KHM
ENVIRONMENTAL
MANAGEMENT, INC.

...COMBINING OUR RESOURCES TO ENHANCE OUR SERVICES...

Delta
Environmental
Consultants, Inc.

May 28, 2003
Project No. C85-318 Livermore

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

Re: **Quarterly Monitoring Report – Second Quarter 2003**
Shell-branded Service Station
318 South Livermore Avenue
Livermore, California

Dear Mr. Seery:

KHM Environmental Management, Inc. (KHM), on behalf of Shell Oil Products US (Shell), has prepared the following second quarter 2003 groundwater monitoring report for the above referenced site. Shell received a notice of responsibility letter from Alameda County Health Car Services Agency dated March 7, 2003. Groundwater sampling was performed by Blaine Tech Services (Blaine), at the direction of KHM, on April 17, 2003. A site location map is included as Figure 1.

QUARTERLY GROUND WATER MONITORING PROGRAM

Groundwater monitoring wells were gauged and sampled by Blaine on April 17, 2003. Depth to groundwater was measured in Wells MW-5 through MW-8. Wells MW-1 through MW-4 were previously destroyed. Groundwater elevation data and contours are presented on Figure 2.

Groundwater samples were collected from Wells MW-5 through MW-8. Samples were submitted by Blaine to Severn Trent Laboratories, Inc. in Pleasanton, California for analysis for total purgeable petroleum hydrocarbons as gasoline (TPH-g); benzene, toluene, ethylbenzene, and total xylenes (BTEX); 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 are presented on Figure 3.

6284 San Ignacio Avenue • Suite E
San Jose, California 95119 USA
408.224.4724 • Fax: 408.224.4518

800.477.7411

911 South Primrose Avenue • Suite K
Monrovia, California 91016 USA
626.256.6662 • Fax: 626.256.6263

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 April 17, 2003 was toward the west at a magnitude of 0.012 feet/feet, which is consistent with previous data.

Methyl tert-butyl ether (MTBE) was detected in Wells MW-7 and MW-8 at concentrations of 4.0 micrograms per liter (ug/l) and 0.67 ug/l, respectively. All other analytes were below laboratory detection limits for all site wells.

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

Sincerely,
KHM Environmental Management, Inc.

Vera Fischer
Staff Geologist

R. Lee Dooley
Senior Hydrogeologist
CHG 183

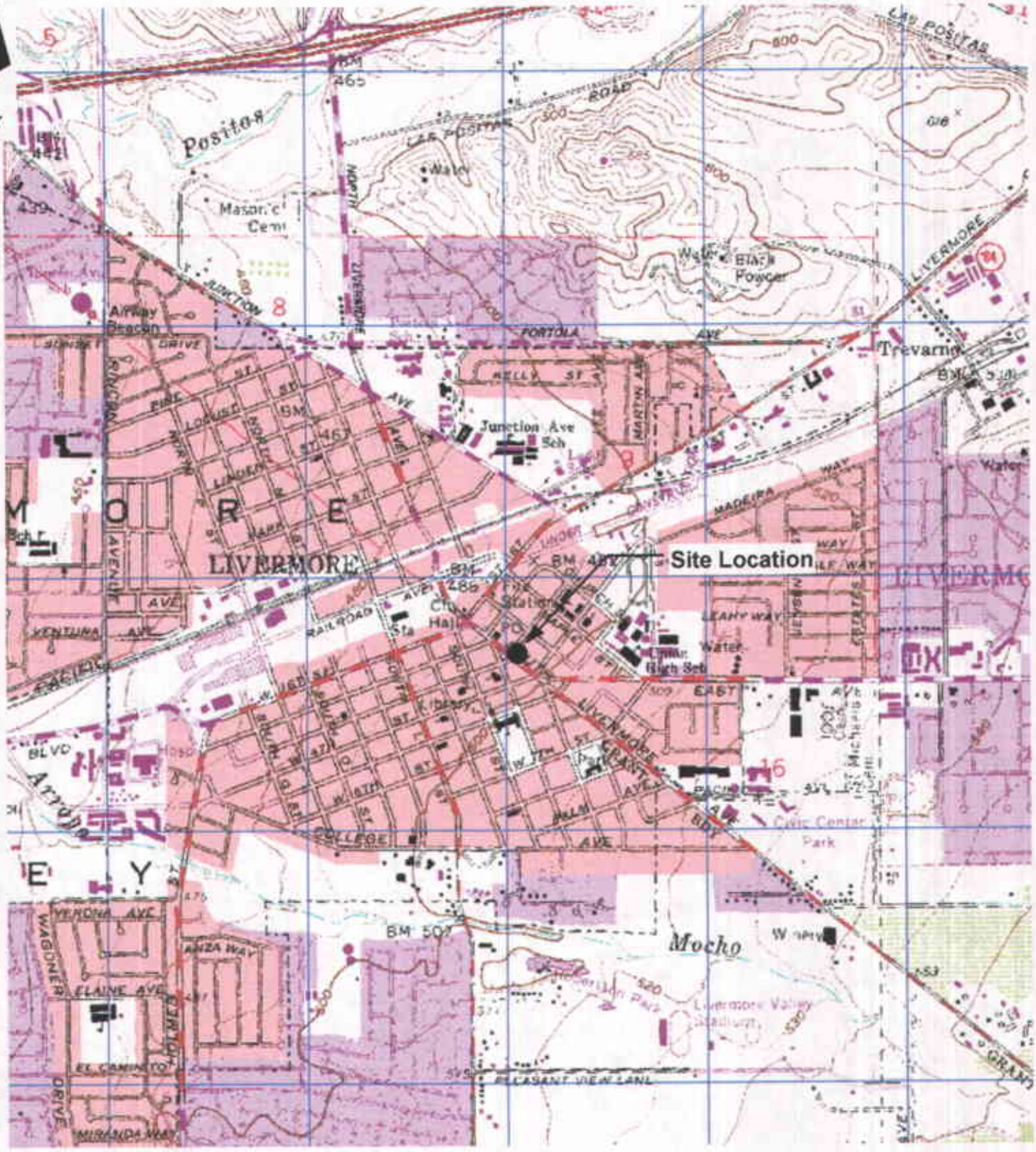
REGISTERED GEOLOGIST
R. LEE DOOLEY
No. 0183
CERTIFIED
HYDROGEOLOGIST
EXP. 04/05
STATE OF CALIFORNIA

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, May 22, 2003

cc: Ms. Karen Petryna, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91501-7869
Chuck Headlee, Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 94612



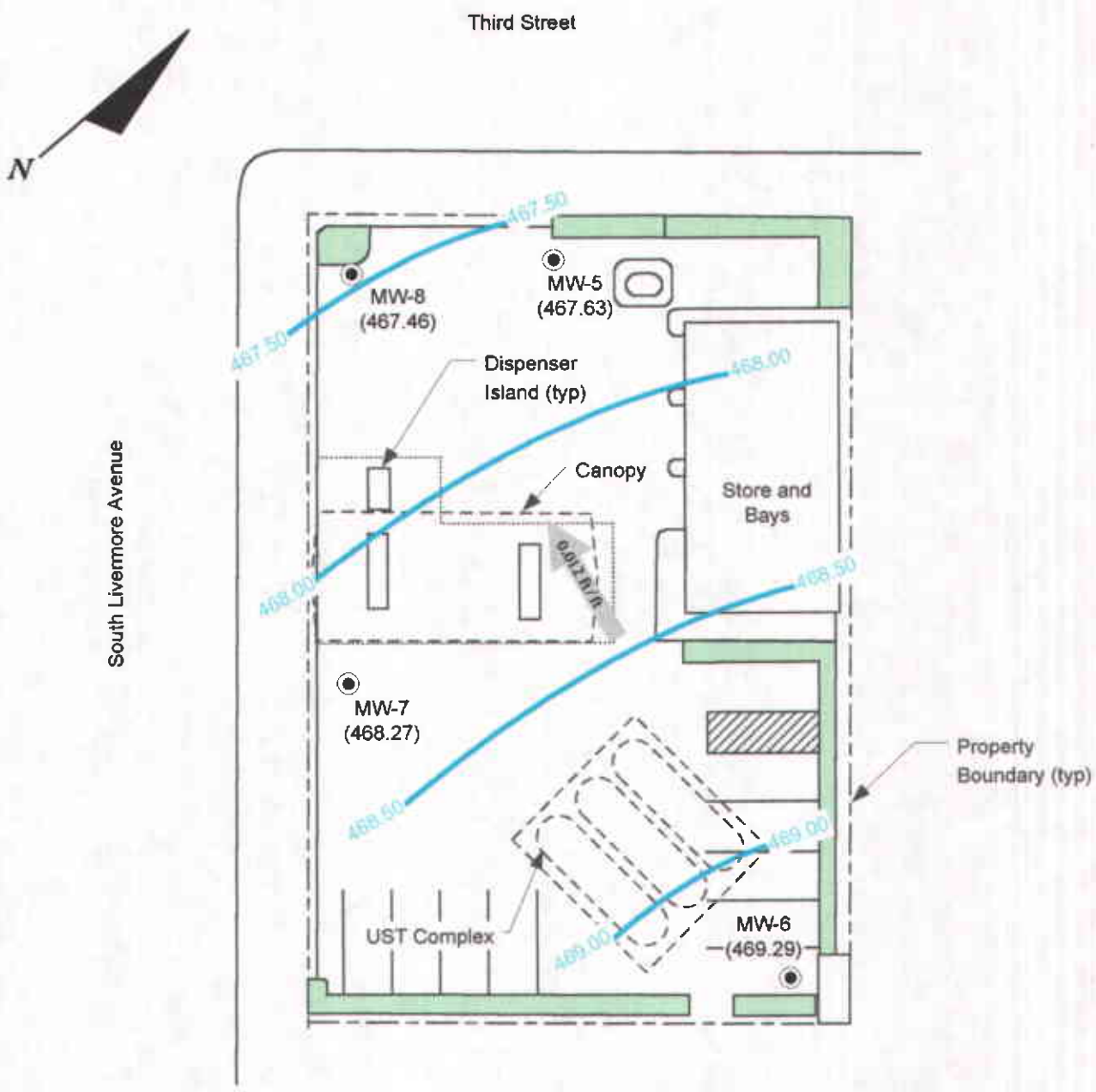
KHM
ENVIRONMENTAL MANAGEMENT, INC.

SITE LOCATION MAP

Shell-branded Service Station
318 South Livermore Avenue
Livermore, California

DATE	PROJECT	FIGURE
5/28/03	C85-318 Livermore	1

Map Source: DeLorme, Yarmouth, ME 04096, USGA Topo Map



LEGEND

MW-6 ◉ **GROUNDWATER MONITORING WELL**

PLANTER

(462.29) **GROUNDWATER ELEVATION (MSL), 4/17/03**

468.50 **GROUNDWATER ELEVATION CONTOUR**

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

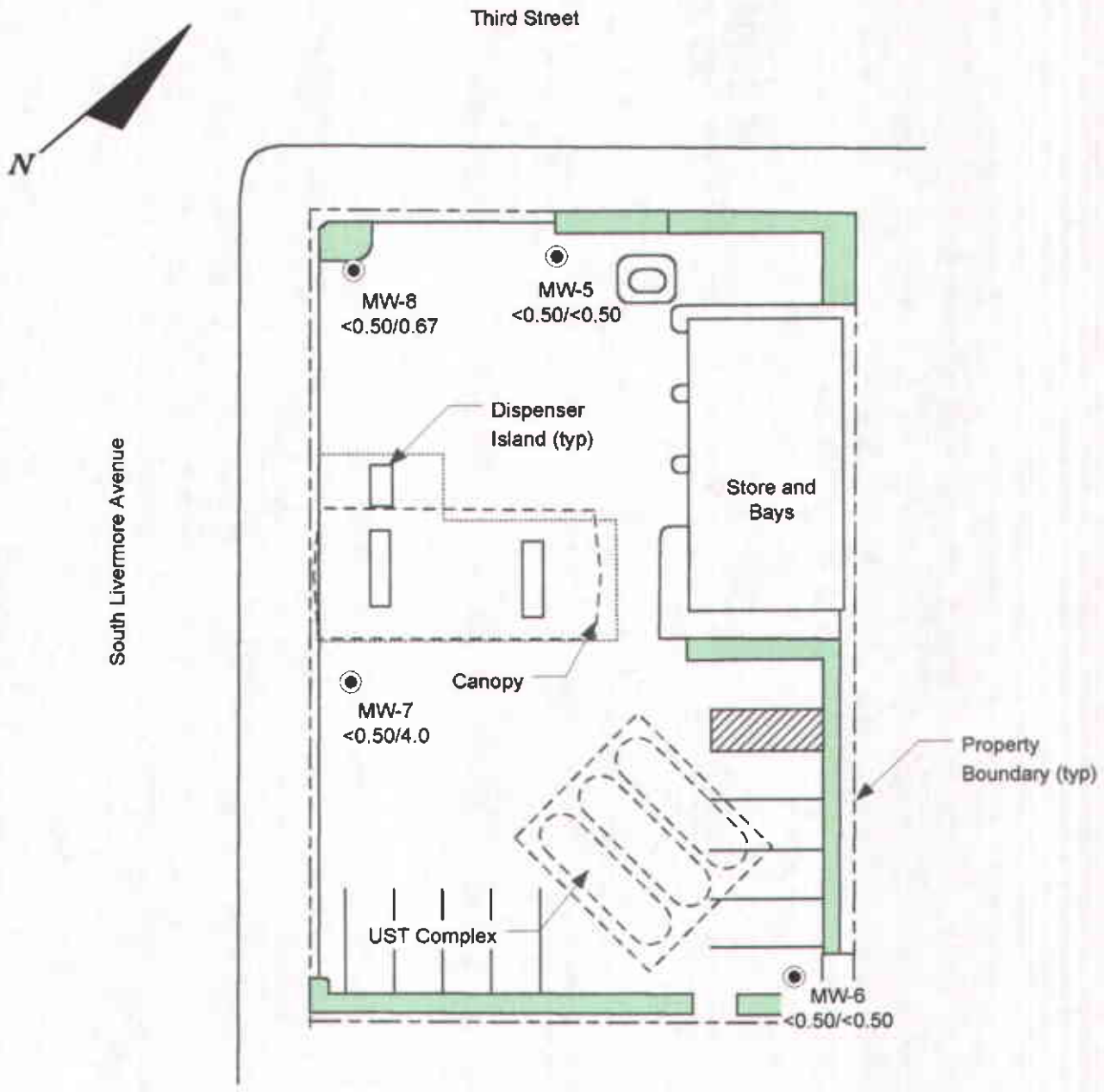
0 ft. 30 ft. 60 ft.

KHM
ENVIRONMENTAL MANAGEMENT, INC.

GROUNDWATER ELEVATION CONTOUR MAP
APRIL 17, 2003

Shell Service Station
318 South Livermore Avenue
Livermore, California

DATE	PROJECT	FIGURE
5/28/03	C85-318 Livermore	2



0 ft. 30 ft. 60 ft.

LEGEND

MW-6 ◉ **GROUNDWATER MONITORING WELL**

PLANTER

<0.50/<0.50 **BENZENE / MTBE CONCENTRATIONS IN GROUNDWATER (UG/L), 4/17/03**

KHM
ENVIRONMENTAL MANAGEMENT, INC.

BENZENE AND MTBE CONCENTRATION MAP APRIL 17, 2003

Shell Service Station
318 South Livermore Avenue
Livermore, California

DATE	PROJECT	FIGURE
5/28/03	C85-318 Livermore	3

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

May 22, 2003

Lynn Walker
Shell Oil Products US
P.O. Box 7869
Burbank, CA 91510-7869

Second Quarter 2003 Groundwater Monitoring at
Shell-branded Service Station
318 South Livermore Avenue
Livermore, CA

Monitoring performed on April 17, 2003

Groundwater Monitoring Report **030417-MG-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. 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/jt

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

cc: Debbie Arnold
KHM Environmental
6234 San Ignacio Avenue, Suite E
San Jose, CA 95119

WELL CONCENTRATIONS
Shell-branded Service Station
318 South Livermore Avenue
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-5	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	495.47	34.85	460.62
MW-5	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	495.47	37.26	458.21
MW-5	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	495.47	27.30	468.17
MW-5	**04/17/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**495.47**	**27.84**	**467.63**
MW-6	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	497.57	35.41	462.16
MW-6	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	2.5	497.57	37.92	459.65
MW-6	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	497.57	27.71	469.86
MW-6	**04/17/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**497.57**	**28.28**	**469.29**
MW-7	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	2.0	495.58	34.29	461.29
MW-7	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	1.9	495.58	36.80	458.78
MW-7	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	0.89	495.58	26.75	468.83
MW-7	**04/17/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**4.0**	**495.58**	**27.31**	**468.27**
MW-8	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	6.9	494.90	34.46	460.44
MW-8	10/25/2002	140	<0.50	<0.50	<0.50	<0.50	2.2	494.90	36.98	457.92
MW-8	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	494.90	27.35	467.55
MW-8	**04/17/2003**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.67**	**494.90**	**27.44**	**467.46**

WELL CONCENTRATIONS
Shell-branded Service Station
318 South Livermore Avenue
Livermore, CA

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

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

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

SEVERN TRENT STL

Submission#: 2003-04-0497

Blaine Tech Services, Inc.

May 02, 2003

1680 Rogers Avenue
San Jose, CA 95112-1105

Attn.: Leon Gearhart

Project#: 030417-MG1
Project: 97464709
Site: 318 S. Livermore Ave Livermore

Dear Mr.Gearhart,

Attached is our report for your samples received on 04/18/2003 14:31
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 06/02/2003 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: tgranicher@stl-inc.com

Sincerely,

Tod Granicher
Project Manager

SEVERN TRENT STL

Submission #: 2003-04-0497

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: 030417-MG1
97464709

Received: 04/18/2003 14:31

Site: 318 S. Livermore Ave Livermore

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-5	04/17/2003 14:30	Water	1
MW-6	04/17/2003 13:54	Water	2
MW-7	04/17/2003 16:10	Water	3
MW-8	04/17/2003 15:09	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: 030417-MG1
97464709

Received: 04/18/2003 14:31

Site: 318 S. Livermore Ave Livermore

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-5**	Lab ID:	2003-04-0497 - 1
Sampled:	04/17/2003 14:30	Extracted:	4/30/2003 23:42
Matrix:	Water	QC Batch#:	2003/04/30-2a.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	04/30/2003 23:42	
Benzene	ND	0.50	ug/L	1.00	04/30/2003 23:42	
Toluene	ND	0.50	ug/L	1.00	04/30/2003 23:42	
Ethylbenzene	ND	0.50	ug/L	1.00	04/30/2003 23:42	
Total xylenes	ND	1.0	ug/L	1.00	04/30/2003 23:42	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	04/30/2003 23:42	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	04/30/2003 23:42	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	04/30/2003 23:42	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	04/30/2003 23:42	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	04/30/2003 23:42	
Surrogates(s)						
1,2-Dichloroethane-d4	103.3	76-114	%	1.00	04/30/2003 23:42	
Toluene-d8	92.0	88-110	%	1.00	04/30/2003 23:42	

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: 030417-MG1
97464709

Received: 04/18/2003 14:31

Site: 318 S. Livermore Ave Livermore

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-6	Lab ID:	2003-04-0497 - 2
Sampled:	04/17/2003 13:54	Extracted:	5/1/2003 00:05
Matrix:	Water	QC Batch#:	2003/04/30-2a.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/01/2003 00:05	
Benzene	ND	0.50	ug/L	1.00	05/01/2003 00:05	
Toluene	ND	0.50	ug/L	1.00	05/01/2003 00:05	
Ethylbenzene	ND	0.50	ug/L	1.00	05/01/2003 00:05	
Total xylenes	ND	1.0	ug/L	1.00	05/01/2003 00:05	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	05/01/2003 00:05	
Methyl tert-butyl ether (MTBE)	ND	0.50	ug/L	1.00	05/01/2003 00:05	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	05/01/2003 00:05	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	05/01/2003 00:05	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	05/01/2003 00:05	
Surrogates(s)						
1,2-Dichloroethane-d4	107.5	76-114	%	1.00	05/01/2003 00:05	
Toluene-d8	96.9	88-110	%	1.00	05/01/2003 00:05	

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: 030417-MG1
97464709

Received: 04/18/2003 14:31

Site: 318 S. Livermore Ave Livermore

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-7**	Lab ID:	2003-04-0497 - 3
Sampled:	04/17/2003 16:10	Extracted:	5/1/2003 00:27
Matrix:	Water	QC Batch#:	2003/04/30-2a.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/01/2003 00:27	
Benzene	ND	0.50	ug/L	1.00	05/01/2003 00:27	
Toluene	ND	0.50	ug/L	1.00	05/01/2003 00:27	
Ethylbenzene	ND	0.50	ug/L	1.00	05/01/2003 00:27	
Total xylenes	ND	1.0	ug/L	1.00	05/01/2003 00:27	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	05/01/2003 00:27	
Methyl tert-butyl ether (MTBE)	4.0	0.50	ug/L	1.00	05/01/2003 00:27	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	05/01/2003 00:27	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	05/01/2003 00:27	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	05/01/2003 00:27	
Surrogates(s)						
1,2-Dichloroethane-d4	106.6	76-114	%	1.00	05/01/2003 00:27	
Toluene-d8	96.6	88-110	%	1.00	05/01/2003 00:27	

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: 030417-MG1
97464709

Received: 04/18/2003 14:31

Site: 318 S. Livermore Ave Livermore

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	**MW-8**	Lab ID:	2003-04-0497 - 4
Sampled:	04/17/2003 15:09	Extracted:	5/1/2003 00:49
Matrix:	Water	QC Batch#:	2003/04/30-2a.65

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/01/2003 00:49	
Benzene	ND	0.50	ug/L	1.00	05/01/2003 00:49	
Toluene	ND	0.50	ug/L	1.00	05/01/2003 00:49	
Ethylbenzene	ND	0.50	ug/L	1.00	05/01/2003 00:49	
Total xylenes	ND	1.0	ug/L	1.00	05/01/2003 00:49	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	1.00	05/01/2003 00:49	
Methyl tert-butyl ether (MTBE)	0.67	0.50	ug/L	1.00	05/01/2003 00:49	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	05/01/2003 00:49	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	05/01/2003 00:49	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	05/01/2003 00:49	
Surrogates(s)						
1,2-Dichloroethane-d4	103.3	76-114	%	1.00	05/01/2003 00:49	
Toluene-d8	94.7	88-110	%	1.00	05/01/2003 00:49	

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: 030417-MG1
97464709

Received: 04/18/2003 14:31

Site: 318 S. Livermore Ave Livermore

Batch QC Report

Prep(s): 5030B — Test(s): 8260FAB

Method Blank — **Water** — **QC Batch # 2003/04/30-2a.65**

MB: 2003/04/30-2a.65-004 — Date Extracted: 04/30/2003 21:52

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	04/30/2003 21:52	
Benzene	ND	0.5	ug/L	04/30/2003 21:52	
Toluene	ND	0.5	ug/L	04/30/2003 21:52	
Ethylbenzene	ND	0.5	ug/L	04/30/2003 21:52	
Total xylenes	ND	1.0	ug/L	04/30/2003 21:52	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	04/30/2003 21:52	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	04/30/2003 21:52	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	04/30/2003 21:52	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	04/30/2003 21:52	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	04/30/2003 21:52	
Surrogates(s)					
1,2-Dichloroethane-d4	99.4	76-114	%	04/30/2003 21:52	
Toluene-d8	98.4	88-110	%	04/30/2003 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: 030417-MG1
97464709

Received: 04/18/2003 14:31

Site: 318 S. Livermore Ave Livermore

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike | **Water** | **QC Batch # 2003/04/30-2a.65**

LCS 2003/04/30-2a.65-003 Extracted: 04/30/2003 Analyzed: 04/30/2003 21:07

LCSD 2003/04/30-2a.65-002 Extracted: 04/30/2003 Analyzed: 04/30/2003 21:30

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Benzene	24.8	25.5	25	99.2	102.0	2.8	69-129	20		
Toluene	24.2	24.3	25	96.8	97.2	0.4	70-130	20		
Methyl tert-butyl ether (MTBE)	35.6	34.4	25	142.4	137.6	3.4	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	536	514	500	107.2	102.8		76-114			
Toluene-d8	478	489	500	95.6	97.8		88-110			

LAB: ZLC

SHELL Chain Of Custody Record

73553

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be Invoiced:

☑ SCIENCE & ENGINEERING ☐ TECHNICAL SERVICES ☐ CRMT HOUSTON

Karen Petryna

2003-04-0497

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

SAP or CRMT NUMBER (TS/CRMT):

DATE: 4/17/03

PAGE: 1 of 1

CONSULTANT COMPANY: Blaine Tech Services	LOG CODE: BTSS	SITE ADDRESS (Street and City): 318 S. Livermore 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
PROJECT CONTACT (Hardcopy or EDF Report to): Leon Gearhart		E-MAIL: darnold@khm1.com	CONSULTANT PROJECT NO.: BTS # 030417-MG-1
TELEPHONE: 408-573-0555	FAX: 408-573-7771	E-MAIL: lgearhart@blainetech.com	SAMPLER NAME(S) (Print): Morgan Gillies

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-5	4/16/03	1432	GW	3	X	X			X
	MW-6	"	1354	"	"	X	X			X
	MW-7	"	1610	"	"	X	X			X
	MW-8	"	1509	"	"	X	X			X

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

2.7°

TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		4/18/03	1931
Relinquished by: (Signature) 4-18-03 1548	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature) Nounuk STL-SF	Date 4/18/03	Time 1548

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

10/15/00 Revision

O&G Graphic (714) 898-9702

WELLHEAD INSPECTION CHECKLIST

Client Shell Date 4/17/03

Site Address 318 S. Livermore Ave, Livermore, CA

Job Number 030417-MG1 Technician MG

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-5				X	X	(Slip Cap)		
MW-6	X							
MW-7				X	X	(Slip Cap)		
MW-8				X	X	(Slip Cap)		

NOTES:

WELL GAUGING DATA

Project # 030417-MG1 Date 4/17/03 Client Shell

Site 318 S. Livermore Ave., Livermore, CA

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-5	2					27.84	55.20		
MW-6	2					28.28	53.50		
MW-7	2					27.31	51.20		
MW-8	2					27.44	51.15		

SHELL WELL MONITORING DATA SHEET

BTS #: 030417-MG1	Site: 97306783
Sampler: MG	Date: 4/17/03
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 55.20	Depth to Water (DTW): 27.84
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 (27.36) x 0.20) + DTW]: 33.31	

Purge Method: Bailer; Disposable Bailer; X Middleburg; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ____

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

4.4 (Gals.) X 3 = 13.2 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
14:12	65.0	7.8	1088	>200	5	
14:18	65.8	7.8	1089	>200	10	
14:23	66.0	7.8	1092	>200	14	

Did well dewater? Yes (No) Gallons actually evacuated: 14

Sampling Date: 4/17/03 Sampling Time: ~~14:12~~ 14:30 Depth to Water: 33.30

Sample I.D.: MW-5 Laboratory: Kiff SPL Other STL

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates 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 #: 030417-MG1	Site: 97306783
Sampler: MG	Date: 4/17/03
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 53.50	Depth to Water (DTW): 28.28
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 33.32	

Purge Method: Bailer, Disposable Bailer, >Middleburg, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other_____

Sampling Method: >Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other:_____

4.0 (Gals.) X 3 = 12.0 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
1341	66.0	7.3	981	>200	4.5	Brown
1345	66.1	7.4	970	186	9	Cloudy
1349	66.2	7.5	973	136	13	

Did well dewater? Yes (No) Gallons actually evacuated: 13

Sampling Date: 4/17/03 Sampling Time: 1354 Depth to Water: 31.60

Sample I.D.: MW-6 Laboratory: Kiff SPL Other STL

Analyzed for: (TPH-G) (BTEX) MTBE TPH-D Other: Oxygenates 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 #: 030417 M61	Site: 97306783
Sampler: MG	Date: 4/17/03
Well I.D.: MW-7	Well Diameter: 2 3 4 6 8 ___
Total Well Depth (TD): 51.20	Depth to Water (DTW): 27.31
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 32.09	

Purge Method: Bailer; Disposable Bailer; X Middleburg; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

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

3.8 (Gals.) X 3 = 11.4 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
15:40	67.9	7.7	1429	>200	4	CLOUDY
15:43	68.1	7.6	1458	>200	8	
15:46	67.5	7.6	1390	>200	12	DTW=42.17

Did well dewater? Yes No Gallons actually evacuated: 12

Sampling Date: 4/17/03 Sampling Time: 1610 Depth to Water: 32.08

Sample I.D.: MW-7 Laboratory: Kiff SPL Other STL

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Oxygenates 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 #: 030417-MG1	Site: 97306783
Sampler: MG	Date: 4/17/03
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 51.15	Depth to Water (DTW): 27.44
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 32.18	

Purge Method: Bailer, Disposable Bailer, ~~Middleburg~~, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other_____

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

3.8 (Gals.) X	3	=	11.4 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
14:55	68.0	7.8	1067	>200	4	CLOUDY
14:58	66.5	7.9	1076	>200	8	CLOUDY
15:03	66.6	7.8	1084	>200	12	

Did well dewater? Yes (No) Gallons actually evacuated: 12

Sampling Date: 4/17/03 Sampling Time: 1509 Depth to Water: 30.97

Sample I.D.: MW-8 Laboratory: Kiff SPL Other STL

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