:30	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/29/2003 21:30	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/29/2003 21:30	
Surrogate(s)						
1,2-Dichloroethane-d4	98.2	76-130	%	1.00	10/29/2003 21:30	
Toluene-d8	100.1	78-115	%	1.00	10/29/2003 21:30	

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: 031020-PC1
97461964

Received: 10/20/2003 14:40

Site: 809 E. Stanley Blvd., Livermore

Prep(s): 5030B Test(s): 8260B
Sample ID: MW-4 Lab ID: 2003-10-0727 - 4
Sampled: 10/20/2003 11:20 Extracted: 10/29/2003 21:52
Matrix: Water QC Batch#: 2003/10/29-1E.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	10/29/2003 21:52	
Benzene	ND	0.50	ug/L	1.00	10/29/2003 21:52	
Toluene	ND	0.50	ug/L	1.00	10/29/2003 21:52	
Ethylbenzene	ND	0.50	ug/L	1.00	10/29/2003 21:52	
Total xylenes	ND	1.0	ug/L	1.00	10/29/2003 21:52	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	10/29/2003 21:52	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	10/29/2003 21:52	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	10/29/2003 21:52	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	10/29/2003 21:52	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	10/29/2003 21:52	
Surrogate(s)						
1,2-Dichloroethane-d4	100.5	76-130	%	1.00	10/29/2003 21:52	
Toluene-d8	101.9	78-115	%	1.00	10/29/2003 21:52	

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: 031020-PC1
97461964

Received: 10/20/2003 14:40

Site: 809 E. Stanley Blvd., Livermore

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2003/10/29-1E.64-017

Water

Test(s): 8260B
QC Batch # 2003/10/29-1E.64
Date Extracted: 10/29/2003 11:17

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	10/29/2003 11:17	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	10/29/2003 11:17	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	10/29/2003 11:17	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	10/29/2003 11:17	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	10/29/2003 11:17	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	10/29/2003 11:17	
Benzene	ND	0.5	ug/L	10/29/2003 11:17	
Toluene	ND	0.5	ug/L	10/29/2003 11:17	
Ethylbenzene	ND	0.5	ug/L	10/29/2003 11:17	
Total xylenes	ND	1.0	ug/L	10/29/2003 11:17	
Surrogates(s)					
1,2-Dichloroethane-d4	107.5	76-130	%	10/29/2003 11:17	
Toluene-d8	100.2	78-115	%	10/29/2003 11:17	

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: 031020-PC1
97461964

Received: 10/20/2003 14:40

Site: 809 E. Stanley Blvd., Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike

Water

QC Batch # 2003/10/29-1E.64

LCS 2003/10/29-1E.64-033

Extracted: 10/29/2003

Analyzed: 10/29/2003 10:33

LCSD 2003/10/29-1E.64-056

Extracted: 10/29/2003

Analyzed: 10/29/2003 10:55

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	24.4	24.2	25	97.6	96.8	0.8	69-129	20		
Toluene	25.4	25.4	25	101.6	101.6	0.0	70-130	20		
Methyl tert-butyl ether (MTBE)	22.6	22.4	25	90.4	89.6	0.9	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	520	497	500	104.0	99.4		76-130			
Toluene-d8	512	480	500	102.4	96.0		78-115			

LAB: STL

SHELL Chain Of Custody Record

78632

Lab Identification (if necessary)

Address

City, State, Zip

Shell Project Manager to be invoiced:

- SCIENCE & ENGINEERING
- TECHNICAL SERVICES
- CRMT HOUSTON

Karen Petryna

2003-10-0727

INCIDENT NUMBER (S&E ONLY)

9 7 4 6 1 9 6 4

SAP or CRMT NUMBER (S/CRMT)

DATE: 10/20/03

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. pending
ADDRESS 1680 Rogers Avenue, San Jose, CA 95112		EDF DELIVERABLE TO (Responsible Party or Designer) Debbie Arnold		PHONE NO. (408)244-4724	CONSULTANT PROJECT NO. BTS# 031020-R
PROJECT CONTRACT (Photocopy or PDF Report to) Leon Gearhart		E-MAIL lgearhart@blainetech.com		E-MAIL darnold@khm1.com	
TELEPHONE 408-573-0555	FAX 408-573-7771	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 - RAWQCB 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										FIELD NOTES: Contained/Preservative or PID Readings or Laboratory Notes 2.5 TEMPERATURE ON RECEIPT °C
TPH - Gas, Pu/gerable	BTEX	MTBE (S021B - 6ppb RL)	MTBE (P250B - 0.5ppb RL)	Oxygenates (S) by (S250B)						

LAB USE ONLY	Field Sample Identification				SAMPLING		MATRIX	NO. OF CONT.	TPH - Gas, Pu/gerable	BTEX	MTBE (S021B - 6ppb RL)	MTBE (P250B - 0.5ppb RL)	Oxygenates (S) by (S250B)							
	DATE	TIME																		
	MW-1	10/20/03	1040	W	3	X	X			X										
	MW-2		1200		3	X	X			X										
	MW-3		1300		3	X	X			X										
	MW-4		1120	V	3	X	X			X										

Relinquished by (Signature) <i>[Signature]</i>	Received by (Signature) <i>[Signature]</i>	Date: 10/20/03	Time: 1440
Relinquished by (Signature) <i>[Signature]</i>	Received by (Signature) <i>[Signature]</i>	Date: 10/20/03	Time: 1551
Relinquished by (Signature)	Received by (Signature)	Date:	Time:

WELL GAUGING DATA

Project # 031020-PCI Date 10/20/03 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 <u>TOC</u>
MW-1	2					20.01	47.65	TOC
MW-2	2					20.36	47.08	↓
MW-3	2					19.00	47.40	
MW-4	2					21.12	47.80	

SHELL WELL MONITORING DATA SHEET

BTS #: 031020-PC1	Site: 809 E. Stanley Blvd. Livermore
Sampler: P. Cornish	Date: 10/20/03
Well I.D.: MW-1	Well Diameter: 2 3 4 6 8
Total Well Depth (TD): 47.65	Depth to Water (DTW): 20.01
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]: 25.54	

Purge Method: Bailer 27.64 Waterra Sampling Method: X Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other Dedicated Tubing

$4.4 \text{ (Gals.)} \times 3 = 13.2 \text{ Gals.}$ <p>I Case Volume Specified Volumes Calculated Volume</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	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
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
1015	63.3	6.4	61900	71000	4.5	muddy, sandy
1018	63.9	6.6	65440	71000	9	↓
1023	63.3	6.7	49430	71000	13.5	
1027	63.5	6.7	49420	71000	18	

Did well dewater? Yes No Gallons actually evacuated: 18

Sampling Date: 10/20/03 Sampling Time: 1040 Depth to Water: 20.09

Sample I.D.: MW-1 Laboratory: STL Other: ~~KFF~~

Analyzed for: ~~TPH-G BTEX~~ MTBE TPH-D Other: O₂s (5) by 8260

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 #: 031020-PC1	Site: 809 E. Stanley Blvd. Livermore
Sampler: P. Cornish	Date: 10/20/03
Well I.D.: MW-2	Well Diameter: <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8
Total Well Depth (TD): 47.08	Depth to Water (DTW): 20.36
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="radio"/> PVC <input type="radio"/> Grade	D.O. Meter (if req'd): YSI <input type="checkbox"/> HACH <input type="checkbox"/>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 25.70	

Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible

Water: Peristaltic Extraction Pump Other _____

Sampling Method: Bailer Disposable Bailer Extraction Port Dedicated Tubing

Other: _____

$\frac{4.3 \text{ (Gals.)} \times 3 \text{ Specified Volumes}}{1 \text{ Case Volume}} = 12.9 \text{ Gals. Calculated Volume}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	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
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 μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1148	65.5	7.1	54,510	>1000	4.5	muddy
1153	65.4	7.0	54,620	7600	9.	↓
1157	65.4	7.0	54,840	>1000	13.5	

Did well dewater? Yes No Gallons actually evacuated: 13.5

Sampling Date: 10/20/03 Sampling Time: 1200 Depth to Water: 20.41

Sample I.D.: MW-2 Laboratory: STL Other: ~~Kiff~~

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Orgs (5) by 8260

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 #: 031020-PCI	Site: 809 E. Stanley Blvd. Livermore
Sampler: P. Cornish	Date: 10/20/03
Well I.D.: MW-3	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 47.40	Depth to Water (DTW): 14.90
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.4	

Purge Method: Bailer Watera Sampling Method: Bailer

 Disposable Bailer Peristaltic Disposable Bailer

Positive Air Displacement Extraction Pump Extraction Port

 Electric Submersible Other _____ Dedicated Tubing

Other: _____

<u>4.4</u> (Gals.) X	<u>3</u>	=	<u>13.2</u> 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 μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1245	70.2	7.3	51,930	>1000	4.5	Muddy
1250	69.1	7.1	51,750	>1000	9.0	↓
1253	68.2	7.1	51,820	>1000	13.5	↓
1256	67.7	7.1	51,700	>1000	18	↓

Did well dewater? Yes No Gallons actually evacuated: 18

Sampling Date: 10/21/03 Sampling Time: 1300 Depth to Water: 20.09

Sample I.D.: MW-3 Laboratory: (STL) Other: K&F

Analyzed for: ~~PH-G BTEX~~ MTBE TPH-D Other: OK's (5) by 8260

EB I.D. (if applicable): @ _____ 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 #: <u>031020-PC1</u>	Site: <u>809 E. Stanley Blvd. Livermore</u>
Sampler: <u>P. Cornish</u>	Date: <u>10/20/03</u>
Well I.D.: <u>MW-4</u>	Well Diameter: <u>2</u> 3 4 6 8
Total Well Depth (TD): <u>47.80</u>	Depth to Water (DTW): <u>21.12</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>26.46</u>	

Purge Method: Bailer
 Disposable Bailer
 Positive Air Displacement
 Electric Submersible

Waterera
 Peristaltic
 Extraction Pump
 Other _____

Sampling Method: Bailer
 Disposable Bailer
 Extraction Port
 Dedicated Tubing

Other: _____

4.3 (Gals.) X 3 = 12.9 Gals.

I 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
<u>1102</u>	<u>63.8</u>	<u>7.1</u>	<u>51,970</u>	<u>568</u>	<u>4.5</u>	<u>cloudy</u>
<u>1106</u>	<u>63.9</u>	<u>6.9</u>	<u>51,980</u>	<u>372</u>	<u>9.0</u>	↓
<u>1109</u>	<u>64.1</u>	<u>6.9</u>	<u>51,830</u>	<u>258</u>	<u>13.5</u>	
<u>1115</u>	<u>64.2</u>	<u>6.9</u>	<u>51,980</u>	<u>258</u>	<u>18</u>	

Did well dewater? Yes No Gallons actually evacuated: 18

Sampling Date: 10/20/03 Sampling Time: 1120 Depth to Water: 21.16

Sample I.D.: MW-4 Laboratory: (STL) Other: ~~KFFR~~

Analyzed for: (TPH-G BTEX) MTBE TPH-D Other: Org's (5) by 8260

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