ENVIRONMENTAL MANAGEMENT, INC.

KHM

October 15, 2002
KHM Project C81- 318 South Livermore

Mr. Scott Seery
Alameda County Environmental Health Services
113 Harbor Bay Parkway
Alameda, CA 94502-6577

Re: SHELL GRASP MONITORING REPORT
Shell Service Station
318 South Livermore Avenue
Livermore, California

Dear Mr. Seery:

KHM Environmental Management, Inc. (KHM) on behalf of Equilon Enterprises LLC dba Shell Oil Products US (SHELL) has prepared the *Shell GRASP Monitoring Report* for the above referenced site.

GRASP (GRoundwater ASsessment Program) is a voluntary initiative by SHELL to install groundwater monitoring wells at numerous retail service stations nationwide that do not have any active release cases but have been identified to be in close proximity to one or more public water supply wells. The purpose of this program is to proactively monitor the groundwater beneath these sites and, in the event of a subsurface release, to respond quickly to protect public wells from this impact.

A telephone notification of an unauthorized release was made to your office on October 10, 2002. An Unauthorized Release Report is being prepared. If you have any questions regarding this site, please contact Lee Dooley (KHM) at (408) 224-4724, or Mr. Lynn Walker (SHELL GRASP Northern California Coordinator) at (925) 706-1559.

Sincerely,
KHM Environmental Management, Inc.

D. Arnold

Debbie Arnold
Senior Staff Geologist

R Lee Dooley

R. Lee Dooley, CHG
Senior Hydrogeologist

REGISTERED GEOLOGIST
R. LEE DOOLEY
No. 0183
CERTIFIED
HYDROGEOLOGIST
EXP. 9-03
STATE OF CALIFORNIA

6284 SAN IGNACIO AVENUE, SUITE E • SAN JOSE, CALIFORNIA • 95119 • PHONE: (408) 224-4724 • FAX: (408) 224-4518

REDMOND, WASHINGTON (425) 558-0134 • PORTLAND, OREGON (503) 233-4068 • CROCKETT, CALIFORNIA (510) 787-6756 • MONROVIA, CALIFORNIA (626) 256-6662

Attachments: Shell GRASP Monitoring Report

CC: Isabel Mejia, Shell Oil Products US, P.O. Box 7869, Burbank, CA 91510
Joe Lentini, Shell Oil Products US (PDF by email)
Karen Petryna, Shell Oil Products US (PDF by email)
Chuck Headlee, Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 94612

October 15, 2002

SHELL GRASP MONITORING REPORT

Station Address.:	318 South Livermore Avenue Livermore, CA 94550
SHELL GRASP Incident No.	97306783
KHM Project No.	C81-318 South Livermore
SHELL Environmental Engin./Phone No.:	Karen Petryna (925) 706-1559
KHM Project Manager/Phone No.:	Lee Dooley /(408) 224-4724

Current Phase of Project:	GRASP Groundwater monitoring
Frequency of Sampling:	Quarterly
Frequency of Monitoring:	Quarterly
Is Separate Phase Hydrocarbon Present On-site (Well #'s):	☐ Yes ☒ No
Cumulative SPH Recovered to Date :	None
SPH Recovered This Quarter :	None
Water Wells or Surface Waters within 2000 ft. Radius and Their Respective Directions:	Nearest production well, California Water Service Co. Well 12-01 (03S/02E-09P01 M), is approximately 1,192 feet northeast of the site.
Approximate Depth to Groundwater:	34.20' to 35.41'
Groundwater Gradient	West @ approximately 0.012 ft/ft
Summary of Unusual Activity:	None

Lee Dooley
Project Manager (KHM)

ATTACHED:

- Table 1 – Summary of Groundwater Data
- Figure 1 – Site Location Map
- Figure 2 – Groundwater Elevation Contour Map
- Figure 3 – TPH-G, Benzene, MTBE Concentrations Map
- Appendix A – Blaine Tech Services, Groundwater Monitoring and Sampling Report, August 1, 2002

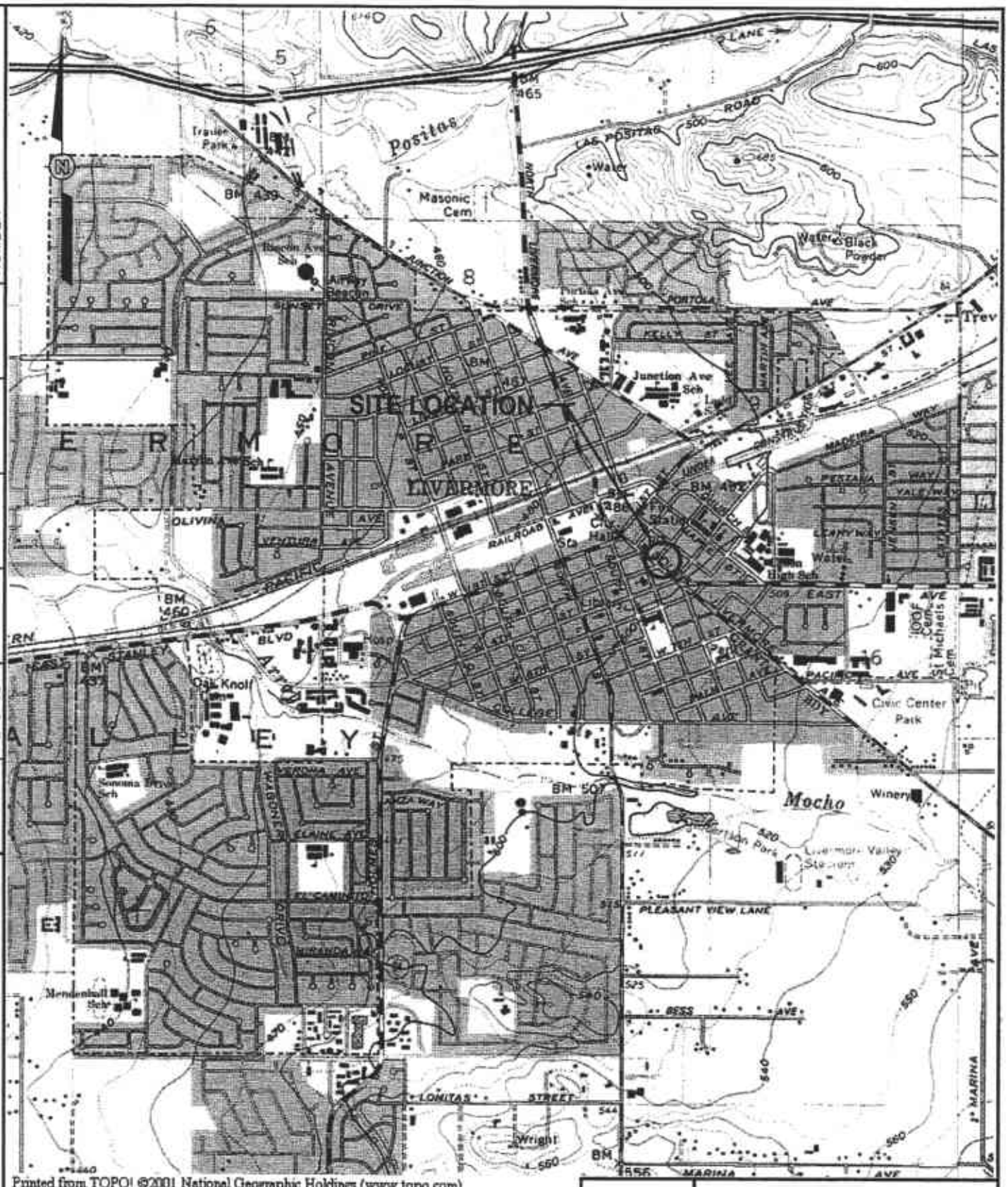
TABLE AND FIGURES

Table 1
Summary of Groundwater Data
Shell Service Station
6400 Stockton Blvd.
Sacramento, California

Well Designation	Date Sampled	TPH-g (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethlybenzene (ug/l)	Xylene (ug/l)	MTBE (ug/l)	TOC (MSL)	Depth to Water (ft.)	GW Elev. (MSL)
MW-5	9/18/01	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NM	NM	NM
	7/9/02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	495.47	34.85	460.62
MW-6	9/18/01	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NM	NM	NM
	7/9/02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	497.57	35.41	462.16
MW-7	9/18/01	NA	<0.50	<0.50	<0.50	<0.50	**1.2**	NM	NM	NM
	7/9/02	<50	<0.50	<0.50	<0.50	<0.50	**2.0**	495.58	34.29	461.29
MW-8	9/18/01	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NM	NM	NM
	7/9/02	<50	<0.50	<0.50	<0.50	<0.50	**6.9**	494.90	34.46	460.44

Notes:
All analysis performed by EPA Method 8260B
ug/l = micrograms per liter
TPH-g = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
TOC = Top of Well Casing
NM = Not measured
NA = Not analyzed

PROJECT NUMBER	APPROVED BY	CHECKED BY	DRAWN BY
830053	--	--	K. Black 2-5-02



SCALE

0 2,000 4,000 FEET

IT CORPORATION

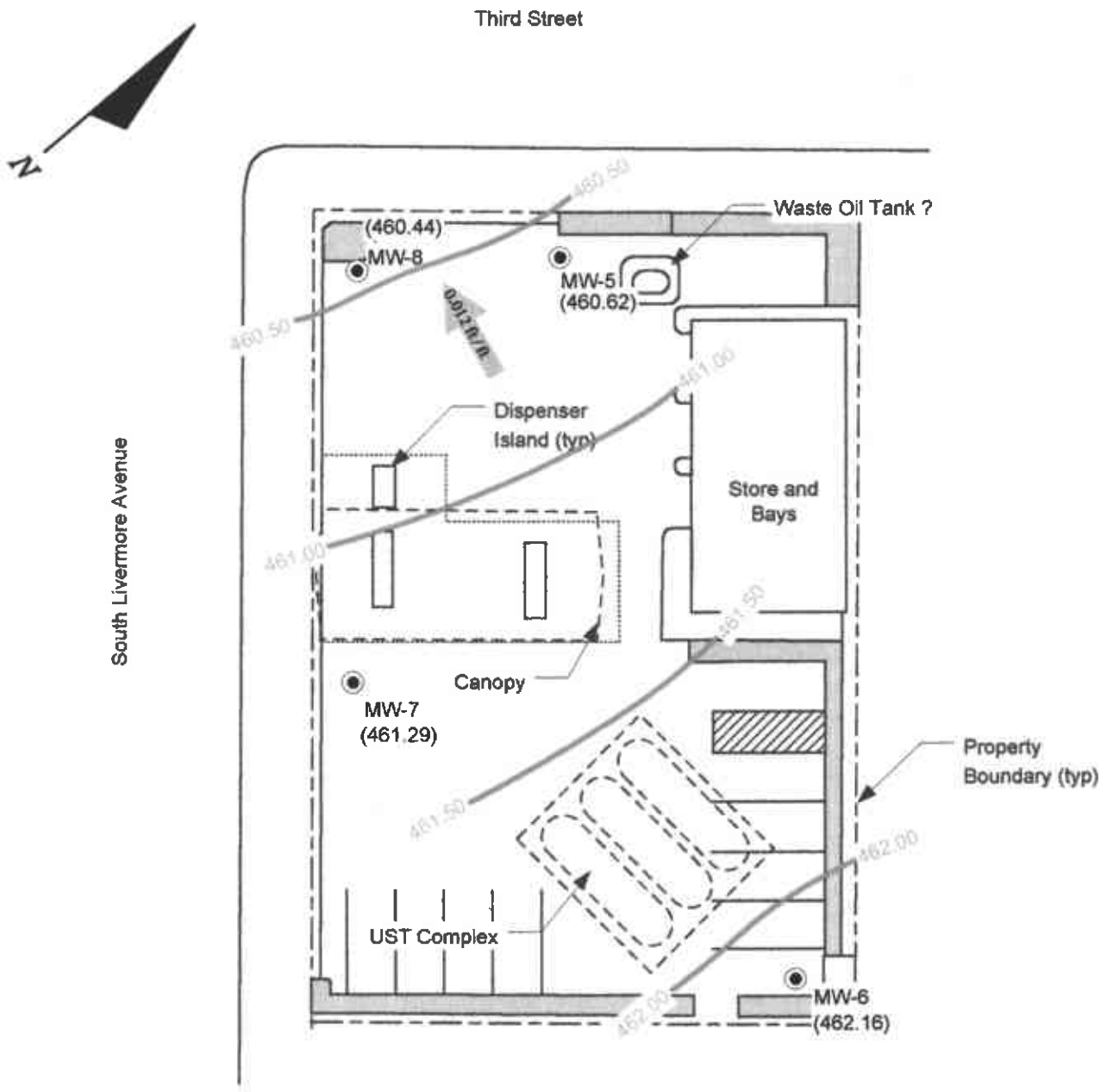
SHELL OIL PRODUCTS US

FIGURE 1

SITE LOCATION MAP

318 SOUTH LIVERMORE AVENUE
LIVERMORE, CALIFORNIA

N:\cad\DWG\GRASP\318SLivermore\SiteLoc.dwg Thu, 21/Mar/02 09:08am kblack



LEGEND

MW-6 ◉ **GROUNDWATER MONITORING WELL**

PLANTER

(462.16) **GROUNDWATER ELEVATION (MSL), 7/9/02**

461.00 **GROUNDWATER ELEVATION CONTOUR**

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

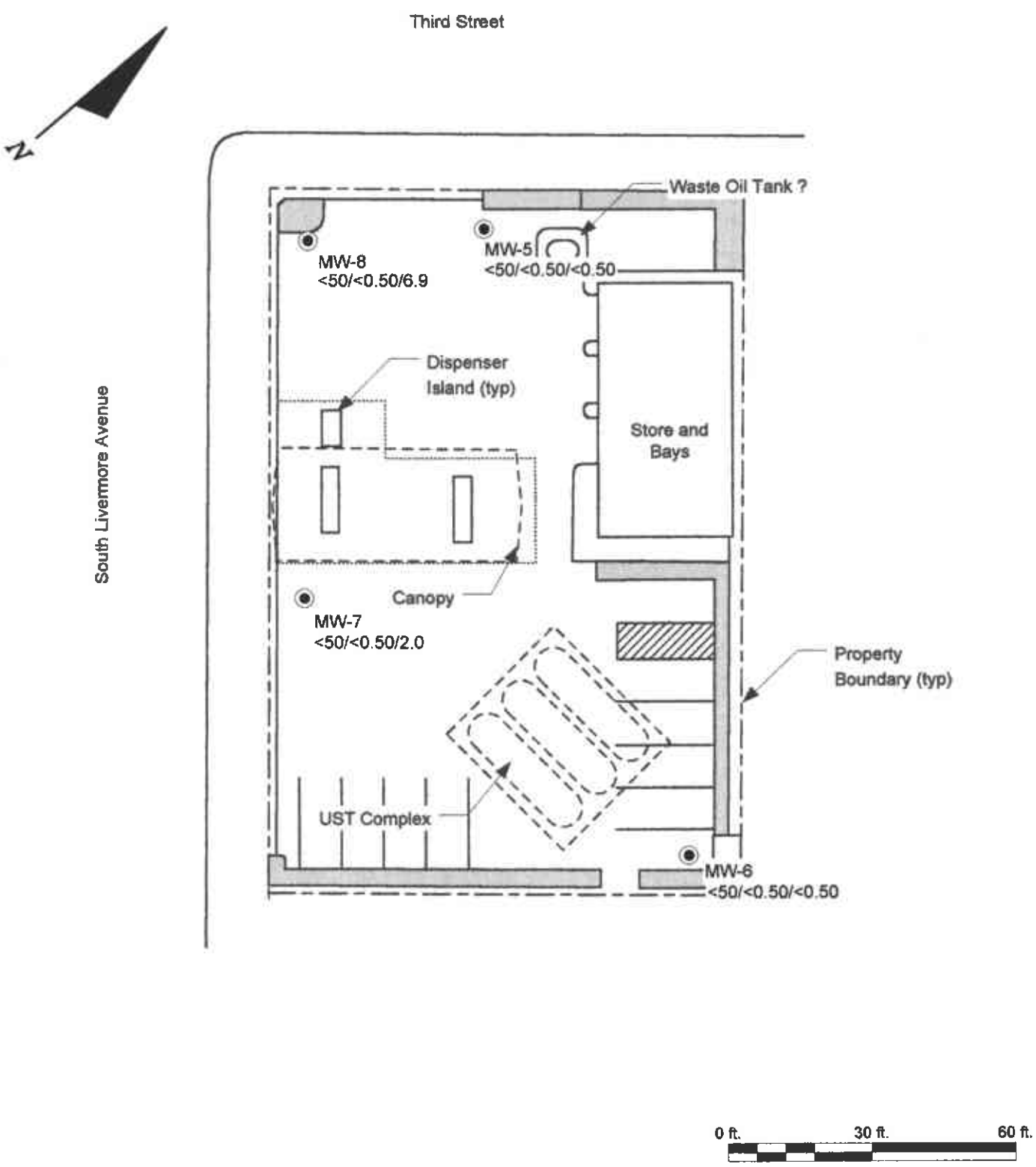
0 ft. 30 ft. 60 ft.

KHM
ENVIRONMENTAL MANAGEMENT, INC.

GROUNDWATER ELEVATION CONTOUR MAP, JULY 9, 2002

Shell Service Station
318 South Livermore Avenue
Livermore, California

DATE	PROJECT	FIGURE
08/28/02	C81-318 Livermore	2



LEGEND

MW-6 ◉ **GROUNDWATER MONITORING WELL**

□ **PLANTER**

<50/<0.50/<0.50 **TPH-G/BENZENE/MTBE CONCENTRATIONS IN GROUNDWATER (UG/L), 7/9/02**

KHM
ENVIRONMENTAL MANAGEMENT, INC.

TPH-G, BENZENE, MTBE CONCENTRATION MAP, JULY 9, 2002

Shell Service Station
318 South Livermore Avenue
Livermore, California

DATE	PROJECT	FIGURE
08/28/02	C81-318 Livermore	3

APPENDIX 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

August 1, 2002

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

Third Quarter 2002 Groundwater Monitoring at
Shell-branded Service Station
318 South Livermore Avenue
Livermore, CA

Monitoring performed on July 9, 2002

Groundwater Monitoring Report **020709-MN-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-6	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	497.57	35.41	462.16
MW-7	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	2.0	495.58	34.29	461.29
MW-8	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	6.9	494.90	34.46	460.44

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.

KIFF ANALYTICAL LLC

Report Number : 27413
Date : 7/16/2002

Leon Gearhart
Blaine Tech Services
1680 Rogers Avenue
San Jose, CA 95112-1105

Subject : 4 Water Samples
Project Name : 318 S. Livermore Ave., Livermore
Project Number : 020709-MN1
P.O. Number : 97306783

Dear Mr. Gearhart,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 27413

Date : 7/16/2002

Project Name : **318 S. Livermore Ave., Livermore**

Project Number : **020709-MN1**

Sample : **MW-5** Matrix : Water Lab Number : 27413-01

Sample Date :7/9/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	7/14/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	7/14/2002
Toluene - d8 (Surr)	90.0		% Recovery	EPA 8260B	7/14/2002
4-Bromofluorobenzene (Surr)	94.0		% Recovery	EPA 8260B	7/14/2002

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 27413
Date : 7/16/2002

Project Name : **318 S. Livermore Ave., Livermore**
Project Number : **020709-MN1**

Sample : **MW-6** Matrix : Water Lab Number : 27413-02
Sample Date :7/9/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	7/14/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	7/14/2002
Toluene - d8 (Surr)	96.5		% Recovery	EPA 8260B	7/14/2002
4-Bromofluorobenzene (Surr)	97.2		% Recovery	EPA 8260B	7/14/2002

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 27413

Date : 7/16/2002

Project Name : **318 S. Livermore Ave., Livermore**

Project Number : **020709-MN1**

Sample : **MW-7** Matrix : Water Lab Number : 27413-03

Sample Date :7/9/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Methyl-t-butyl ether (MTBE)	**2.0**	0.50	ug/L	EPA 8260B	7/14/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	7/14/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	7/14/2002
Toluene - d8 (Surr)	96.3		% Recovery	EPA 8260B	7/14/2002
4-Bromofluorobenzene (Surr)	97.7		% Recovery	EPA 8260B	7/14/2002

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 27413
Date : 7/16/2002

Project Name : **318 S. Livermore Ave., Livermore**
Project Number : **020709-MN1**

Sample : **MW-8** Matrix : Water Lab Number : 27413-04
Sample Date :7/9/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	7/14/2002
Methyl-t-butyl ether (MTBE)	**6.9**	0.50	ug/L	EPA 8260B	7/14/2002
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-amyl methyl ether (TAME)	**< 2.0**	2.0	ug/L	EPA 8260B	7/14/2002
Tert-Butanol	**< 50**	50	ug/L	EPA 8260B	7/14/2002
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	7/16/2002
Toluene - d8 (Surr)	98.1		% Recovery	EPA 8260B	7/14/2002
4-Bromofluorobenzene (Surr)	98.1		% Recovery	EPA 8260B	7/14/2002

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 27413

Date : 7/16/2002

QC Report : Method Blank Data

Project Name : **318 S. Livermore Ave., Livermore**

Project Number : **020709-MN1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	7/14/2002
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	7/14/2002
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	7/14/2002
Tert-Butanol	< 50	50	ug/L	EPA 8260B	7/14/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/14/2002
Toluene - d8 (Surr)	106		%	EPA 8260B	7/14/2002
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	7/14/2002
Benzene	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Toluene	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	7/14/2002
Diisopropyl ether (DIPE)	< 2.0	2.0	ug/L	EPA 8260B	7/14/2002
Ethyl-t-butyl ether (ETBE)	< 2.0	2.0	ug/L	EPA 8260B	7/14/2002
Tert-amyl methyl ether (TAME)	< 2.0	2.0	ug/L	EPA 8260B	7/14/2002
Tert-Butanol	< 50	50	ug/L	EPA 8260B	7/14/2002
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/14/2002
Toluene - d8 (Surr)	84.2		%	EPA 8260B	7/14/2002
4-Bromofluorobenzene (Surr)	94.3		%	EPA 8260B	7/14/2002

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	7/15/2002

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 27413

Date : 7/16/2002

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **318 S. Livermore Ave.,**

Project Number : **020709-MN1**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	27432-01	<0.50	40.0	40.0	42.0	41.7	ug/L	EPA 8260B	7/14/02	105	104	0.694	70-130	25
Toluene	27432-01	<0.50	40.0	40.0	39.4	39.6	ug/L	EPA 8260B	7/14/02	98.4	99.0	0.532	70-130	25
Tert-Butanol	27432-01	<5.0	200	200	204	202	ug/L	EPA 8260B	7/14/02	102	101	0.984	70-130	25
Methyl-t-Butyl Ether	27432-01	2.6	40.0	40.0	39.0	37.8	ug/L	EPA 8260B	7/14/02	91.0	88.0	3.38	70-130	25
Benzene	27411-01	<0.50	40.0	40.0	41.8	41.0	ug/L	EPA 8260B	7/14/02	104	102	1.86	70-130	25
Toluene	27411-01	<0.50	40.0	40.0	36.5	35.5	ug/L	EPA 8260B	7/14/02	91.2	88.8	2.70	70-130	25
Tert-Butanol	27411-01	<5.0	200	200	205	193	ug/L	EPA 8260B	7/14/02	102	96.3	6.08	70-130	25
Methyl-t-Butyl Ether	27411-01	<0.50	40.0	40.0	39.8	40.0	ug/L	EPA 8260B	7/14/02	99.6	100	0.576	70-130	25
Benzene	27447-08	<0.50	40.0	40.0	40.0	39.2	ug/L	EPA 8260B	7/15/02	99.9	98.1	1.82	70-130	25
Toluene	27447-08	<0.50	40.0	40.0	38.1	37.9	ug/L	EPA 8260B	7/15/02	95.4	94.7	0.710	70-130	25
Tert-Butanol	27447-08	8.2	200	200	194	195	ug/L	EPA 8260B	7/15/02	92.8	93.4	0.634	70-130	25
Methyl-t-Butyl Ether	27447-08	390	40.0	40.0	428	426	ug/L	EPA 8260B	7/15/02	83.8	77.2	8.20	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Report Number : 27413

Date : 7/16/2002

QC Report : Laboratory Control Sample (LCS)

Project Name : **318 S. Livermore Ave.,**

Project Number : **020709-MN1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	7/14/02	99.5	70-130
Toluene	40.0	ug/L	EPA 8260B	7/14/02	101	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/14/02	96.0	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/14/02	95.1	70-130
Benzene	40.0	ug/L	EPA 8260B	7/14/02	103	70-130
Toluene	40.0	ug/L	EPA 8260B	7/14/02	90.6	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/14/02	97.6	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/14/02	99.8	70-130
Benzene	40.0	ug/L	EPA 8260B	7/15/02	99.3	70-130
Toluene	40.0	ug/L	EPA 8260B	7/15/02	95.4	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/15/02	92.1	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	7/15/02	105	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

[redacted]AB: [redacted]

SHELL Chain Of Custody Record

Lab Identification (if necessary):

Address:

City, State, Zip:

Shell Project Manager to be invoiced:

☑ SCIENCE & ENGINEERING
☐ TECHNICAL SERVICES
☐ CRMT HOUSTON

Karen Petryna

27413

INCIDENT NUMBER (SAP ONLY): 9 7 3 0 6 7 8 3

SAP or CRMT NUMBER (TS/CRMT): [redacted]

DATE: 7/9/02

PAGE: 1 of 1

SAMPLING COMPANY:	LOG CODE:
Blaine Tech Services	BTSS

ADDRESS: 1680 Rogers Avenue, San Jose, CA 95112

PROJECT CONTACT (Hardcopy or PDF Report to): Leon Gearhart

TELEPHONE:	FAX:	E-MAIL:
408-573-0555	408-573-7771	lgearhart@blainetech.com

SITE ADDRESS (Street and City): 318 S. Livermore Ave., Livermore

GLOBAL ID NO.: pending

EDF DELIVERABLE TO (Responsible Party or Designee): Debbie Arnold

PHONE NO.: (408) 224-4724

E-MAIL: darnold@khm1.com

CONSULTANT PROJECT NO.: BTS # 020709-MJ

SAMPLER NAME(S) (Print): Michael Niimata

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

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)	TEMPERATURE ON RECEIPT C°
✓	MW-5	7/9/02	930	W	3	X	X			X	-01
✓	MW-6	"	910	"	"	X	X			X	-02
✓	MW-7	"	1010	"	"	X	X			X	-03
✓	MW-8	"	950	"	"	X	X			X	-04

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

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]		7/10/02	1055
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	John Cuttle/Kiff Analytical	071002	1055

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

10/16/00 Revision

Q&Q Graphic (714) 898-9702

WELLHEAD INSPECTION CHECKLIST AND REPAIR ORDER

Client Equilon Inspection Date 7/9/02

Site Address 15 S. Livermore Ave, Livermore Inspected By mcm

1. Lid on box?	6. Casing secure?	12. Water standing in wellbox?	15. Well cap functional?
2. Lid broken?	7. Casing cut level?	12a. Standing above the top of casing?	16. Can cap be pulled loose?
3. Lid bolts missing?	8. Debris in wellbox?	12b. Standing below the top of casing?	17. Can cap seal out water?
4. Lid bolts stripped?	9. Wellbox is too far above grade?	12c. Water even with the top of casing?	18. Padlock present?
5. Lid seal intact?	10. Wellbox is too far below grade?	13. Well cap present?	19. Padlock functional?
	11. Wellbox is crushed/damaged?	14. Well cap found secure?	

☑ Check box if no deficiencies were found. Note below deficiencies you were able to correct.

Well I.D.	Deficiency	Corrective Action Taken

Note below all defiencies that could not be corrected and still need to be corrected.

Well I.D.	Persisting Deficiency	BTS Office assigns or defers Correction to:	Date assigned	Date corrected

WELL GAUGING DATA

Project # 020709-MN-1 Date 7/9/02 Client Shell

Site 318 S. Livermore 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-5	2					34.85	55.28	TOC	
MW-6	2					35.41	53.60		
MW-7	2					34.29	51.26		
MW-8	2					34.46	51.20		

SHELL WELL MONITORING DATA SHEET

BTS #: 020709-MN-1	Site: 318 S. Livermore Ave., Livermore
Sampler: ~~David A~~ / Mike N	Date: 7/9/02
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 55.28	Depth to Water (DTW): 34.85
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]:	

Purge Method: Bailer / Disposable Bailer / ☒ Middleburg / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method: Bailer / Disposable Bailer / Extraction Port / Dedicated Tubing / Other:_____

3.3 (Gals.) X	3	=	9.9 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
920	73.8	07.7	1162	>200	3.3	Brown, Silty
923	71.2	7.7	1101	>200	6.6	" "
926	70.5	7.7	1108	>200	9.9	" "

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

Sampling Date: 7/9/02 Sampling Time: 930 Depth to Water:

Sample I.D.: MW-5 Laboratory: (Kiff) SPL Other_____

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

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 #: 020709-MN-1	Site: 318 S. Livermore Ave., Livermore
Sampler: David A/Mike N	Date: 7/9/02
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 53.60	Depth to Water (DTW): 35.41
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]:	

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: _____

2.9	(Gals.) X	3	=	8.7	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
858	71.2	7.4	913	7200	2.9	Brown, Cloudy
901	70.1	7.5	928	7200	5.8	" "
904	69.9	7.6	931	7200	8.7	" "

Did well dewater? Yes (No) Gallons actually evacuated: 8.7

Sampling Date: 7/9/02 Sampling Time: 910 Depth to Water:

Sample I.D.: MW-6 Laboratory: (Kiff) SPL Other_____

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

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 #: 020709-MN-1	Site: 318 S. Livermore Ave., Livermore
Sampler: David A/Mike N	Date: 7/9/02
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 51.26	Depth to Water (DTW): 34.29
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]:	

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: _____

2.7 (Gals.) X	3	=	8.1 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
1000	73.7	7.4	1584	>200	2.7	Brown, Silty
1003	71.8	7.4	1583	>200	5.4	" "
1006	71.3	7.3	1556	>200	8.1	" "

Did well dewater? Yes (No) Gallons actually evacuated: 8.1

Sampling Date: 7/9/02 Sampling Time: 1010 Depth to Water: 8

Sample I.D.: MW-7 Laboratory: (Kiff) SPL Other_____

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

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 #: 020709-MN-1	Site: 318 S. Livermore Ave., Livermore
Sampler: David A/Mike N	Date: 7/9/02
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 51.20	Depth to Water (DTW): 34.46
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]:	

Purge Method: Bailer, Disposable Bailer, (Middleburg), Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other____

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

1 Case Volume	Specified Volumes	Calculated Volume
2.7 (Gals.) X	3	= 8.1 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 (uS))	Turbidity (NTUs)	Gals. Removed	Observations
940	72.5	7.5	1273	>200	2.7	Brown, Cloudy
943	70.9	7.4	1257	>200	5.4	" "
945	70.5	7.4	1219	>200	8.1	" "

Did well dewater? Yes (No) Gallons actually evacuated: 8.1

Sampling Date: 7/9/02 Sampling Time: 950 Depth to Water:

Sample I.D.: MW-8 Laboratory: (Kiff) SPL Other____

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

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