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Alameda County
Environmental Health


Allterra Environmental, Inc.
849 Almar Avenue, Suite C
No. 281
Santa Cruz, California 95060

Client: Manwel Shuwayhat
Project Location: 160 Holmes Street, Livermore, California
Subject: Addendum to Work Plan for Additional Soil and Groundwater Remediation
Report Date: October 18, 2012

To Whom It May Concern:

I have reviewed the report referenced above and approve its distribution to the necessary regulatory agencies. Should any of the regulatory agencies require it, "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached proposal or report is true and correct to the best of my knowledge."

Sincerely,



Manwel Shuwayhat



October 18, 2012

Manwel and Samira Shuwayhat
54 Wolfe Canyon Road
Kentfield, California 94904

Subject: Addendum to Work Plan for Additional Soil and Groundwater Remediation, Fuel Leak Case No. RO0000324, Livermore Gas and Mini-Mart, 160 Holmes Street, Livermore, California

Dear Mr. and Mrs. Shuwayhat:

On your behalf, Allterra Environmental, Inc. (Allterra) has prepared this *Addendum to Work Plan for Additional Soil and Groundwater Remediation* for the property located at 160 Holmes Street in Livermore, California (Site). The purpose of this addendum is to supplement the previously submitted Work Plan for Additional Soil and Groundwater Remediation dated July 16, 2012 which fully describes our approach to further remediate source area contaminants beneath the Site. This addendum was prepared pursuant to technical comments provided by Alameda County Environmental Health (ACEH) in their letter dated August 22, 2012. All work will be performed in compliance with guidelines established by the ACEH, Zone 7 Water Agency (Zone 7), and Regional Water Quality Control Board (RWQCB), and Allterra's field protocol presented in Appendix A.

Updated Scope of Work

As further described in the July 16, 2012 Work Plan, Allterra plans to implement a strategic remedial approach involving the pressure injection of the chemical oxidant RegenOx™ into existing well EW-1 and proposed well EW-3B to further desorb and treat bound and dissolved petroleum hydrocarbons in the source area.

Pursuant to requests by ACEH in their August 22, 2012 letter, the following sections provide a detailed discussion of updated groundwater sampling and analysis, well installation, and in-situ treatment activities proposed at the Site to immediately reduce residual contaminate mass, stabilize and reduce the size of the residual contaminant plume, satisfy requirements for low threat case closure, and ultimately attain the proposed groundwater cleanup goals for the Site.

Additional Groundwater Sampling and Analysis

As requested by ACEH, additional groundwater analyses were performed during the third quarter 2012 groundwater monitoring event to confirm that geochemical parameters are stabilizing and hexavalent chromium concentrations have decreased to acceptable level prior to conducting additional in-situ chemical oxidation (ISCO) treatment at the Site. Hexavalent chromium was detected at a concentration of 1.6 µg/L in MW-1B and was below laboratory detection limits in the other two wells tested for this analyte (Table 3). Wells EW-3, MW-1A,

and MW-7A were either dry or contained an insufficient volume of groundwater to test for hexavalent chromium during the third quarter sampling event. Field conductivity measurements collected from EW-3 remain slightly elevated, however they have decreased significantly since the third and fourth quarters of 2011 (immediately following ISCO activities). Recently, conductivity in EW-3 appears to have stabilized and was consistent during the last two sampling events (second and third quarters of 2012). Based on recent observations and analytical results, it appears that current subsurface conditions beneath the Site are suitable for additional ISCO efforts.

Well Installation Activities

To facilitate effective remedial injection activities in the source area, proposed extraction well EW-3B will be installed approximately 10 feet west of existing well EW-3. EW-3B will be drilled to a total depth of approximately 40 feet below ground surface (bgs) using a truck-mounted drill rig equipped with continuous flight hollow-stem augers. EW-3B will be constructed with 4-inch diameter schedule 80 polyvinyl chloride (PVC) casing with 0.040-inch slotted screen from 24 to 39 feet bgs. The location of the proposed well is shown on Figure 2. Also, an injection well construction diagram is presented as Figure 3.

EW-3B is strategically located to treat the highest remaining soil and groundwater impacts beneath the Site. Based on the lithology and hydrogeologic characteristics of native sediments beneath the Site, we assume a conservative radius of influence of approximately 15 lateral feet. The location of the proposed well with the estimated radius of influence will adequately encompass existing well EW-3, which currently exhibits the highest groundwater impacts, and historic soil borings GP-8, GP-9, GP-14, and GP-15 with the highest concentrations of methyl tert butyl ether (MTBE) detected in soil (Figure 2). Historic soil impacts in the source area were generally found at depths between 24 and 40 feet bgs, which roughly corresponds to the historic fluctuation of the smear zone (Table 1). Proposed injection well EW-3B will be screened from 24 to 39 feet bgs to specifically target this zone. A geologic cross section showing site stratigraphy, the location and screen interval of proposed injection well EW-3B, and select soil data from the 2008 investigation is included as Figure 4. Current and historic groundwater analytical results are presented in Tables 2 and 3. Historic soil analytical results are presented in Table 4.

During drilling activities, soil lithology will be described and classified under the Unified Soil Classification System (USCS) and soil samples will be collected at select depths from approximately 20 to 40 feet bgs for laboratory analysis. Following installation, EW-3B will be developed and sampled in accordance with Allterra's field protocols described in Appendix A.

In-Situ Remedial Action

To aggressively treat residual contaminants in soil and groundwater beneath the Site, a remedial solution consisting of approximately 2,000 pounds of RegenOx™ will be pressure injected into the source area using the newly installed source area well EW-3B and existing well EW-1. Multiple injection events will likely be required to facilitate the injection of the designed volume of RegenOx™ and to minimize potential adverse affects at the ground surface (i.e. surfacing, high back pressure).

The remedial solution will be pressure injected into the wells using a stader driven positive displacement pump. The pressure of the effluent stream on the pump will be monitored and adjusted as necessary. The expected range of applied pressures is between 100 and 200 pounds per square inch (psi). The applied pressure will be changed as deemed necessary by sub-surface conditions (higher pressures with be needed for finer grained zones and lower pressures will be adequate for coarser grained sections). Groundwater extraction rates recorded during previous Site investigations indicated a stabilized pumping rate of approximately 5 gallons per minute (gpm) from extraction wells EW-1 and EW-2. Based on this data and previous in-situ remedial activities completed during 2011, we expect that an injection rate of 5 gpm should be sustainable for the proposed quantity of RegenOx™ at each injection well. The remedial solution will be delivered to the subsurface via EW-1 and EW-3B in a series of three injection events spaced approximately one to two weeks apart. Detailed RegenOx™ application procedures using fixed wells are presented in Appendix B.

RegenOx™ is an ISCO process using a solid oxidant complex (sodium percarbonate/catalytic formulation) and an activator complex (a composition of ferrous salt embedded in a micro-scale catalyst gel). RegenOx™ is an aggressive, fast acting oxidative technology capable of treating a broad range of soil and groundwater contaminants. It was engineered as an easily handled and applied high contaminant concentration mass reduction product that can also facilitate a seamless transition to “polishing” with passive in-situ bioremediation.

Remedial Data Collection and Monitoring

Allterra plans to implement a data collection program to provide information that can be used to evaluate the effectiveness of in-situ remedial efforts. Please refer to the July 16, 2012 Work Plan for a detailed description of proposed remedial data collection and monitoring activities. The July 16, 2012 Work Plan also provides a complete list of laboratory analytes tested for during remedial monitoring activities. Elevated levels of hexavalent chromium were detected in EW-3 following in-situ remedial activities in 2011; consequently we will continue to analyze source area wells for hexavalent chromium prior to and following ISCO activities.

Groundwater Extraction and Treatment

In the July 16, 2012 Work Plan, Allterra proposed additional groundwater extraction and treatment using EW-1 and EW-3B if remedial monitoring data indicated in-situ remedial efforts did not achieve the desired level of contaminate reduction in the target area. However, as stated in their August 22, 2012 letter, ACEH does not concur with the proposed use of groundwater extraction and treatment at the Site. Therefore, this remedial option will no longer be considered at this Site.

Limitations

The data, information, interpretation, and recommendations contained in this Work Plan are presented solely as preliminary to the existing environmental conditions at 160 Holmes Street. Site conditions can change over time; therefore, data, information, interpretation, and recommendations presented in this work plan are only applicable to the timeframe of this study. The conclusions and professional opinions presented herein were developed by Allterra in accordance with environmental principles and practices generally accepted at this time and location, no warranties are expressed or implied.

If you have any questions, please call Allterra at (831) 425-2608.

Sincerely,
Allterra Environmental, Inc.



Aaron Powers, P.G. 8977
Project Geologist



Joe Mangine, P.G. 8423
Senior Geologist

Attachments:

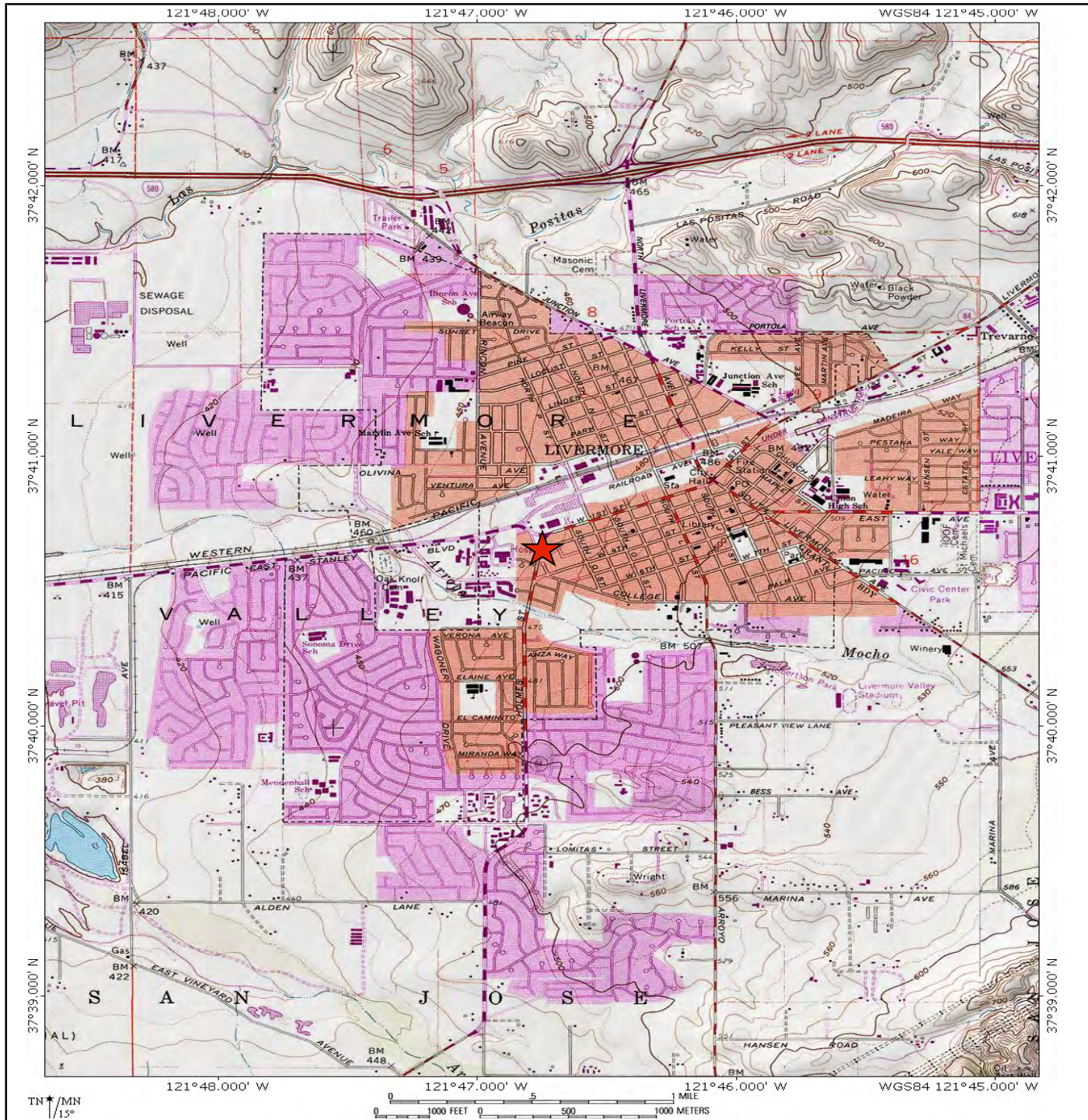
- Figure 1, Site Vicinity Map
- Figure 2, Site Plan
- Figure 3, EW-3B Well Construction Details
- Figure 4, Geologic Cross Section A-A'

- Table 1, Groundwater Elevation Data
- Table 2, Groundwater Analytical Results
- Table 3, Remedial Groundwater Analytical Results
- Table 4, Historical Soil Analytical Results

- Appendix A: Site Investigation Field Protocol
- Appendix B: Regenesis Product Application Procedures

cc: Mr. Jerry Wickham, ACEH

FIGURES 1 - 4



Vicinity Map
 Livermore Gas and Minimart
 160 Holmes Street
 Livermore, California

Figure 1

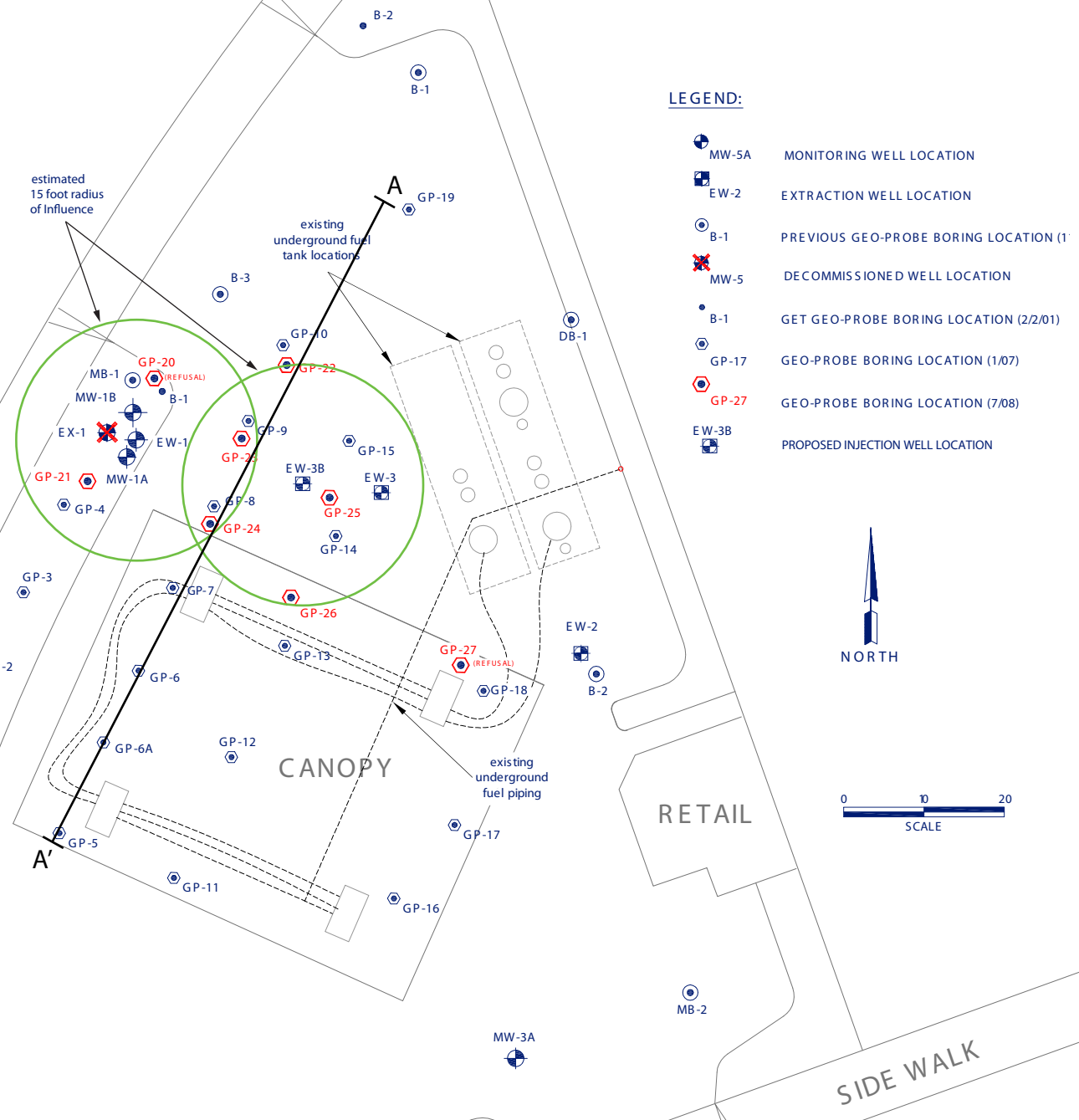
10/2/12

ALLTERRA
 849 Almar Avenue, Suite C, No. 281
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<http://www.allterraenv.com>

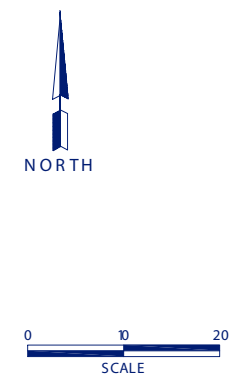
Petroleum Hydrocarbons in Soil (mg/kg) 2008 Investigation				
Sample ID	Sample Depth (feet)	TPHg	Benzene	MTBE
GP-8	8	<1.0	<0.005	<0.05
GP-8	24	0.030	0.030	9.6
GP-9	8	<1.0	<0.005	<0.05
GP-9	12	<1.0	<0.005	<0.05
GP-9	24	110	0.27	22
GP-14	8	6.4	<0.005	<0.05
GP-14	12	<1.0	<0.005	<0.05
GP-14	16	<1.0	<0.005	<0.05
GP-14	24	320	0.43	50
GP-14	28	120	0.47	140
GP-15	12	<1.0	<0.005	0.078
GP-15	19	1.5	<0.005	0.49
GP-15	24	1.6	<0.005	0.40
GP-15	28	6.7	0.047	9.5

Notes:
 All results are in milligrams per kilogram (mg/kg)
 TPHg = total petroleum hydrocarbons as gasoline
 MTBE = methyl tertiary butyl ether

HOLMES STREET



- LEGEND:**
- MW-5A MONITORING WELL LOCATION
 - EW-2 EXTRACTION WELL LOCATION
 - B-1 PREVIOUS GEO-PROBE BORING LOCATION (1/07)
 - MW-5 DECOMMISSIONED WELL LOCATION
 - B-1 GET GEO-PROBE BORING LOCATION (2/2/01)
 - GP-17 GEO-PROBE BORING LOCATION (1/07)
 - GP-27 GEO-PROBE BORING LOCATION (7/08)
 - EW-3B PROPOSED INJECTION WELL LOCATION



General Notes

stamp

160 HOLMES STREET
 SOIL AND GROUNDWATER INVESTIGATION
 AND REMEDIATION PROJECT

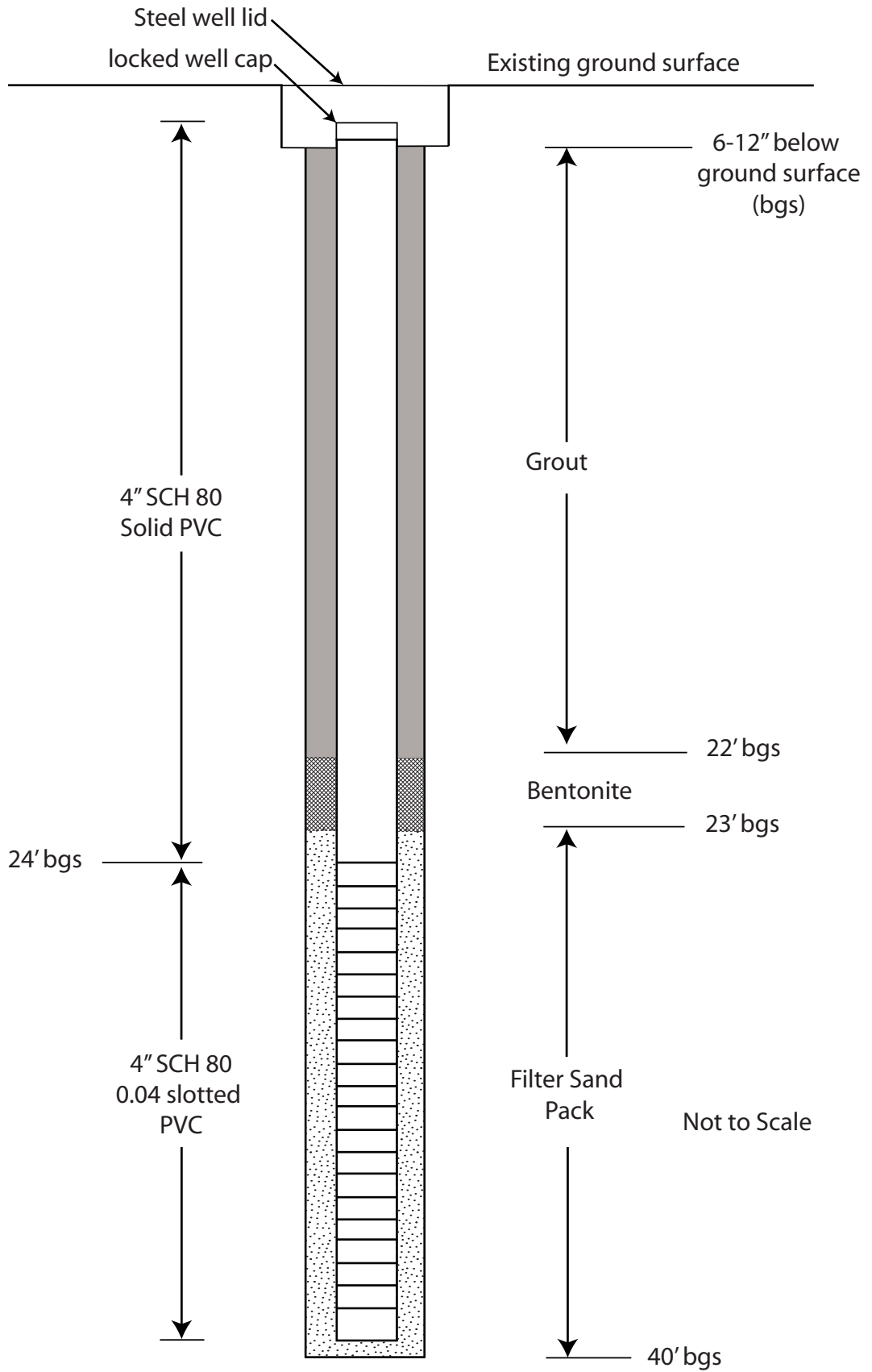
PREPARED BY:

0	DRAFT/REVIEW	10/9
No.	Revision/Issue	Date

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 SANTA CRUZ, CALIFORNIA
 831-425-2608 FAX 831-425-2609
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Client Name and Address:
SITE PLAN
 160 HOLMES STREET
 LIVERMORE, CALIFORNIA

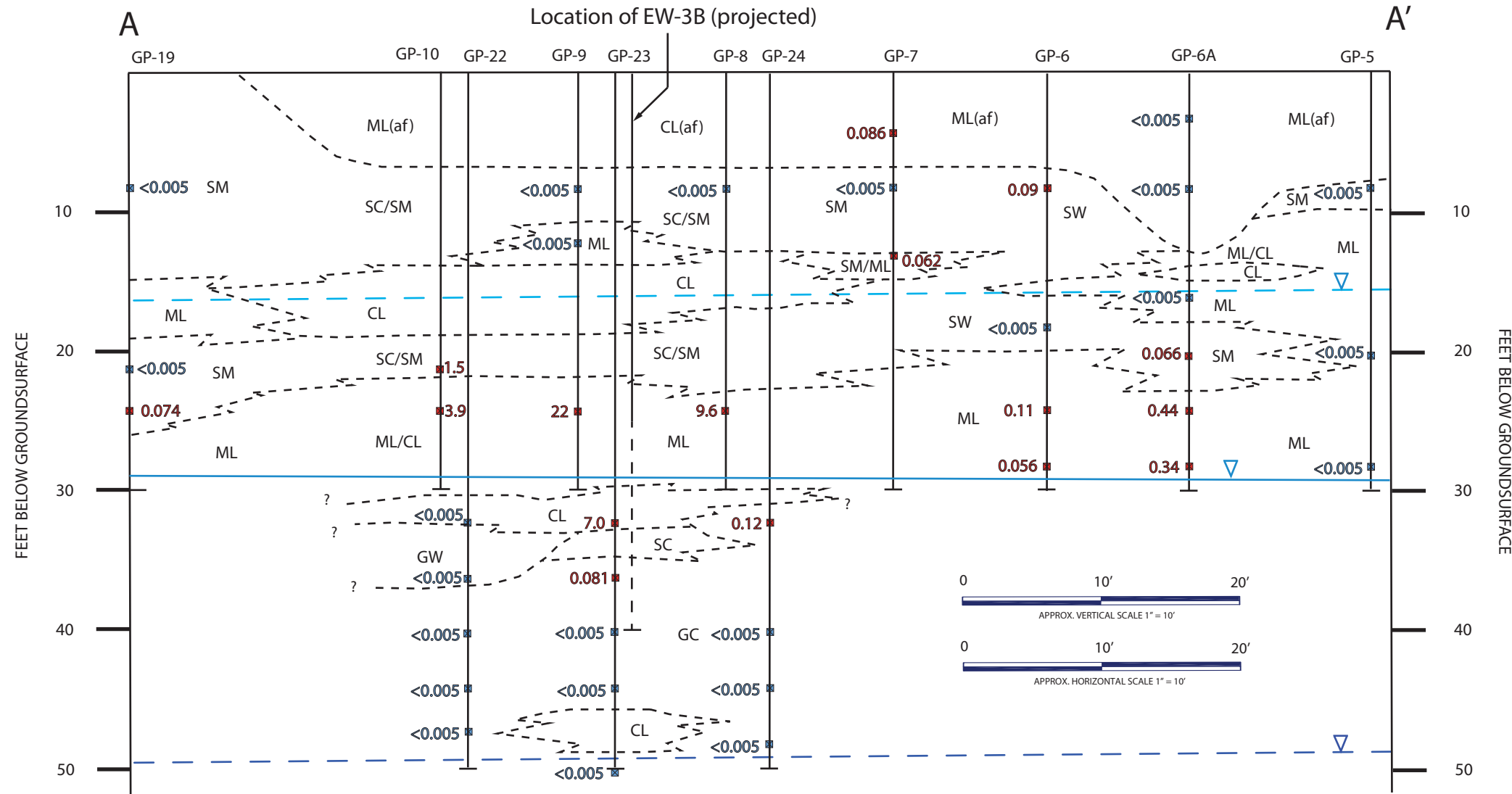
Project	160	Sheet	FIGURE 2
Date	10-9-11		
Scale	see drawing		



ALLTERRA
207 McPherson Street
Santa Cruz, CA 95060

EW-3B Well Construction Details
160 Holmes St, Livermore, CA

FIGURE #
3
160 Holmes



FEET BELOW GROUND SURFACE

FEET BELOW GROUND SURFACE

EXPLANATION

af	Artificial Fill	GW	Well Graded Gravel	SW	Well Graded Sand
GC	Clayey Gravel	CL	Silty Clay	ML/CL	Silty Clay/Clayey Silt
ML	Clayey Silt	SM	Silty Sand	SC/SM	Silty Sand/Clayey Sand

— — — ? GEOLOGIC CONTACT, DASHED WHERE APPROXIMATE, QUERRIED WHERE UNCERTAIN

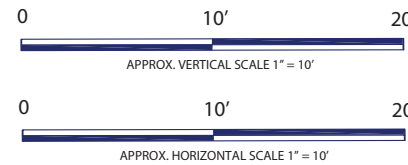
EW-3B

■ 22
■ <0.005

HISTORIC SOIL SAMPLE LOCATION
MTBE CONCENTRATIONS
IN MILLIGRAMS PER KILOGRAM, BLUE
DENOTES CONCENTRATIONS BELOW
LABORATORY REPORTING LIMITS,
RED DENOTES CONCENTRATIONS
ABOVE LABORATORY REPORTING
LIMITS

SCREENED INTERVAL
DENOTED BY DASHED
LINE FOR WELLS

▽ — — HIGHEST GROUNDWATER
ELEVATION (APRIL 2006)
▽ — — CURRENT GROUNDWATER
ELEVATION (AUGUST 2012)
▽ — — LOWEST GROUNDWATER
ELEVATION (NOVEMBER 2008)



General Notes

stamp

13425 MONTEREY HIGHWAY
SAN MARTIN, CALIFORNIA



0	DRAFT/REVIEW	10/9
No.	Revision/Issue	Date

Firm Name and Address
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GEOLOGIC CROSS SECTION A-A'
ADDENDUM TO WORK PLAN
FOR ADDITIONAL SOIL AND
GROUNDWATER REMEDIATION

Project	13425	Sheet	FIGURE 4
Date	10-9-12	Scale	
see drawing			

TABLES 1 - 4

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-1*	8/11/00	465.03	15-30	NM	NC
	10/19/00	465.03	15-30	21.94	443.09
	2/22/01	465.03	15-30	22.91	442.12
	5/30/01	465.03	15-30	Dry	NC
	11/14/01	465.03	15-30	Dry	NC
	5/7/02	465.03	15-30	Dry	NC
	9/11/02	465.03	15-30	26.16	438.87
	12/1/02	465.03	15-30	27.55	437.48
	3/14/03	465.03	15-30	22.63	442.40
	6/25/03	465.03	15-30	22.10	442.93
	9/16/03	465.03	15-30	24.91	440.12
	12/22/03	465.03	15-30	21.75	443.28
	3/10/04	465.03	15-30	17.45	447.58
	6/15/04	465.03	15-30	22.38	442.65
	9/17/04	465.03	15-30	25.61	439.42
	12/10/04	465.03	15-30	22.18	442.85
	3/2/05	465.03	15-30	16.95	448.08
	5/27/05	465.03	15-30	18.42	446.61
	7/21/05	465.03	15-30	21.38	443.65
	10/10/05	465.03	15-30	22.49	442.54
1/9/06	465.03	15-30	18.05	446.98	
MW-1A*	4/6/06	465.03	15-30	15.60	449.43
	7/27/06	465.03	15-30	22.42	442.61
	10/12/06	465.03	15-30	23.46	441.57
	1/3/07	465.03	15-30	21.00	444.03
	4/13/07	465.03	15-30	23.24	441.79
	7/16/07	465.03	15-30	Dry	NC
	10/29/07	465.03	15-30	Dry	NC
	2/1/08	465.03	15-30	Dry	NC
	4/18/08	465.03	15-30	27.34	437.69
	7/28/08	465.03	15-30	Dry	NC
	11/18/08	465.03	15-30	Dry	NC
	2/4/09	465.03	15-30	Dry	NC
	4/21/09	465.03	15-30	Dry	NC
	9/24/09	465.03	15-30	35.00	430.03
	3/4/10	465.03	15-30	28.05	436.98
	7/19/10	465.03	15-30	23.85	441.18
	1/19/11	465.03	15-30	23.12	441.91
	4/6/11	465.03	15-30	18.40	446.63
	4/18/11	465.03	15-30	18.70	446.33
	5/9/11	465.03	15-30	19.26	445.77
	6/1/11	465.03	15-30	20.10	444.93
	6/15/11	465.03	15-30	20.44	444.59
	6/30/11	465.03	15-30	20.73	444.30
9/19/11	465.03	15-30	22.91	442.12	
11/4/11	465.03	15-30	Dry	NC	
2/1/12	465.03	15-30	Dry	NC	
6/13/12	465.03	15-30	26.90	438.13	
8/28/12	465.03	15-30	Dry	NC	

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-1B**	4/6/06	465.02	50-55	15.59	449.43
	7/27/06	465.02	50-55	22.47	442.55
	10/12/06	465.02	50-55	23.51	441.51
	1/3/07	465.02	50-55	21.04	443.98
	4/13/07	465.02	50-55	23.30	441.72
	7/16/07	465.02	50-55	35.57	429.45
	10/29/07	465.02	50-55	47.32	417.70
	2/1/08	465.02	50-55	33.90	431.12
	4/18/08	465.02	50-55	27.35	437.67
	7/28/08	465.02	50-55	44.03	420.99
	11/18/08	465.02	50-55	48.50	416.52
	2/4/09	465.02	50-55	46.83	418.19
	4/21/09	465.02	50-55	37.10	427.92
	9/24/09	465.02	50-55	37.76	427.26
	3/4/10	465.02	50-55	27.41	437.61
	7/19/10	465.02	50-55	NM	NC
	1/19/11	465.02	50-55	23.10	441.92
	4/6/11	465.02	50-55	18.40	446.62
	4/18/11	465.02	50-55	18.60	446.42
	5/9/11	465.02	50-55	19.11	445.91
	6/1/11	465.02	50-55	20.10	444.92
	6/15/11	465.02	50-55	20.44	444.58
	6/30/11	465.02	50-55	20.74	444.28
	9/19/11	465.02	50-55	22.92	442.10
	11/4/11	465.02	50-55	22.95	442.07
	2/2/12	465.02	50-55	33.00	432.02
	6/13/12	465.02	50-55	26.99	438.03
	8/28/12	465.02	50-55	29.51	435.51
MW-2*	8/11/00	464.94	15-30	NM	NC
	10/19/00	464.94	15-30	21.80	443.14
	2/22/01	464.94	15-30	22.87	442.07
	5/30/01	464.94	15-30	Dry	NC
	11/14/01	464.94	15-30	Dry	NC
	5/7/02	464.94	15-30	26.70	438.24
	9/11/02	464.94	15-30	25.96	438.98
	12/11/02	464.94	15-30	27.56	437.38
	3/14/03	464.94	15-30	22.41	442.53
	6/25/03	464.94	15-30	21.97	442.97
	9/16/03	464.94	15-30	24.70	440.24
	12/22/03	464.94	15-30	21.58	443.36
	3/10/04	464.94	15-30	17.31	447.63
	6/15/04	464.94	15-30	22.18	442.76
	9/17/04	464.94	15-30	25.44	439.50
	12/10/04	464.94	15-30	22.00	442.94
	3/2/05	464.94	15-30	16.75	448.19
	5/27/05	464.94	15-30	18.29	446.65
	7/21/05	464.94	15-30	20.46	444.48
	10/10/05	464.94	15-30	22.30	442.64
1/9/06	464.94	15-30	17.67	447.27	

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-2A*	4/6/06	464.94	15-30	15.47	449.47
	7/27/06	464.94	15-30	22.27	442.67
	10/12/06	464.94	15-30	23.35	441.59
	1/3/07	464.94	15-30	20.90	444.04
	4/13/07	464.94	15-30	23.16	441.78
	7/16/07	464.94	15-30	Dry	NC
	10/29/07	464.94	15-30	Dry	NC
	2/1/08	464.94	15-30	Dry	NC
	4/18/08	464.94	15-30	27.26	437.68
	7/28/08	464.94	15-30	Dry	NC
	11/18/08	464.94	15-30	Dry	NC
	2/4/09	464.94	15-30	Dry	NC
	4/21/09	464.94	15-30	Dry	NC
	9/24/09	464.94	15-30	Dry	NC
	3/4/10	464.94	15-30	25.12	439.82
	7/20/10	464.94	15-30	25.90	439.04
	1/19/11	464.94	15-30	25.30	439.64
	4/6/11	464.94	15-30	18.30	446.64
	9/19/11	464.94	15-30	22.45	442.49
	11/4/11	464.94	15-30	22.77	442.17
	2/1/12	464.94	15-30	Dry	NC
6/12/12	464.94	15-30	26.79	438.15	
8/28/12	464.94	15-30	NS	NC	
MW-3*	8/11/00	465.84	15-30	NM	NC
	10/19/00	465.84	15-30	22.45	443.39
	2/22/01	465.84	15-30	23.51	442.33
	5/30/01	465.84	15-30	Dry	NC
	11/14/01	465.84	15-30	Dry	NC
	5/7/02	465.84	15-30	Dry	NC
	9/11/02	465.84	15-30	26.61	439.23
	12/11/02	465.84	15-30	28.18	437.66
	3/14/03	465.84	15-30	23.04	442.80
	6/25/03	465.84	15-30	22.59	443.25
	9/16/03	465.84	15-30	25.33	440.51
	12/22/03	465.84	15-30	22.37	443.47
	3/10/04	465.84	15-30	17.88	447.96
	6/15/04	465.84	15-30	22.82	443.02
	9/17/04	465.84	15-30	26.09	439.75
	12/10/04	465.84	15-30	22.65	443.19
	3/5/05	465.84	15-30	17.33	448.51
	5/27/05	465.84	15-30	18.89	446.95
	7/21/05	465.84	15-30	21.10	444.74
	10/10/05	465.84	15-30	22.94	442.90
1/9/06	465.84	15-30	18.24	447.60	

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-3A*	4/6/06	465.84	15-30	16.02	449.82
	7/27/06	465.84	15-30	22.90	442.94
	10/12/06	465.84	15-30	23.99	441.85
	1/3/07	465.84	15-30	21.52	444.32
	4/13/07	465.84	15-30	23.78	442.06
	7/16/07	465.84	15-30	Dry	NC
	10/29/07	465.84	15-30	Dry	NC
	2/1/08	465.84	15-30	Dry	NC
	4/18/08	465.84	15-30	27.86	437.98
	7/28/08	465.84	15-30	Dry	NC
	11/18/08	465.84	15-30	Dry	NC
	2/4/09	465.84	15-30	Dry	NC
	4/21/09	465.84	15-30	Dry	NC
	9/24/09	465.84	15-30	Dry	NC
	3/4/10	465.84	15-30	27.95	437.89
	7/19/10	465.84	15-30	26.55	439.29
	1/19/11	465.84	15-30	23.63	442.21
	4/6/11	465.84	15-30	18.90	446.94
	9/19/11	465.85	15-30	23.40	442.45
	11/4/11	465.85	15-30	23.60	442.25
2/1/12	465.85	15-30	Dry	NC	
6/12/12	465.85	15-30	27.47	438.38	
	8/28/12	465.85	15-30	NM	NC
MW-4***	11/14/01	465.15	15-30	33.84	431.31
	5/7/02	465.15	15-30	26.75	438.40
	9/11/02	465.15	15-30	26.66	438.49
	12/11/02	465.15	15-30	28.39	436.76
	3/14/03	465.15	15-30	23.14	442.01
	6/25/03	465.15	15-30	22.72	442.43
	9/16/03	465.15	15-30	25.39	439.76
	12/22/03	465.15	15-30	22.42	442.73
	3/4/04	465.15	15-30	18.20	446.95
	6/15/04	465.15	15-30	22.95	442.20
	9/17/04	465.15	15-30	26.12	439.03
	12/10/04	465.15	15-30	22.73	442.42
	3/2/05	465.15	15-30	17.60	447.55
	5/27/05	465.15	15-30	19.14	446.01
	7/21/05	465.15	15-30	21.25	443.90
	10/10/05	465.15	15-30	22.85	442.30
	1/9/06	465.15	15-30	18.54	446.61
MW-4A**	4/6/06	464.96	15-30	16.19	448.77
	7/27/06	464.96	15-30	22.87	442.09
	10/12/06	464.96	15-30	23.90	441.06
	1/3/07	464.96	15-30	21.52	443.44
	4/13/07	464.96	15-30	23.78	441.18
	7/16/07	464.96	15-30	Dry	NC
	10/29/07	464.96	15-30	Dry	NC

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-4A** cont.	2/1/08	464.96	15-30	Dry	NC
	4/18/08	464.96	15-30	27.91	437.05
	7/28/08	464.96	15-30	Dry	NC
	11/18/08	464.96	15-30	Dry	NC
	2/4/09	464.96	15-30	Dry	NC
	9/24/09	464.96	15-30	Dry	NC
	4/21/09	464.96	15-30	Dry	NC
	3/4/10	464.96	15-30	25.66	439.30
	7/20/10	464.96	15-30	24.25	440.71
	1/19/11	464.96	15-30	23.64	441.32
	4/6/11	464.96	15-30	18.90	446.06
	9/19/11	464.96	15-30	23.43	441.53
	11/4/11	464.96	15-30	23.40	441.56
	2/1/12	464.96	15-30	Dry	NC
	6/12/12	464.96	15-30	27.27	437.69
8/28/12	464.96	15-30	NM	NC	
MW-5***	11/14/01	464.65	20-50	34.94	429.71
	5/7/02	464.65	20-50	27.90	436.75
	9/11/02	464.65	20-50	27.99	436.66
	12/11/02	464.65	20-50	29.50	435.15
	3/14/03	464.65	20-50	24.26	440.39
	6/25/03	464.65	20-50	24.01	440.64
	9/16/03	464.65	20-50	26.83	437.82
	12/22/03	464.65	20-50	23.68	440.97
	3/10/04	464.65	20-50	19.22	445.43
	6/15/04	464.65	20-50	24.20	440.45
	9/17/04	464.65	20-50	27.68	436.97
	12/10/04	464.65	20-50	23.93	440.72
	3/2/05	464.65	20-50	18.56	446.09
	5/27/05	464.65	20-50	20.15	444.50
	7/21/05	464.65	20-50	22.55	442.10
	10/10/05	464.65	20-50	23.35	441.30
1/9/06	464.65	20-50	19.53	445.12	
MW-5A**	4/6/06	464.64	20-35	17.35	447.29
	7/27/06	464.64	20-35	24.40	440.24
	10/12/06	464.64	20-35	25.58	439.06
	1/3/07	464.64	20-35	22.53	442.11
	4/13/07	464.64	20-35	24.77	439.87
	7/16/07	464.64	20-35	Dry	NC
	10/29/07	464.64	20-35	Dry	NC
	2/1/08	464.64	20-35	34.03	430.61
	4/18/08	464.64	20-35	28.13	436.51
	7/28/08	464.64	20-35	Dry	NC
	11/18/08	464.64	20-35	33.82	430.82

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-5A** cont.	2/4/09	464.64	20-35	Dry	NC
	4/21/09	464.64	20-35	Dry	NC
	9/24/09	464.64	20-35	Dry	NC
	3/4/10	464.64	20-35	28.77	435.87
	7/20/10	464.64	20-35	24.57	440.07
	1/19/11	464.64	20-35	24.52	440.12
	4/6/11	464.64	20-35	19.98	444.66
	9/19/11	464.64	20-35	24.62	440.02
	11/4/11	464.64	20-35	24.50	440.14
	2/1/12	464.64	20-35	Dry	NC
	6/12/12	464.64	20-35	28.39	436.25
	8/28/12	464.64	20-35	31.10	433.54
	MW-5B**	4/6/06	464.59	50-55	17.44
7/27/06		464.59	50-55	24.09	440.50
10/12/06		464.59	50-55	25.17	439.42
1/3/07		464.59	50-55	22.44	442.15
4/13/07		464.59	50-55	25.33	439.26
7/16/07		464.59	50-55	36.50	428.09
10/29/07		464.59	50-55	47.90	416.69
2/1/08		464.59	50-55	33.25	431.34
4/18/08		464.59	50-55	28.77	435.82
7/28/08		464.59	50-55	44.76	419.83
11/18/08		464.59	50-55	51.65	412.94
2/4/09		464.59	50-55	47.63	416.96
4/21/09		464.59	50-55	37.00	427.59
9/24/09		464.59	50-55	39.73	424.86
3/4/10		464.59	50-55	28.97	435.62
7/19/10		464.59	50-55	25.40	439.19
1/19/11		464.59	50-55	24.52	440.07
4/6/11		464.59	50-55	20.05	444.54
9/19/11		464.59	50-55	24.50	440.09
11/4/11		464.59	50-55	24.40	440.19
2/1/12	464.59	50-55	33.96	430.63	
6/12/12	464.59	50-55	28.65	435.94	
8/28/12	464.59	50-55	31.22	433.37	
MW-6	11/14/01	464.13	20-50	33.88	430.25
	5/7/02	464.13	20-50	27.01	437.12
	9/11/02	464.13	20-50	27.03	437.10
	12/11/02	464.13	20-50	28.77	435.36
	3/14/03	464.13	20-50	23.46	440.67
	6/25/03	464.13	20-50	23.08	441.05
	9/16/03	464.13	20-50	25.77	438.36
	12/22/03	464.13	20-50	22.59	441.54
	3/10/04	464.13	20-50	18.65	445.48
	6/15/04	464.13	20-50	23.31	440.82
	9/17/04	464.13	20-50	26.56	437.57
12/10/04	464.13	20-50	23.09	441.04	

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-6 cont.	3/2/05	464.13	20-50	18.04	446.09
	5/27/05	464.13	20-50	19.57	444.56
	7/21/05	464.13	20-50	21.60	442.53
	10/10/05	464.13	20-50	22.21	441.92
	1/9/06	464.13	20-50	18.99	445.14
	4/6/06	464.13	20-50	17.00	447.13
	7/27/06	464.13	20-50	23.45	440.68
	10/12/06	464.13	20-50	24.36	439.77
	1/3/07	464.13	20-50	22.03	442.10
	4/13/07	464.13	20-50	24.40	439.73
	7/16/07	464.13	20-50	NM	NC
	10/29/07	464.13	20-50	Dry	NC
	2/1/08	464.13	20-50	33.05	431.08
	4/18/08	464.13	20-50	28.20	435.93
	7/28/08	464.13	20-50	Dry	NC
	11/18/08	464.13	20-50	Dry	NC
	2/4/09	464.13	20-50	Dry	NC
	4/21/09	464.13	20-50	38.71	425.42
	9/24/09	464.13	20-50	38.26	425.87
	3/4/10	464.13	20-50	26.02	438.11
	7/19/10	464.13	20-50	24.65	439.48
	1/19/11	464.13	20-50	24.00	440.13
	4/6/11	464.13	20-50	21.76	442.37
	9/19/11	464.13	20-50	23.76	440.37
	11/4/11	464.13	20-50	23.00	441.13
	2/1/12	464.13	20-50	33.43	430.70
	6/12/12	464.13	20-50	27.62	436.51
8/28/12		464.13	20-50	30.17	433.96
MW-7A**	4/6/06	465.32	15-30	16.61	448.71
	7/27/06	465.32	15-30	23.40	441.92
	10/12/06	465.32	15-30	24.50	440.82
	1/3/07	465.32	15-30	21.80	443.52
	4/13/07	465.32	15-30	24.05	441.27
	7/16/07	465.32	15-30	Dry	NC
	10/29/07	465.32	15-30	Dry	NC
	2/1/08	465.32	15-30	Dry	NC
	4/18/08	465.32	15-30	28.16	437.16
	7/28/08	465.32	15-30	Dry	NC
	11/18/08	465.32	15-30	Dry	NC
	2/4/09	465.32	15-30	Dry	NC
	4/21/09	465.32	15-30	Dry	NC
	9/24/09	465.32	15-30	Dry	NC
	3/4/10	465.32	15-30	26.30	439.02
7/19/10	465.32	15-30	24.78	440.54	

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-7A** cont.	1/19/11	465.32	15-30	23.60	441.72
	4/6/11	465.32	15-30	19.35	445.97
	4/18/11	465.32	15-30	19.59	445.73
	5/9/11	465.32	15-30	21.15	444.17
	6/1/11	465.32	15-30	21.01	444.31
	6/15/11	465.32	15-30	21.45	443.87
	6/30/11	465.32	15-30	21.87	443.45
	9/19/11	465.32	15-30	23.96	441.36
	11/4/11	465.32	15-30	23.45	441.87
	2/1/12	465.32	15-30	Dry	NC
	6/13/12	465.32	15-30	27.93	437.39
	8/28/12	465.32	15-30	Dry	NC
MW-7B**	4/6/06	465.39	45-50	16.85	448.54
	7/27/06	465.39	45-50	23.72	441.67
	10/12/06	465.39	45-50	24.74	440.65
	1/3/07	465.39	45-50	22.18	443.21
	4/13/07	465.39	45-50	24.41	440.98
	7/16/07	465.39	45-50	36.40	428.99
	10/29/07	465.39	45-50	Dry	NC
	2/1/08	465.39	45-50	33.84	431.55
	4/18/08	465.39	45-50	28.52	436.87
	7/28/08	465.39	45-50	44.92	420.47
	11/18/08	465.39	45-50	Dry	NC
	2/4/09	465.39	45-50	46.65	418.74
	4/21/09	465.39	45-50	36.83	428.56
	9/24/09	465.39	45-50	39.26	426.13
	3/4/10	465.39	45-50	28.63	436.76
	7/19/10	465.39	45-50	25.05	440.34
	1/19/11	465.39	45-50	24.15	441.24
MW-7B cont.	4/6/11	465.39	45-50	21.78	443.61
	4/18/11	465.39	45-50	19.75	445.64
	5/9/11	465.39	45-50	20.40	444.99
	6/1/11	465.39	45-50	21.25	444.14
	6/15/11	465.39	45-50	21.45	443.94
	6/30/11	465.39	45-50	21.65	443.74
	9/19/11	465.39	45-50	24.10	441.29
	11/4/11	465.39	45-50	24.10	441.29
	2/2/12	465.39	45-50	33.91	431.48
	6/13/12	465.39	45-50	28.14	437.25
8/28/12	465.39	45-50	30.67	434.72	
MW-7C**	4/6/06	465.39	65-70	17.18	448.21
	7/27/06	465.39	65-70	24.15	441.24
	10/12/06	465.39	65-70	24.74	440.65
	1/3/07	465.39	65-70	22.53	442.86
	4/13/07	465.39	65-70	24.73	440.66
	7/16/07	465.39	65-70	36.70	428.69
	10/29/07	465.39	65-70	48.25	417.14

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)	
MW-7C** cont.	2/1/08	465.39	65-70	34.00	431.39	
	4/18/08	465.39	65-70	28.75	436.64	
	7/28/08	465.39	65-70	45.00	420.39	
	11/18/08	465.39	65-70	49.62	415.77	
	2/4/09	465.39	65-70	47.89	417.50	
	4/21/09	465.39	65-70	36.98	428.41	
	9/24/09	465.39	65-70	39.49	425.90	
	3/4/10	465.39	65-70	26.66	438.73	
	7/19/10	465.39	65-70	25.38	440.01	
	1/19/11	465.39	65-70	24.50	440.89	
	4/6/11	465.39	65-70	19.88	445.51	
	9/19/11	465.39	65-70	23.50	441.89	
	11/4/11	465.39	65-70	24.40	440.99	
	2/2/12	465.39	65-70	34.14	431.25	
	6/13/12	465.39	65-70	28.54	436.85	
	8/28/12	465.39	65-70	31.07	434.32	
EW-1**	4/6/06	465.45	15-40	15.99	449.46	
	7/27/06	465.45	15-40	23.85	441.60	
	10/12/06	465.45	15-40	23.51	441.94	
	1/3/07	465.45	15-40	21.45	444.00	
	4/13/07	465.45	15-40	23.69	441.76	
	10/29/07	465.45	15-40	NM	NC	
	2/1/08	465.45	15-40	NM	NC	
	4/18/08	465.45	15-40	27.83	437.62	
	7/28/08	465.45	15-40	NM	NC	
	11/18/08	465.45	15-40	Dry	NC	
	2/4/09	465.45	15-40	Dry	NC	
	4/21/09	465.45	15-40	Dry	NC	
	9/24/09	465.45	15-40	Dry	NC	
	EW-1 cont.	3/4/10	465.45	15-40	27.87	NC
		7/20/10	465.45	15-40	24.35	441.10
1/19/11		465.45	15-40	23.58	441.87	
4/6/11		465.45	15-40	18.85	446.60	
4/18/11		465.45	15-40	19.70	445.75	
5/9/11		465.45	15-40	19.69	445.76	
6/1/11		465.45	15-40	20.52	444.93	
6/15/11		465.45	15-40	21.11	444.34	
6/30/11		465.45	15-40	21.41	444.04	
9/19/11		465.45	15-40	22.35	443.10	
11/4/11		465.45	15-40	23.35	442.10	
2/2/12		465.45	15-40	33.38	432.07	
6/13/12		465.45	15-40	27.38	438.07	
		8/28/12	465.45	15-40	29.90	435.55

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
EW-2**	4/6/06	465.99	15-40	16.20	449.79
	7/27/06	465.99	15-40	23.10	442.89
	10/12/06	465.99	15-40	21.48	444.51
	1/3/07	465.99	15-40	21.66	444.33
	4/13/07	465.99	15-40	23.93	442.06
	10/29/07	465.99	15-40	Dry	NC
	2/1/08	465.99	15-40	NM	NC
	4/18/08	465.99	15-40	28.04	437.95
	7/28/08	465.99	15-40	NM	NC
	11/18/08	465.99	15-40	Dry	NC
	2/4/09	465.99	15-40	Dry	NC
	4/21/09	465.99	15-40	Dry	NC
	9/24/09	465.99	15-40	Dry	NC
	3/4/10	465.99	15-40	25.89	NC
	7/20/10	465.99	15-40	24.45	441.54
	1/19/11	465.99	15-40	23.72	442.27
	4/6/11	465.99	15-40	19.00	446.99
	4/18/11	465.99	15-40	19.19	446.80
	5/9/11	465.99	15-40	19.67	446.32
	6/1/11	465.99	15-40	20.71	445.28
	6/15/11	465.99	15-40	21.00	444.99
	6/30/11	465.99	15-40	21.31	444.68
	9/19/11	465.99	15-40	23.55	442.44
	11/4/11	465.99	15-40	23.60	442.39
	2/2/12	465.99	15-40	33.66	432.33
	6/13/12	465.99	15-40	27.64	438.35
8/28/12	465.99	15-40	NM	NC	
EW-3 ^(a)	11/18/08	NC	25-30	Dry	NC
	2/4/09	NC	25-30	33.80	NC
	4/21/09	NC	25-30	Dry	NC
	9/24/09	NC	25-30	Dry	NC
	3/4/10	NC	25-30	28.02	NC
	7/20/10	NC	25-30	NM	NC
	1/19/11	NC	25-30	23.50	NC
	4/6/11	NC	25-30	18.30	NC
	4/18/11	NC	25-30	19.40	NC
	5/9/11	NC	25-30	19.67	NC
	6/1/11	NC	25-30	20.72	NC
	6/15/11	NC	25-30	20.92	NC
	6/30/11	NC	25-30	21.11	NC
	9/19/11	NC	25-30	23.25	NC
	11/4/11	NC	25-30	23.30	NC
	2/2/12	NC	25-30	28.76	NC
6/13/12	NC	25-30	27.31	NC	
8/28/12	NC	25-30	28.87	NC	

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-8A	7/28/08	NC	16-36	Dry	NC
	11/18/08	NC	16-36	35.40	NC
	2/4/09	NC	16-36	Dry	NC
	4/21/09	NC	16-36	Dry	NC
	9/24/09	NC	16-36	Dry	NC
	3/4/10	NC	16-36	26.33	NC
	7/20/10	NC	16-36	25.00	NC
	1/19/11	NC	16-36	24.30	NC
	4/6/11	NC	16-36	19.22	NC
	9/19/11	NC	16-36	24.05	NC
	11/4/11	NC	16-36	24.10	NC
	2/2/12	NC	16-36	33.99	NC
	6/12/12	NC	16-36	28.01	NC
8/28/12	NC	16-36	30.53	NC	
MW-8B	7/28/08	NC	46-51	44.90	NC
	11/18/08	NC	46-51	49.85	NC
	2/4/09	NC	46-51	47.95	NC
	4/21/09	NC	46-51	38.75	NC
	9/24/09	NC	46-51	38.47	NC
	3/4/10	NC	46-51	28.24	NC
	7/20/10	NC	46-51	24.70	NC
	1/19/11	NC	46-51	24.05	NC
	4/6/11	NC	46-51	19.42	NC
	9/19/11	NC	46-51	23.80	NC
	11/4/11	NC	46-51	23.50	NC
	2/2/12	NC	46-51	33.73	NC
	6/13/12	NC	46-51	27.75	NC
8/28/12	NC	46-51	30.28	NC	
MW-9A	7/28/08	NC	14-36	Dry	NC
	11/18/08	NC	14-36	48.97	NC
	2/4/09	NC	14-36	Dry	NC
	4/21/09	NC	14-36	Dry	NC
	9/24/09	NC	14-36	Dry	NC
	3/4/10	NC	14-36	27.86	NC
	7/20/10	NC	14-36	24.15	NC
	1/19/11	NC	14-36	23.40	NC
	4/6/11	NC	14-36	21.50	NC
	9/19/11	NC	14-36	23.25	NC
	11/4/11	NC	14-36	23.50	NC
	2/1/12	NC	14-36	33.10	NC
	6/12/12	NC	14-36	27.30	NC
8/28/12	NC	14-36	29.72	NC	

Table 1
Groundwater Elevation Data
160 Holmes Street, Livermore, California

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-9B	7/28/08	NC	47-52	44.05	NC
	11/18/08	NC	47-52	38.28	NC
	2/4/09	NC	47-52	47.03	NC
	4/21/09	NC	47-52	35.94	NC
	9/24/09	NC	47-52	37.93	NC
	3/4/10	NC	47-52	27.68	NC
	7/20/10	NC	47-52	24.30	NC
	1/19/11	NC	47-52	23.55	NC
	4/6/11	NC	47-52	21.21	NC
	9/19/11	NC	47-52	23.12	NC
	11/4/11	NC	47-52	23.35	NC
	2/1/12	NC	47-52	33.13	NC
	6/12/12	NC	47-52	27.19	NC
	8/28/12	NC	47-52	29.82	NC
EX-1***	11/14/01	465.30	30-55	33.41	431.89
	5/7/02	465.30	30-55	27.58	437.72
	9/11/02	465.30	30-55	NM	NC
	12/11/02	465.30	30-55	27.98	437.32
	3/14/03	465.30	30-55	23.02	442.28
	6/25/03	465.30	30-55	22.41	442.89
	9/16/03	465.30	30-55	24.65	440.65
	3/10/04	465.30	30-55	17.99	447.31
	6/15/04	465.30	30-55	22.48	442.82
	9/17/04	465.30	30-55	25.91	439.39
	12/10/04	465.30	30-55	NM	NC
	3/2/05	465.30	30-55	NM	NC
	5/27/05	465.30	30-55	18.68	446.62
	7/21/05	465.30	30-55	21.55	443.75
	10/10/05	465.30	30-55	22.73	442.57
1/9/06	465.30	30-55	18.05	447.25	

Notes:

msl: mean sea level

bgs: below ground surface

NA: well not accessible

NC: elevation not calculated

NM: well not measured

* = Well MW-1, 2, and 3 renamed MW-1A, 2A, and 3A respectively

** = Well installed on 2/22/06-2/28/06

*** = Well destroyed on 2/22/06-2/28/06

(a) = Well EW-3 is 35 feet deep with a screen interval from 25 to 30 feet bgs.

Table 2
Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)			
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-1A*	8/11/00	NC	170,000	57,000	6,400	7,600	4,200	9,700	320,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	10/19/00	443.09	170,000	17,000	8,400	3,200	2,700	10,000	200,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	2/22/01	442.12	82,000	11,000	5,100	1,000	13,000	8,700	190,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	5/30/01	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/14/01	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/7/02	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/11/02	438.87	130,000	NA	7,700	1,100	NS	1,500	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/1/02	437.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/14/03	442.40	180,000	3,800	7,100	3,200	4,300	6,000	220,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	6/25/03	442.93	71,000	3,100	7,500	4,700	4,800	8,900	210,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/16/03	440.12	37,000	3,600	4,600	220	3,600	930	150,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/22/03	443.28	44,000	4,000	6,800	1,500	4,000	3,800	180,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	3/10/04	447.58	72,000	3,100	6,000	11,000	3,900	10,000	260,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	6/15/04	442.65	42,000	4,300	5,000	1,800	3,700	6,000	210,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/17/04	439.42	24,000	2,900	2,800	<33	2,900	500	83,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/10/04	442.85	31,000	2,700	4,600	190	4,400	2,800	200,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	3/2/05	448.08	58,000	2,800	4,000	2,500	4,500	7,800	230,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	5/27/05	446.61	79,000	4,600	4,300	6,200	5,100	13,000	240,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	7/21/05	443.65	80,000	NS	4,300	5,300	5,400	14,000	300,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	10/10/05	442.54	58,000	NS	4,300	240	5,600	8,300	170,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	1/9/06	446.98	47,000	3,700	3,100	1,100	4,400	5,900	180,000	<2,500	<25,000	<2,500	<2,500	240,000	<250,000	<2,500,000	<2,500	<2,500	
	4/6/06	449.43	18,000	1,900	1,200	280	2,400	2,200	110,000	<2,500	<25,000	<2,500	<2,500	87,000	<250,000	<2,500,000	<2,500	<2,500	
	7/27/06	442.61	24,000	2,400	2,100	350	3,400	5,300	130,000	<5000	<50,000	<5000	<5000	160,000	NA	NA	NA	NA	
	10/12/06	441.57	19,000	1,700	1,000	26	2,000	1,000	68,000	<1,200	<12,000	<1,200	<1,200	84,000	<120,000	<1,200,000	NA	NA	
	1/3/07	444.03	27,000	2,300	1,300	53	2,500	1,900	120,000	<1,700	<1,700	<1,700	<1,700	110,000	<170,000	<1,700,000	<1,700	<1,700	
	4/13/07	441.79	28,000	3,000	1,600	74	3,700	1,800	190,000	<5,000	<50,000	<5,000	<5,000	200,000	<500,000	<5,000,000	<5,000	<5,000	
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/18/08	437.69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/24/09	430.03	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/4/10	436.98	1,300	NA	140	<5.0	26	6.0	16,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	7/19/10	441.18	400	NA	1.2	1.3	<0.5	0.76	880	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	1/20/11	441.91	150	130	1.4	0.6	<0.5	1.4	300	<250	40,000	<250	<250	330	NA	NA	<250	<250	
	4/8/11	442.37	200	180	2.0	1.9	<0.5	4.4	1,300	<120	24,000	<120	<120	2,300	NA	NA	<120	<120	
	4/18/11	446.33	140	130	0.56	<0.5	<0.5	4.2	1,500	<50	11,000	<50	<50	1,200	NA	NA	<0.5	<50	
	5/9/11	445.77	<50	<50	<0.5	<0.5	<0.5	<0.5	880	<50	12,000	<50	<50	1,000	NA	NA	<50	<50	
	6/1/11	444.93	<50	52	<0.5	<0.5	<0.5	<0.5	350	<50	12,000	<50	<50	480	NA	NA	<50	<50	
	6/15/11	444.59	<50	70	<0.5	<0.5	<0.5	<0.5	310	<100	9,000	<100	<100	330	NA	NA	<100	<100	
	6/30/11	444.30	<50	54	<0.5	<0.5	<0.5	<0.5	150	<50	6,200	<50	<50	170	NA	NA	<50	<50	
	9/20/11	442.12	96	200	<0.5	0.6	<0.5	0.55	140	<120	19,000	<120	<120	150	NA	NA	<120	<120	
	11/8/11	442.03	100	150	1.3	0.99	<0.5	1.1	110	<100	21,000	<100	<100	150	NA	NA	<100	<100	
	2/1/12	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NA
	6/13/12	438.13	65	300	0.96	0.70	<0.5	<0.5	5.5	<50	10,000	<50	<50	<50	NA	NA	<0.5	<0.5	
	8/28/12	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
Groundwater Analytical Results
 160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)			
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-1B	3/13/06	446.44	<50	<50	<0.5	<0.5	<0.5	<0.5	8.2	<0.5	<5.0	<0.5	<0.5	7.9	<50	<500	<0.5	<0.5	
	4/6/06	449.43	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	1.0	<50	<500	<0.5	<0.5	
	7/27/06	442.55	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	
	10/12/06	441.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	NA	NA	
	1/3/07	443.98	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	4/13/07	441.72	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	7/16/07	429.45	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	
	10/29/07	417.70	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	2/1/08	431.12	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	4/18/08	437.67	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	7/29/08	420.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	418.19	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/21/09	427.92	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/24/09	427.26	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	1.1	NA	NA	NA	NA	NA
	3/4/10	437.61	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/19/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/20/11	441.92	<50	130	<0.5	<0.5	<0.5	<0.5	<5.0	<250	40,000	<250	<250	330	NA	NA	<250	<250	<250
	4/8/11	446.62	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	4/18/11	446.42	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	5/9/11	445.91	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	6/1/11	444.92	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	6/15/11	444.58	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	6/30/11	444.28	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	9/20/11	442.10	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	11/8/11	442.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	2/2/12	432.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	6/13/12	438.03	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	8/28/12	435.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	<0.5
	MW- 2A*	8/11/00	NC	4,500	1,900	220	52	160	170	3,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/19/00		443.14	3,400	1,300	150	21	100	70	1,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2/22/01		442.07	7,600	880	25	<10	69	25	2,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	
5/30/01		NC	NS	NS					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11/14/01		NC	NS	NS					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
5/7/02		438.24	400	86	5.4	<0.5	1.9	2.3	230	NA	NA	NA	NA	NA	NA	NA	NA	NA	
9/11/02		438.98	260	NA	1.3	<0.5	0.57	0.77	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	
12/1/02		437.38	250	120	7.9	1.6	13	9.9	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	
3/14/03		442.53	830	110	56	<0.5	<0.5	<1.0	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	
6/25/03		442.97	260	180	0.92	2.9	3.1	8.1	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
9/16/03		440.24	420	260	3.6	3.4	5.2	2.4	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	
12/22/03		443.36	240	120	0.82	3.1	7.8	3.9	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	
3/10/04		447.63	280	210	9.4	4.2	14	11	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	
6/15/04		442.76	150	150	2.1	2.4	2.2	1.3	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	
9/17/04		439.50	61	70	<0.5	1.0	<0.5	<0.5	730	NA	NA	NA	NA	NA	NA	NA	NA	NA	
12/10/04		442.94	84	110	<0.5	1.2	<0.5	1.5	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	
3/2/05		448.19	63	91	0.55	<0.5	0.63	0.51	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	
5/27/05	446.65	270	59	14	3.9	19	6.8	1,100	NA	NA	NA	NA	NA	NA	NA	NA	NA		
7/21/05	444.48	280	NS	8.6	2.5	17	2.5	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA		
10/10/05	442.64	<50	NS	<.5	<.5	<.5	<.5	680	NA	NA	NA	NA	NA	NA	NA	NA	NA		

Table 2
Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)			
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-2A cont.	1/9/06	447.27	1,700	890	4.4	1.3	120	18	530	<10	330	<10	<10	590	<1,000	<10,000	<10	<10	
	4/7/06	449.47	110	160	0.61	0.8	4.1	<0.5	270	<5.0	660	<5.0	<5.0	240	<500	<5,000	<5.0	<5.0	
	7/27/06	442.67	<50	120	<0.5	0.84	<0.5	<0.5	87	<5.0	870	<5.0	<5.0	110	NA	NA	NA	NA	
	10/12/06	441.59	<50	70	<0.5	<0.5	<0.5	<0.5	29	<5.0	480	<5.0	<5.0	30	<500	<5,000	NA	NA	
	1/3/07	444.04	55	60	0.57	<0.5	<0.5	<0.5	8.5	<2.5	590	<2.5	<2.5	7.8	<250	<2,500	<2.5	<2.5	
	4/13/07	441.78	86	130	<0.5	0.6	<0.5	<0.5	16	<5.0	740	<5.0	<5.0	16	<500	<5,000	<5.0	<5.0	
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/18/08	437.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	439.82	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	439.09	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/21/11	439.64	<50	<50	<0.5	<0.5	<0.5	<0.5	2.8	<5.0	<5.0	<5.0	<5.0	2.8	NA	NA	<5.0	<5.0	
	4/8/11	446.64	<50	<50	<0.5	0.77	<0.5	6.2	<5.0	<0.5	15	<0.5	<0.5	3.3	NA	NA	<0.5	<0.5	
	9/20/11	442.49	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	7.9	<0.5	<0.5	2.8	NA	NA	<0.5	<0.5	
	11/8/11	442.17	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.3	NA	NA	<0.5	<0.5	
	2/1/12	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/12	438.15	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.4	<0.5	<0.5	1.1	NA	NA	<0.5	<0.5	
8/30/12	NC	NS	NS	not sampled				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW- 3A*	8/11/00	NC	59	260	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	10/19/00	443.39	<50	<65	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	2/22/01	442.33	<50	100	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	5/30/01	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NA	NA	
	11/14/01	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NA	NA	
	5/7/02	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NA	NA	
	9/11/02	439.23	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/1/02	437.66	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NA	NA	
	3/14/03	442.80	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	6/25/03	443.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/16/03	440.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/22/03	443.47	<50	69	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	3/10/04	447.96	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	6/15/04	443.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/17/04	439.75	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/10/04	443.19	<50	<50	<0.5	<0.5	<0.5	<0.5	7.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	3/2/05	448.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	5/27/05	446.95	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	7/21/05	444.74	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	10/10/05	442.90	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1/9/06	447.60	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5		
4/7/06	449.82	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5		
7/27/06	442.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA		
10/12/06	441.85	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	NA	NA		

Table 2
Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)			
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-3A cont.	1/3/07	444.32	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	4/13/07	442.06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/18/08	437.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	437.89	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/19/20	439.29	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/20/11	442.21	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/8/11	446.94	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/20/11	442.45	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/8/11	442.25	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/1/12	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/12	438.38	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8/28/12	NC	NS	NS	not sampled				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-4**	11/14/01	431.31	510	90	4.0	<0.5	<0.5	<0.5	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	5/7/02	438.40	150	<50	3.5	0.5	<0.5	<0.5	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/11/02	438.49	<50	NA	<0.5	<0.5	<0.5	<0.5	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/1/02	436.76	<50	<50	<0.5	<0.5	<0.5	<0.5	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	3/14/03	442.01	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	6/25/03	442.43	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/16/03	439.76	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/22/03	442.73	<50	69	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	3/10/04	446.95	<50	<50	<0.5	<0.5	<0.5	<0.5	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	6/15/04	442.20	<50	<50	<0.5	<0.5	<0.5	<0.5	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	9/17/04	439.03	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/10/04	442.42	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	3/2/05	447.55	<50	<50	<0.5	<0.5	<0.5	<0.5	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	5/27/05	446.01	<50	<50	<0.5	<0.5	<0.5	<0.5	9.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	7/21/05	443.90	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
10/10/05	442.30	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA		
1/9/06	446.61	<50	<50	<0.5	<0.5	<0.5	<0.5	0.86	<0.5	<5.0	<0.5	<5.0	0.86	<50	<500	<5.0	<5.0		
MW-4A	3/13/06	445.87	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.70	<50	<500	<0.5	<0.5	
	4/7/06	448.77	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<5.0	1.1	<50	<500	<0.5	<0.5	
	7/28/06	442.09	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	3.0	NA	NA	NA	NA	
	10/13/06	441.06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	2.0	<50	<500	NA	NA	
	1/4/07	443.44	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.79	<50	<500	<0.5	<0.5	
	4/16/07	441.18	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.51	<50	<500	<0.5	<0.5	
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/18/08	437.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

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160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)			
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-4A cont.	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	439.30	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	440.71	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/20/11	441.32	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/7/11	436.16	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/19/11	441.53	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/7/11	441.56	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/1/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/12	437.69	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/28/12	NC	NS	NS	not sampled					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	MW-5**	11/14/01	429.71	<50	<66	<0.5	<0.5	<0.5	<0.5	8.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/7/02		436.75	140	<50	<0.5	<0.5	<0.5	<0.5	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/11/02		436.66	<50	NA	<0.5	<0.5	<0.5	<0.5	6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/1/02		435.15	73	<50	<0.5	<0.5	<0.5	<0.5	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/14/03		440.39	110	<50	<0.5	<0.5	<0.5	<0.5	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/25/03		440.64	<50	<50	<0.5	<0.5	<0.5	<0.5	89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/16/03		437.82	630	<50	<0.5	3.50	<0.5	2.6	1,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/22/03		440.97	<0.5	<50	<0.5	<0.5	<0.5	<0.5	630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/10/04		445.43	57	<50	<0.5	<0.5	<0.5	<0.5	1,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/15/04		440.45	<50	<50	<0.5	<0.5	<0.5	<0.5	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/17/04		436.97	<50	<50	<0.5	<0.5	<0.5	<0.5	780	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/10/04		440.72	<50	<50	<0.5	<0.5	<0.5	<0.5	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/2/05		446.09	<50	<50	<0.5	<0.5	<0.5	<0.5	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/27/05		444.50	<50	<50	<0.5	<0.5	<0.5	<0.5	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/21/05	442.10	<50	NS	<0.5	<0.5	<0.5	<0.5	97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
10/10/05	441.30	<50	NS	<0.5	<0.5	<0.5	<0.5	41	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1/9/06	445.12	<50	<50	<0.5	<0.5	<0.5	<0.5	37	<0.5	<5.0	<0.5	<5.0	<5.0	<50	<500	<0.5	<0.5		
MW-5A	3/13/06	444.48	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	4/7/06	447.29	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	7/28/06	440.24	<50	62	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA	
	10/13/06	439.06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	6.3	<0.5	<0.5	0.61	<50	<500	NA	NA	
	1/4/07	442.11	<50	320	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	4/16/07	439.87	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	430.61	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.3	<50	<500	<0.5	<0.5	
	4/18/08	436.51	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	464.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/4/10	435.87	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	7/20/10	440.07	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1/19/11	440.12	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA		
4/7/11	436.16	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA		
9/19/11	440.02	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA		

Table 2
Groundwater Analytical Results
 160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)		
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA
MW-6 cont.	4/16/07	439.73	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/08	431.08	<50	<50	<0.5	<0.5	<0.5	0.91	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5
	4/18/08	435.93	<50	<50	<0.5	<0.5	<0.5	0.91	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/22/09	425.42	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/24/09	425.87	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5
	3/4/10	438.11	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/19/20	439.48	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/19/11	440.13	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/6/11	442.37	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/19/11	440.37	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/7/11	441.13	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/1/12	430.70	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/12/12	436.51	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
	8/29/12	433.96	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
	MW-7A ***	3/13/06	445.85	6,200	1,800	140	21	200	560	6,900	<100	4,400	<100	<100	6,300	<10,000	<100,000	<100
4/7/06		448.71	5,300	1,700	130	26	330	420	5,900	<100	7,500	<100	<100	6,600	<10,000	<100,000	<100	<100
7/28/06		441.92	2,200	470	28	18	60	0.85	240	<25	4,700	<25	<25	240	NA	NA	NA	NA
10/12/06		440.82	6,500	2,400	83	38	300	160	980	<17	4,700	<10	<17	1200	<1,700	<17,000	NA	NA
11/21/06		NM	1,400	NA	25	17	65	<0.5	45	<10	1,400	<10	<10	42	<1,000	<10,000	<10	<10
1/4/07		443.52	1,000	440	12	18	48	8.3	75	<5.0	1,100	<5.0	<5.0	73	<500	<5,000	<5.0	<5.0
4/16/07		441.27	520	470	17	5.6	2.6	0.88	140	<12	2,500	<12	<12	170	<1,200	<12,000	<12	<12
7/16/07		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/29/07		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2/1/08		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/18/08		437.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
7/28/08		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
11/18/08		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2/4/09		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/21/09		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/24/09		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/4/10		439.02	83	NA	<0.5	0.81	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/19/10		440.54	680	NA	<0.5	10	4.9	4.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/20/11		441.72	580	310	<0.5	7.3	7.2	1.5	<5.0	<2.5	490	<2.5	<2.5	5.8	NA	NA	<2.5	<2.5
4/11/11		445.97	140	<50	<0.5	1.7	<0.5	<0.5	<5.0	<2.5	540	<2.5	<2.5	5.8	NA	NA	<2.5	<2.5
4/18/11	445.73	91	90	<0.5	0.94	<0.5	<0.5	8.5	400	400	<2.5	<2.5	5.8	NA	NA	<2.5	<2.5	
5/9/11	444.17	<50	69	<0.5	<0.5	<0.5	<0.5	<5.0	<1.7	350	<1.7	<1.7	5.9	NA	NA	<1.7	<1.7	
6/1/11	444.31	58	77	<0.5	0.76	0.79	0.97	5.2	<1.7	250	<1.7	<1.7	5.5	NA	NA	<1.7	<1.7	
6/15/11	443.87	<50	80	<0.5	<0.5	<0.5	<0.5	<5.0	<1.0	190	<1.0	<1.0	3.8	NA	NA	<1.0	<1.0	
6/30/11	443.45	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	81	<0.5	<0.5	2.5	NA	NA	<0.5	<0.5	
9/19/11	441.36	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	4.4	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	
11/7/11	441.87	<50	<50	<0.5	0.64	<0.5	<0.5	<5.0	<0.5	3.3	<0.5	<0.5	0.67	NA	NA	<0.5	<0.5	
2/1/12	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NA
6/13/12	437.39	390	1,200	<0.5	9.9	<0.5	<0.5	<5.0	<0.5	4.6	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5	
8/29/12	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 2
Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)		
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA
MW-7C cont.	9/20/11	441.89	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	11/8/11	440.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	2/2/12	431.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	6/13/12	436.85	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	8/30/12	434.32	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
MW-8A	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	67	<50	<0.5	2.6	<0.5	1.6	<5.0	<0.5	<2.0	<0.5	<0.5	4.9	<50	<500	<0.5	<0.5
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/20/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/7/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/19/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	5.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/7/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/2/12	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/12/12	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
	8/29/12	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	3.0	NA	NA	NA	NA
MW-8B	7/28/08	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.5	<50	<500	<0.5	<0.5
	11/18/08	NC	<50	120	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	5.1	<50	<500	<0.5	<0.5
	2/4/09	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/22/09	NC	50	NA	<0.5	<0.5	<0.5	<0.5	1300	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/24/09	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5
	3/4/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/20/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/7/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/19/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/7/11	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/2/12	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/13/12	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
	8/30/12	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
MW-9A	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/20/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	74	<0.5	<0.5	1.1	<50	<500	<0.5	<0.5
	4/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	65	<0.5	<0.5	0.74	NA	NA	<0.5	<0.5
	9/19/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	120	<0.5	<0.5	1.6	NA	NA	<0.5	<0.5
	11/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	2.9	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	2/1/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<1.0	200	<1.0	<1.0	1.2	NA	NA	<1.0	<1.0
	6/12/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5
	8/30/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	NA	NA	<0.5	<0.5

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 160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)		
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA
MW-9B	7/29/08	NC	<50	63	<0.5	<0.5	<0.5	<0.5	100	<10	2,800	<10	<10	160	<1,000	<10,000	<10	<10
	11/18/08	NC	<50	1000	<0.5	<0.5	<0.5	<0.5	7.0	<0.5	4.6	<0.5	<0.5	7.5	<50	<500	<0.5	<0.5
	2/4/09	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/22/09	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	470	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/24/09	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	5.4	<0.5	<2.0	<0.5	<0.5	7.2	<50	<500	<0.5	<0.5
	3/4/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/20/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	8.9	<0.5	<0.5	0.65	<50	<500	<0.5	<0.5
	4/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	22	<0.5	<0.5	1.2	NA	NA	<0.5	<0.5
	9/19/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.2	NA	NA	<0.5	<0.5
	11/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.7	NA	NA	<0.5	<0.5
	2/1/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	89	<0.5	<0.5	3.3	NA	NA	<0.5	<0.5
	6/12/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.6	NA	NA	<0.5	<0.5
	8/30/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	0.55	NA	NA	<0.5	<0.5
	EX-1**	11/14/01	431.89	13,000	2,000	180	1,000	330	3,200	2,200	NA	NA	NA	NA	NA	NA	NA	NA
5/7/02		437.72	7,700	560	320	<25	66	150	6,200	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/11/02		NC	2,800	NA	32	<13	14	<13	2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/1/02		437.32	3,000	100	81	<0.5	44	<1.0	4,800	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/14/03		442.28	750	50	<0.5	<0.5	7.7	13	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/25/03		442.89	120	<50	3.2	3.7	4.2	7.6	260	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/16/03		440.65	170	<50	0.5	1.5	<0.5	0.9	1,600	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/10/04		447.31	NS	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/15/04		442.82	NS	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/17/04		439.39	NS	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/10/04		NC	NS	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/2/05		NC	NS	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/27/05		446.62	NS	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/21/05		443.75	<50	NS	<0.5	<0.5	<0.5	<0.5	610	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/10/05		442.57	<50	NS	<0.5	<0.5	<0.5	<0.5	31	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/9/06	447.25	580	55	40	25	45	43	4,200	<170	<1,700	<170	<170	5,200	<170,000	<17,000	<170	<170	
EW-1	3/13/06	446.47	210	120	5.0	4.10	7.5	12	3,400	<50	<100	<50	<50	2,300	<5,000	<50,000	<50	<50
	4/7/06	449.46	1,900	190	66	170	110	380	7,900	<100	<1000	<100	<100	6,400	<10,000	<100,000	<100	<100
	7/27/06	441.60	280	100	7.4	5.5	12	28	8,400	<500	<5,000	<500	<500	12,000	NA	NA	NA	NA
	10/12/06	441.94	2,100	130	86	19	100	310	2,400	<50	1,400	<50	<50	2,800	<5,000	180,000	NA	NA
	1/4/07	444.00	1,600	150	56	27	110	240	5,000	<50	2,900	<50	<50	4,900	<5,000	<50,000	<50	<50
	4/13/07	441.76	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/18/08	437.62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	NC	4,400	NA	460	<25	380	<25	31,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	441.10	400	NA	4.4	6.6	1.8	4.4	590	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2
Groundwater Analytical Results
 160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)			
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
EW-1 cont.	1/20/11	441.87	570	190	21	6.4	14	57	3,500	<50	15,000	<50	<50	3,300	NA	NA	<50	<50	
	4/8/11	446.60	410	220	11	4.2	3.1	43	2,400	<50	8,200	<50	<50	3,300	NA	NA	<50	<50	
	4/18/11	445.75	200	130	<0.5	1.7	1.1	3.0	4,400	<50	14,000	<50	<50	3,600	NA	NA	<50	<50	
	5/9/11	445.76	62	<50	1.2	1.4	<0.5	<0.5	520	<25	4,800	<25	<25	390	NA	NA	<25	<25	
	6/2/11	444.93	83	<50	1.3	2.1	<0.5	0.6	180	<100	9,600	<100	<100	240	NA	NA	<100	<100	
	6/15/11	444.34	60	<50	<0.5	1.8	<0.5	<0.5	97	<100	6,300	<100	<100	100	NA	NA	<100	<100	
	6/30/11	444.04	74	<50	<0.5	2.0	<0.5	<0.5	200	<50	5,700	<50	<50	200	NA	NA	<50	<50	
	9/20/11	443.10	63	52	<0.5	2.1	<0.5	<0.5	210	<50	11,000	<50	<50	190	NA	NA	<50	<50	
	11/8/11	442.10	78	<50	<0.5	1.8	<0.5	<0.5	76	<50	7,600	<50	<50	97	NA	NA	<50	<50	
	2/2/12	432.07	59	57	<0.5	1.1	<0.5	<0.5	270	<500	50,000	<500	<500	<500	NA	NA	<500	<500	
	6/13/12	438.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<50	13,000	<50	<50	<50	NA	NA	<50	<50	
	8/29/12	435.55	<50	<50	<0.5	0.62	<0.5	<0.5	<5.0	<50	8,100	<50	<50	<50	NA	NA	<50	<50	
	EW-2	3/13/06	446.81	<250	69	<2.5	<2.5	<2.5	<2.5	5,400	<100	<1,000	<100	<100	5,100	<10,000	<100,000	<100	<100
		4/7/06	449.79	470	160	15	2.5	24	13	2,000	<50	<500	<50	<50	1,800	<5,000	<50,000	<50	<50
7/27/06		442.89	260	350	2.2	1.7	6.1	3.0	8,700	<500	<5,000	<500	<500	12,000	NA	NA	NA	NA	
10/12/06		444.51	110	<50	2.0	1.0	3.1	3.9	620	<12	<120	<12	<12	680	<1,200	<12,000	NA	NA	
1/4/07		444.33	<500	<50	5.3	<5.0	16	7.1	4,500	<50	<500	<50	<50	4,200	<5,000	<50,000	<50	<50	
4/13/07		442.06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
7/16/07		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
10/29/07		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
2/1/08		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
4/18/08		437.95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
7/28/08		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11/18/08		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
2/4/09		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
4/21/09		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
9/24/09		NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
3/4/10		NC	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
7/20/10		441.54	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1/21/11		442.27	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	2.8	<0.5	<0.5	2.1	NA	NA	<0.5	<0.5	
4/11/11		446.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	2.1	<0.5	<0.5	0.65	NA	NA	<0.5	<0.5	
4/18/11		446.80	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	0.7	NA	NA	<0.5	<0.5	
5/9/11		446.32	<50	<50	<0.5	<0.5	<0.5	<0.5	15	<0.5	2.8	<0.5	<0.5	12	NA	NA	<0.5	<0.5	
6/2/11		445.28	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	12	<0.5	<0.5	6.2	NA	NA	<0.5	<0.5	
6/15/11		444.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.3	NA	NA	<0.5	<0.5	
6/30/11		444.68	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.4	NA	NA	<0.5	<0.5	
9/20/11		441.44	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.3	NA	NA	<0.5	<0.5	
11/8/11		442.39	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.0	NA	NA	<0.5	<0.5	
2/2/12	432.33	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	490	<5.0	<5.0	<5.0	NA	NA	<5.0	<5.0		
6/13/12	438.35	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	<2.0	<5.0	<5.0	0.89	NA	NA	<5.0	<5.0		
8/28/12	NC	NS	NS	Not Sampled					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 2
Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)						Lead Scavengers (µg/L)			
			Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
EW-3 (a)	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	<10,000	NA	<100	<100	<100	<100	420,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	NC	140,000	NA	240	900	320	28,000	340,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/20/10	NC	23,000	NA	240	940	760	3,100	150,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/21/11	NC	15,000	5,200	230	93	1,100	1,900	150,000	<2,500	72,000	<2,500	<2,500	150,000	NA	NA	<2,500	<2,500	
	4/11/11	NC	8,400	590	110	37	690	820	68,000	<2,500	67,000	<2,500	<2,500	79,000	NA	NA	<2,500	<2,500	
	4/18/11	NC	7,300	1,300	81	100	350	870	85,000	<1,700	50,000	<1,700	<1,700	72,000	NA	NA	<1,700	<1,700	
	5/9/11	NC	5,400	2,200	56	<50	160	350	79,000	<1,000	40,000	<1,000	<1,000	62,000	NA	NA	<1,000	<1,000	
	6/1/11	NC	4,800	3,700	53	<25	170	300	50,000	<1,000	43,000	<1,000	<1,000	76,000	NA	NA	<1,000	<1,000	
	6/15/11	NC	8,200	2,200	66	<50	270	360	93,000	<2,500	47,000	<2,500	<2,500	85,000	NA	NA	<2,500	<2,500	
	6/30/11	NC	8,000	1,900	64	<50	260	260	100,000	<2,500	51,000	<2,500	<2,500	100,000	NA	NA	<2,500	<2,500	
	9/20/11	NC	<5,000"	1,700	<50"	64	74	100	80,000	<2,500	91,000	<2,500	<2,500	78,000	NA	NA	<2,500	<2,500	
	11/8/11	NC	<6,000"	860	<50"	<50	60	130	82,000	<2,500	49,000	<2,500	<2,500	67,000	NA	NA	<2,500	<2,500	
	2/2/12	NC	1,600	510	<5.0"	13	10	35	24,000	<500	62,000	<500	<500	26,000	NA	NA	<500	<500	
	6/13/12	NC	490	870	<0.5	2.3	3.0	7.9	8,600	<250	66,000	<250	<250	9,300	NA	NA	<250	<250	
8/30/12	NC	430	580	<1.7	<1.7	5.7	20	3,900	<500	82,000	<500	<500	3,900	NA	NA	<500	<500		

Notes:
Samples analyzed for TPHg and TPHd by EPA Method 8015Bm, BTEX by EPA Method 8021B, MTBE by EPA Method 8021B and/or 8260B, and the fuel oxygenates TBA, DIPE, ETBE, TAME, EDB, 1,2-DCA, ethanol, and methanol by EPA Method 8260.
µg/L = micrograms per liter
"= High concentrations of MTBE caused very high detection limits, both TPHg and Benzene were estimated just below the listed detection limits by McCambell Analytical
NS = Not Sampled
NA = Not Analyzed
EDB = 1,2-Dibromoether
1,2-DCA = 1,2-Dichloroethane
MTBE = methyl tertiary butyl ether
DIPE =Di-isoprpropyl Ether
ETBE = Ethyl tert-Butyl Ether
TAME - tert-Amyl Methyl Ether
TBA = tert-Butanol
" = High concentrations of MTBE resulted in high reporting limits, both TPHg and benzene were estimated just below the listed reporting limits by laboratory
* = Well MW-1 renamed MW-1A, well MW-2 renamed MW-2A, Well MW-3 renamed MW-3A in February 2006
** = Well destroyed in February 2006
*** = Anomalous data observed in MW-7C from October 12, 2006 sample. Therefore, wells MW-7A, MW-7B, and MW-7C were resampled on November 21, 2006.
(a) = Well EW-3 is 35 feet deep with a screen interval from 25 to 30 feet bgs.

Table 3
Remedial Groundwater Analytical Results
 160 Holmes St, Livermore, California

Sample ID	Date Collected	Monitoring Event	Metals		Hexachrome	Inorganic Anions	Total and Speciated Alkalinity as Calcium Carbonate				Alkali Metals			Dissolved Oxygen	Ferrous Iron	Carbon Dioxide	Methane	Total Dissolved Solids	
			Arsenic	Chromium		Sulfate	Total	Carbonate	Biocarbonate	Hydroxide	Iron	Maganese	Sodium						
Analytical Method:			E200.8	E200.8	E218.6	E300.1	2320B	2320B	2320B	2320B	E200.7	E200.7	E200.7	4500OG	3500-Fe B4c	RSK174/175	RSK174/175	SM2540C	
Units:			µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	
MW-1A	4/8/11	BL	6.1	11	<0.2	73	541	<1.0	541	<1.0	5,000	4,000	45,000	1.19 @ 19.7C	1,300	370,000	13	634	
	4/18/11	E1	150	160	<10	680	8,810	6,540	2,270	<1.0	71,000	3,100	4,200,000	26.44 @ 20.7C	<50	1,700	1.1	11,100	
	5/9/11	E2	88	36	5.6	220	1,844	234	1,610	<1.0	15,000	590	1,200,000	24.70 @ 6.78C	68	880,000	3.2	2,490	
	6/1/11	E3	70	6.4	1.3	190	1,370	<1.0	1,370	<1.0	2,500	480	1,000,000	9.37 @ 10.6C	190	790,000	2.5	2,470	
	6/15/11	BW1	40	5.1	0.66	140	1,180	<1.0	11,180	<1.0	3,500	970	880,000	8.12 @22.4C	<50	490,000	1.3	1,550	
	6/30/11	BW2	22	4.2	0.54	150	1,090	<1.0	1,090	<1.0	3,900	700	650,000	5.66 @26.0C	840	550,000	1.6	1,970	
	8/28/12	3.12																	
Not Sampled Well Dry																			
MW-1B	4/8/11	BL	0.56	58	2.5	53	225	<1.0	225	<1.0	1,400	42	43,000	7.42 @ 19.8C	<50	110,000	<0.4	361	
	4/18/11	E1	0.59	6.6	2.4	46	217	<1.0	217	<1.0	1,700	44	47,000	7.26 @ 20.0C	<50	210,000	<0.4	330	
	5/9/11	E2	0.99	6.7	2.4	43	218	<1.0	218	<1.0	2,300	560	46,000	7.49 @ 12.7C	<50	370,000	<0.4	374	
	6/1/11	E3	<0.5	2.5	1.4	48	216	<1.0	216	<1.0	250	<20	44,000	8.21 @ 9.31C	<50	200,000	<0.4	386	
	6/15/11	BW1	<0.5	5.1	1.8	49	220	<1.0	220	<1.0	200	<20	45,000	6.87 @17.8C	<50	130,000	<0.4	354	
	6/30/11	BW2	<0.5	4.4	2.1	46	220	<1.0	220	<1.0	1,000	31	50,000	6.51 @25.0C	<50	130,000	<0.4	386	
	8/28/12	3.12	<0.5	3.7	1.6	36	208	<1.0	208	<1.0	1,000	35	43,000	6.87@15.1C	<50	NA	<0.4	315	
9/5/12	3.12	NA	NA	2.0	NA	NA	NA	NA	NA	Na	NA	NA	7.40@15.5C	<50	NA	NA	NA	NA	
MW-2A	4/8/11	BL	1.8	5.3	<0.2	640	333	<1.0	333	<1.0	2,300	14,000	49,000	1.62 @ 17.8C	430	330,000	<0.4	1,250	
	4/18/11	E1	2.7	18	<0.2	330	349	<1.0	349	<1.0	8,200	10,000	47,000	1.48 @19.8C	99	51,000	0.54	836	
	5/9/11	E2	4.9	7.9	<0.2	140	376	<1.0	376	<1.0	4,300	2,800	59,000	3.57 @ 6.93C	<50	450,000	1.6	594	
	6/1/11	E3	3.4	28	<0.2	99	382	<1.0	382	<1.0	12,000	4,700	41,000	3.65 @ 12.6C	83	370,000	0.91	574	
	6/15/11	BW1	1.4	1.8	<0.2	99	366	<1.0	366	<1.0	1,100	3,900	39,000	2.53 @22.2C	<50	250,000	1.2	681	
	6/30/11	BW2	2.7	15	<0.2	500	356	<1.0	356	<1.0	7,200	5,200	44,000	2.02 @24.7C	90	240,000	2.5	561	
	8/28/12	3.12																	
Not Sampled																			
EW-1	4/8/11	BL	2.6	5.8	<0.2	61	437	<1.0	437	<1.0	2,700	3,300	46,000	1.58 @ 19.0C	62	290,000	32	559	
	4/18/11	E1	32	30	6.1	120	1,250	243	1,010	<1.0	12,000	2,600	550,000	16.08 @20.2C	<50	630,000	9.2	1,660	
	5/9/11	E2	1.2	8.1	<0.2	50	367	<1.0	367	<1.0	3,200	7,000	44,000	3.39 @ 12.1 C	120	570,000	30	549	
	6/1/11	E3	5.7	4.2	<0.2	50	352	<1.0	352	<1.0	2,400	2,800	63,000	6.50 @ 12.5 C	180	320,000	16	512	
	6/15/11	BW1	6.6	32	<0.2	50	315	<1.0	315	<1.0	15,000	4,700	56,000	3.43 @19.8C	360	200,000	34	550	
	6/30/11	BW2	7.4	42	<0.2	42	299	<1.0	299	<1.0	20,000	4,500	52,000	1.96 @16.5C	300	260,000	30	462	
	8/29/12	3.12	8.6	31	<0.2	36	276	<1.0	276	<1.0	14,000	2,300	44,000	4.18@15.1C	570	NA	5.3	394	
9/5/12	3.12	NA	NA	<0.2	NA	NA	NA	NA	NA	Na	NA	NA	3.28@10.9C	490	NA	NA	NA	NA	
EW-2	4/11/11	BL	2.0	18	0.65	51	250	<1.0	250	<1.0	5,900	1,700	47,000	4.35 @ 7.72C	<50	140,000	<0.4	575	
	4/18/11	E1	3.0	24	0.51	42	256	<1.0	256	<1.0	9,500	1,400	47,000	4.36 @ 19.6C	<50	230,000	<0.4	433	
	5/9/11	E2	<0.5	2.7	0.70	46	251	<1.0	251	<1.0	330	<20	50,000	5.08 @ 10.3 C	<50	290,000	<0.4	469	
	6/2/11	E3	16	18	14	75	470	357	<1.0	113	2,100	1,300	250,000	28.86 @ 15.2C	<50	240,000	<0.4	694	
	6/15/11	BW1	9.3	6.5	5.4	57	553	189	364	<1.0	910	2,200	120,000	19.20 @20.8C	<50	240,000	<0.4	589	
	6/30/11	BW2	8.5	19	2.3	53	477	62.4	415	<1.0	6,500	3,200	100,000	9.93 @24.8C	55	360,000	<0.4	637	
	8/28/12	3.12																	
Not Sampled																			
EW-3	4/11/11	BL	23	1.9	<0.2	52	747	<1.0	747	<1.0	12,000	4,400	82,000	1.96 @ 8.21C	10,000	520,000	290	934	
	4/18/11	E1	23	30	0.35	100	1,140	<1.0	1,140	<1.0	15,000	2,500	320,000	13.26 @ 19.9C	1,100	300,000	86	1,350	
	5/9/11	E2	43	6.3	7.0	220	2,672	422	2,250	<1.0	1,700	540	990,000	20.22 @ 13.6C	240	760,000	22	3,290	
	6/2/11	E3	310	190	160	640	9,620	6,700	<1.0	2,910	2,800	100	840,000	27.78 @ 15.1C	<50	160	8.6	10,900	
	6/15/11	BW1	230	150	180	440	4,980	2,230	<1.0	2,750	7,200	370	2,400,000	22.11 @21.5C	<50	50	8.3	5,770	
	6/30/11	BW2	49	77	110	280	2,800	721	<1.0	2,080	4,700	1,500	1,600,000	27.54 @24.9C	<50	330	16	3,440	
	8/30/12	3.12	^	^	^	^	^	^	^	^	^	^	^	^	580	NA	1.7	^	^

Table 3
Remedial Groundwater Analytical Results
 160 Holmes St, Livermore, California

Sample ID	Date Collected	Monitoring Event	Metals		Hexachrome	Inorganic Anions	Total and Speciated Alkalinity as Calcium Carbonate				Alkali Metals			Dissolved Oxygen	Ferrous Iron	Carbon Dioxide	Methane	Total Dissolved Solids
			Arsenic	Chromium			Sulfate	Total	Carbonate	Biocarbonate	Hydroxide	Iron	Maganese					
Analytical Method:			E200.8	E200.8	E218.6	E300.1	2320B	2320B	2320B	2320B	E200.7	E200.7	E200.7	4500OG	3500-Fe B4c	RSK174/175	RSK174/175	SM2540C
Units:			µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L
MW-7A	4/11/11	BL	4.9	69	<0.2	83	367	<1.0	367	<1.0	27,000	5,100	57,000	1.96 @ 9.58C	66	340,000	6.7	781
	4/18/11	E1	4.2	48	<0.2	81	385	<1.0	385	<1.0	21,000	4,800	61,000	1.38 @20.2C	<50	330,000	5.8	555
	5/9/11	E2	1.4	<0.5	<0.2	76	372	<1.0	372	<1.0	680	3,000	47,000	2.68 @ 12.0 C	<50	540,000	6.6	574
	6/1/11	E3	3.0	35	<0.2	89	369	<1.0	369	<1.0	14,000	3,900	57,000	4.24 @ 9.16C	54	340,000	5.8	567
	6/15/11	BW1	0.97	2.3	<0.2	86	353	<1.0	353	<1.0	830	3,800	54,000	1.78 @23.2C	67	210,000	6.1	645
	6/30/11	BW2	1.3	0.79	<0.2	87	320	<1.0	320	<1.0	730	2,900	49,000	1.89 @24.9C	55	230,000	5.0	575
	8/28/12	3.12																
	Not Sampled Well Dry																	
MW-7B	4/11/11	BL	1.5	1.9	<0.2	34	386	<1.0	386	<1.0	1,300	3,100	45,000	2.55 @ 7.72C	400	350,000	0.68	636
	4/18/11	E1	1.7	0.7	<0.2	29	415	<1.0	415	<1.0	1,000	3,600	47,000	1.96 @19.8C	560	330,000	12	543
	5/9/11	E2	2.2	17	<0.2	33	382	<1.0	382	<1.0	6,700	4,200	52,000	2.36 @ 16.3 C	470	350,000	13	478
	6/1/11	E3	1.4	0.90	<0.2	39	369	<1.0	369	<1.0	720	2,700	43,000	5.13 @ 11.1C	440	320,000	14	428
	6/15/11	BW1	1.4	<0.5	<0.2	40	374	<1.0	374	<1.0	600	2,800	44,000	2.23 @22.8C	460	260,000	20	564
	6/30/11	BW2	3.7	47	<0.2	36	372	<1.0	372	<1.0	21,000	4,500	52,000	2.32 @25.2C	370	270,000	23	493
	8/29/12	3.12	1.7	3.3	<0.2	34	285	<1.0	285	<1.0	2,100	1,800	43,000	5.12 @14.9C	<50	NA	6.1	367
	9/5/12	3.12	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	3.89@10.4C	52	NA	NA	NA

Notes:

mg/L = millograms per Liter

µg/L = micrograms per liter

BL = Base line monitoring event

E1 = First remedial monitoring event

E2 = Second remedial monitoring event

E3 = Third remedial monitoring event

BW1 = First bi-weekly monitoring event

BW2 = Second bi-weekly monitoring event

3.12 = Third quarter 2012

The symbol "<" (less than) indicates that the analyte was not detected at a concentration above the laboratory detection limit specified.

Table 4
Historic Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates				
										TAME	TBA	DIPE	ETBE	MTBE
T1-West	NA	4/5/99	<20	<1.0	<1.2	<1.2	<1.2	<1.2	24	--	--	--	--	--
T2-West	NA	4/5/99	<100	--	<6.2	<6.2	<6.2	<6.2	47	--	--	--	--	--
T3-West	NA	4/5/99	<200	--	<12	<12	<12	<12	41	--	--	--	--	--
T4-West	NA	4/5/99	<200	--	<12	<12	<12	<12	100	--	--	--	--	--
T1-East	NA	5/6/99	17	<1.0	<0.62	<0.62	<0.62	<0.62	7.7	--	--	--	--	--
T2-East	NA	5/6/99	31	--	<0.62	<0.62	<0.62	<0.62	28	--	--	--	--	--
T3-East	NA	5/6/99	<50	--	<3.1	<3.1	<3.1	<3.1	41	--	--	--	--	--
T4-East	NA	5/6/99	14	--	<0.62	<0.62	<0.62	<0.62	20	--	--	--	--	--
Dispenser 1	NA	5/20/99	49	--	0.015	0.084	0.033	0.041	<0.0050	--	--	--	--	--
Dispenser 2	NA	5/20/99	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--
Dispenser 3	NA	5/20/99	6,500	--	<31	81	120	940	<31	--	--	--	--	--
Dispenser 4	NA	5/20/99	--	--	--	--	--	--	--	--	--	--	--	--
Dispenser 5	NA	5/20/99	32	--	0.040	0.62	0.29	3.0	<0.0050	--	--	--	--	--
Dispenser 6	NA	5/20/99	<1.0	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	--	--	--	--
Diesel-D	NA	5/20/99	160	1,300	0.032	0.20	0.089	15	<0.62	--	--	--	--	--
MW-1	15	7/26/00	<10	--	<0.62	<0.62	<0.62	<0.62	0.93	--	--	--	--	--
MW-1	19	7/26/00	800	--	<6.2	36	18	100	21	--	--	--	--	--
MW-2	15	7/26/00	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
MW-2	20	7/26/00	1.1	--	0.0092	0.013	0.053	0.13	0.11	--	--	--	--	--
MW-3	15	7/26/00	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
MW-3	20	7/26/00	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
MB-1	18	11/11/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MB-1	22	11/11/05	78	23	0.028	0.073	1.0	4.8	2.3	--	--	--	--	--
MB-1	26	11/11/05	110	18	0.27	0.51	2.0	1.7	14	--	--	--	--	--
MB-3	20	11/11/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MB-3	28	11/11/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MB-3	32	11/11/05	1,400	100	<0.5	5.0	20	67	<5.0	--	--	--	--	--
B-1	28	11/10/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-2	16	11/10/05	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-2	20	11/10/05	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-2	24	11/10/05	5.7	9.5	<0.005	0.018	0.076	0.25	1.7	--	--	--	--	--
B-2	28	11/10/05	11	2.4	0.075	0.073	0.26	0.14	7.2	--	--	--	--	--
B-3	16	11/10/05	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
B-3	20	11/10/05	<1.0	--	<0.005	0.0058	0.0071	0.024	<0.05	--	--	--	--	--
B-3	24	11/10/05	9.0	1.4	0.077	0.037	0.32	1.1	<1.0	--	--	--	--	--
B-3	28	11/10/05	48	6.1	0.053	0.20	0.53	0.49	<1.0	--	--	--	--	--

Table 4
Historic Soil Analytical Results
 160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates				
										TAME	TBA	DIPE	ETBE	MTBE
DB-1	26	11/10/05	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW-1B	61	2/23/06	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW-5B	55	2/27/06	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW-7C	70	2/27/06	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
EW-2	41.5	2/24/06	1.4	--	<0.005	<0.005	<0.005	<0.005	0.22	--	--	--	--	--
GP-1	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-1	24	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-1	28	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-2	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-2	24	1/10/07	51	--	<0.050	<0.050	0.13	0.20	<0.50	--	--	--	--	--
GP-3	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-3	24	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-3	28	1/10/07	100	--	<0.050	0.40	2.1	3.2	2.6	--	--	--	--	--
GP-4	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-4	16	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-4	28	1/10/07	13	--	0.021	0.096	0.24	0.32	4.4	--	--	--	--	--
GP-5	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-5	20	1/10/07	5.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-5	28	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-6	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.090	--	--	--	--	--
GP-6	18	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-6	24	1/10/07	<1.0	--	<0.005	<0.005	<0.005	0.013	0.11	--	--	--	--	--
GP-6	28	1/10/07	23	--	0.0057	0.021	0.052	0.16	0.056	--	--	--	--	--
GP-6A	4	1/11/07	11	--	<0.005	<0.005	0.0081	<0.005	<0.10	--	--	--	--	--
GP-6A	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	0.011	<0.10	--	--	--	--	--
GP-6A	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-6A	20	1/11/07	1.6	--	<0.005	<0.005	0.0052	0.0065	0.066	--	--	--	--	--
GP-6A	24	1/11/07	2.0	--	<0.005	0.013	0.0062	0.015	0.44	--	--	--	--	--
GP-6A	28	1/11/07	17	--	<0.010	<0.010	0.40	0.028	0.34	--	--	--	--	--
GP-7	4	1/11/07	2.0	--	<0.005	0.014	0.0080	0.092	0.086	--	--	--	--	--
GP-7	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-7	14	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.062	--	--	--	--	--
GP-8	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-8	24	1/10/07	30	--	0.030	0.19	0.46	2.4	9.6	--	--	--	--	--

Table 4
Historic Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates				
										TAME	TBA	DIPE	ETBE	MTBE
GP-9	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-9	12	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-9	24	1/10/07	110	--	0.27	1.2	1.6	9.5	22	--	--	--	--	--
GP-10	21	1/10/07	35	--	0.033	0.35	0.56	3.6	1.5	--	--	--	--	--
GP-10	24	1/10/07	2.2	--	0.0081	0.011	0.023	0.12	3.9	--	--	--	--	--
GP-11	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-11	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-11	28	1/11/07	3.7	--	<0.005	<0.005	<0.005	<0.005	0.057	--	--	--	--	--
GP-12	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.072	--	--	--	--	--
GP-12	24	1/11/07	15	--	<0.005	<0.005	0.13	0.14	0.092	--	--	--	--	--
GP-12	28	1/11/07	11	--	0.0061	<0.005	0.47	0.014	0.36	--	--	--	--	--
GP-13	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-13	24	1/11/07	9.1	--	<0.005	<0.005	<0.005	0.014	<0.05	--	--	--	--	--
GP-13	28	1/11/07	100	--	0.17	0.39	2.6	6.7	8.9	--	--	--	--	--
GP-14	8	1/11/07	6.4	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-14	12	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-14	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-14	24	1/11/07	320	--	0.43	14	7.0	40	50	--	--	--	--	--
GP-14	28	1/11/07	120	--	0.47	3.3	2.0	11	140	--	--	--	--	--
GP-15	12	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.078	--	--	--	--	--
GP-15	19	1/11/07	1.5	--	<0.005	0.012	0.026	0.054	0.49	--	--	--	--	--
GP-15	24	1/11/07	1.6	--	<0.005	0.0077	0.015	0.11	0.40	--	--	--	--	--
GP-15	28	1/11/07	6.7	--	0.047	0.24	0.13	0.72	9.5	--	--	--	--	--
GP-16	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.061	--	--	--	--	--
GP-16	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.10	--	--	--	--	--
GP-16	28	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-17	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-17	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-17	28	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-18	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-18	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.070	--	--	--	--	--
GP-18	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-18	28	1/11/07	110	--	<0.010	0.16	0.37	1.3	0.20	--	--	--	--	--

Table 4
Historic Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates				
										TAME	TBA	DIPE	ETBE	MTBE
GP-19	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-19	21	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
GP-19	24	1/11/07	5.8	--	<0.005	0.0072	0.12	0.23	0.074	--	--	--	--	--
GP-21	32	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.050	4.6	<0.050	<0.050	<0.050
GP-21	36	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	1.1	<0.010	<0.010	<0.010
GP-21	40	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	0.72	<0.010	<0.010	<0.010
GP-21	44	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-21	48	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-21	52	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-22	32	7/8/08	1.2	--	<0.005	<0.005	0.0059	<0.005	<0.05	<0.025	2.9	<0.025	<0.025	0.051
GP-22	36	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.050	3.6	<0.050	<0.050	<0.050
GP-22	40	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	1.3	<0.010	<0.010	<0.010
GP-22	44	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-22	47	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-23	32	7/7/08	56	--	0.093	0.089	0.73	0.61	7.0	<0.33	<3.3	<0.33	<0.33	8.5
GP-23	36	7/7/08	<1.0	--	<0.005	<0.005	0.010	0.0067	0.081	<0.050	3.0	<0.050	<0.050	0.063
GP-23	40	7/7/08	<1.0	--	<0.005	<0.005	0.0087	<0.005	<0.05	<0.005	0.34	<0.005	<0.005	0.010
GP-23	44	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.010
GP-23	50	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-24	32	7/7/08	<1.0	--	<0.005	<0.005	0.015	<0.005	0.12	<0.010	1.2	<0.010	<0.010	0.23
GP-24	36	7/7/08	<1.0	--	<0.005	<0.005	0.016	<0.005	<0.05	<0.025	1.7	<0.025	<0.025	<0.025
GP-24	40	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	0.91	<0.010	<0.010	0.088
GP-24	44	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-24	48	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005
GP-25	32	7/8/08	4.5	--	0.18	0.015	0.18	<0.005	3.3	<0.25	<2.5	<0.25	<0.25	2.8
GP-25	36	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	0.85	<0.010	<0.010	0.85
GP-25	40	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.014
GP-25	44	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.012
GP-25	50	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.015
GP-26	32	7/8/08	3.1	--	0.0074	0.015	0.082	0.012	4.6	<0.33	<3.3	<0.33	<0.33	5.1
GP-26	36	7/8/08	3.4	--	0.023	0.0087	0.053	0.010	1.7	<0.33	<3.3	<0.33	<0.33	2.0
GP-26	40	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.013
GP-26	44	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.0061
GP-26	48	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.010
MW-8B	28	7/16/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--
MW-8B	32	7/16/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--

Table 4
Historic Soil Analytical Results
 160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates				
										TAME	TBA	DIPE	ETBE	MTBE

Notes:

All results are in milligrams per kilogram (mg/kg)

-- = not analyzed

NA = not available

TPHg = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary butyl ether

TAME = tert-amyl methyl ether

TBA = tert-butyl alcohol

DIPE = di-isopropyl ether

ETBE = ethyl tert-butyl ether

TPHg was analyzed by EPA Method 8015CM

BTEX and MTBE were analyzed by EPA Method 8021B

MTBE, TAME, ETBE, TBA, and DIPE were analyzed by EPA Method 8260B

Refusal met in borings GP-20 and GP-27, therefore no samples collected

Data compiled from other consultants was not subject to Allterra's standard of quality control

APPENDIX A
Site Investigation Field Protocol

APPENDIX A

Allterra's Site Investigation Field Protocol

Geoprobe Boring Installations and Sampling: A truck-mounted Geoprobe rig hydraulically pushes a 4-foot steel core barrel (usually 2.5-inch diameter) equipped with an acetate liner into undisturbed soil. Four-foot core soil samples are collected in the acetate liner. The core barrel is extracted from the boring and the liner is removed. Soil samples from the necessary depth is cut from the acetate liner and capped with Teflon® sheets and plastic caps. The sample is labeled and stored on ice in an ice chest. The remainder of the acetate liner is then cut open and examined for lithology according to the Unified Soil Classification System. Job location, boring location, boring name, date, soil types, observations and activities are recorded on the boring logs. A portion of each sample is field screened using portable photo-ionization detector (PID). The core barrel is decontaminated between each boring. If groundwater samples are not necessary, the hole is filled with a cement grout and bentonite mixture from the bottom of the boring to surface grade.

Once the borings are advanced to the necessary depth, water samples are collected using a clean stainless steel bailer. If the boring does not stay open, a temporary well casing and screen is lowered into the boring to aid in water sample collection. Recovered water is transferred into labeled sample containers placed on ice. After the water samples are collected, the temporary well casing and screen are removed from the boring and is filled with a cement grout and bentonite mixture from the bottom of the boring to surface grade.

Soil Gas Probe Installation/Construction: Using a Geoprobe rig or hand auger equipment, approximately 3-inch diameter boreholes are advanced to depths of approximately 5- and 10-feet bgs, depending on site-specific conditions. The soil gas probes are constructed with ¼-inch diameter Teflon® tubing and a screened probe tip emplaced midway within a one (1) foot sand filter pack at the bottom of each borehole. At least one foot of dry granular bentonite will be placed on top of the sand pack to avoid infiltration of hydrated bentonite grout. The probes will be properly marked at the surface to identify their location and depth and will be completed and secured within locked well boxes. The soil gas probes are left for at least 48 hours following installation to facilitate re-equilibration prior to the initial sampling event. Following re-equilibration, leak and purge volume tests will also be performed prior to the initial sampling event. The soil gas probes are constructed in accordance with the DTSC and Cal-EPA Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air revised February 7, 2005 and the updated Draft Advisory for Active Soil Gas Investigations dated March 3, 2010.

Soil Gas Sampling: Using permanent soil vapor probes, soil gas samples will be collected by attaching the ¼-inch diameter Teflon® tubing to a flow regulator, vacuum gauge, and then a 1L-Suma® canister. The tubing is initially purged using a designated purge canister; subsequently, the purge canister is closed and the vapors are collected in the sample canister. The internal surfaces of the stainless steel canisters will be passivated using the "Summa" process and are therefore referred to as Summa Canisters. A vacuum gage will be used to measure the initial vacuum of the canister before sampling and the final vacuum upon completion. The gages typically have ranges from 0 to 30 inches of mercury (in. Hg). The canisters vacuums are used to draw the sample, which is referred to as passive sampling (instead of using pumps). After confirming an initial pressure of -30 in. Hg, the canister is left open until the pressure increases to approximately -5 in. Hg. One replicate soil gas sample is also collected during field activities. The filled canister is sealed with a brass cap, placed into the original shipping container, and shipped to a state-certified analytical laboratory, using Chain-of-Custody procedures. Soil gas samples are collected in accordance with the DTSC and Cal-EPA Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air revised February 7, 2005 and the updated Draft Advisory for Active Soil Gas Investigations dated March 3, 2010.

Monitoring Well Installation/Construction and Soil Sampling: A truck-mounted, hollow-stem auger drill rig is used to drill boreholes for monitoring wells. The borehole diameter is a minimum of 4-inches larger than the outside diameter of the casing when installing well screen. The hollow-stem auger provides minimal interruption of drilling while permitting soil sampling at desired intervals. An Allterra geologist or engineer will continuously log each borehole during drilling and will constantly check drill cuttings for indications of both the first recognizable

occurrence of groundwater and volatile organic compounds using a portable photoionization detector (PID).

During drilling, soil samples are collected in 2-inch by 6-inch brass sleeves. Three brass tubes are placed in an 18-inch long split-barrel (spoon) sampler of the appropriate inside-diameter. The split-barrel sampler is driven its entire length using a 140-pound hammer, or until refusal. The sampler is extracted from the borehole and the bottom brass sleeve is capped with Teflon® sheets and plastic caps, labeled, and stored on ice. The two other brass sleeves are used for soil lithology classification (according to the Unified Soil Classification System) and field screening using a PID.

All soil borings not converted into monitoring wells are backfilled with a mixture of neat cement with 5% bentonite powder to surface grade.

Monitoring wells are constructed with blank and factory-perforated Schedule 40 polyvinyl chloride (PVC). The perforated interval consists of slotted casing, generally with 0.02-inch wide by 1.5-inch long slots, with 42 slots per foot. A threaded PVC cap is secured to the bottom of the casing. After setting the casing inside the hollow-stem auger, sand or gravel filter material is poured into the annular space to fill from boring bottom to generally 1 to 2 feet above the screened interval. A 1- to 2-foot thick bentonite seal is set above this sand/gravel pack. Neat cement containing approximately 5% bentonite is then tremmied into the annular space from the top of the bentonite plug to approximately 0.5 feet below ground surface. A traffic-rated well box is installed around each wellhead.

Monitoring Well Development: After installation, the wells are thoroughly developed to remove residual drilling materials from the wellbore and fine material from the filter pack. Typically, 10 well volumes are removed from the well and field parameters, such as pH, temperature, and conductivity, are recorded between each well volume. Well development techniques used may include surging, swabbing, bailing, and/or pumping. All development water is collected either in drums or tanks for temporary storage, and properly disposed of pending laboratory analytical results. Following development, the well is typically allowed to stand undisturbed for a minimum of 48 hours before its first sampling.

Well Monitoring and Sample Collection: A Teflon bailer or submersible pump was used to purge a minimum of three well volumes of groundwater from each well. After each well volume is purged, field parameters such as pH, temperature, and conductivity are recorded. Wells are purged until field parameters have stabilized or a maximum of 10 well volumes of groundwater have been removed. If the well yield is low and the well was dewatered, the well is allowed to recharge to 80% of its original volume prior to sample collection. Field parameter measurements and pertinent qualitative observations, such as groundwater color and odor, are recorded in Groundwater Sampling Field Logs. Groundwater samples are collected in appropriate bottles and stored on ice for delivery, under chain-of-custody documentation, to a state-certified laboratory for analysis.

Sample Identification and Chain-Of-Custody Procedures: Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, sampling methodology, name(s) of on-site personnel, and any other pertinent field observations also recorded on the field excavation or boring log. During shipment, the person with custody or the samples will relinquish them to the next person by signing the chain-of-custody form(s) and noting the date and time.

Equipment Decontamination: All drilling, sampling, well construction, and well development equipment is cleaned in a solution of laboratory grade detergent and distilled water or steam cleaned before use at each sampling point.

Field Personnel: During groundwater sampling activities, sampling personnel will wear pertinent attire to minimize risks to health and safety. Field personnel will also use a pair of clean, powderless, surgical gloves for each successive sampling point. Used surgical gloves will be placed into waste drums for future disposal.

Waste Disposal: Soil generated during drilling will be stored in DOT-approved 55-gallon waste drums pending proper disposal. Water generated during well development, purging, and sampling activities will be placed into DOT-approved 55-gallon waste drums pending disposal and/or permitted discharge to the sanitary sewer.

APPENDIX B
Regenesis Product Application Procedures

RegenOx™ *In Situ* Chemical Oxidation Application Instructions

Using Fixed Wells (Overview of Methods)

On some projects, it may appropriate to apply RegenOx using fixed wells. This will allow the RegenOx to be reapplied multiple times and reduce a large mass of contaminant incrementally over time.

Application of RegenOx via a series of fixed wells can be accomplished most effectively by separate application of RegenOx Part A and Part B via multiple separate application events. **Most sites require 3-4 applications to ensure contact and minimize rebound.**

NOTE: for the purposes of this discussion, it is assumed that the hydraulic conductivity of this aquifer is sufficient to accept the volumes of material associated with this approach.

Well Installation:

It is critical that the delivery wells associated with this application are installed across the appropriate vertical application interval. These wells should be constructed using 2 or 4-inch diameter Schedule 80 PVC and preferably with the screened section composed of wire-wound PVC with a slot size >0.02 inch. The surrounding filter pack should be composed of an appropriately sized sand/gravel that is a reasonable match to the surrounding soil type. An adequate seal above the screen zone is critical. When possible we recommend a least a one-foot bentonite seal above the filter pack and an addition 3 feet or more or a cement-bentonite(<10%) grout to the surface.

Hydraulic Testing of Wells:

A hydraulic test should be performed prior to implementation of the RegenOx application. This testing consists of the injection of clear water at a volume equivalent to 1.3x the designed injection volume of the RegenOx Part A material.

It is critical that you understand the hydraulic conductivity/volumetric limitation of the aquifer prior to installation of the RegenOx material. Each sites aquifer conductivity and capacity will directly affect the volume of RegenOx applied and the application rate.

RegenOx - Part A Estimation/Application:

Using a designed application rate of 5,970 pounds of Part A material per event, a 5% solution will result in an application volume of 14,214 gallons of total fluids per event.

$$682 \text{ gals Part A} + 13,532 \text{ gals H}_2\text{O} = 14,214 \text{ gals of fluid}$$



Detailed steps for estimation of this volume are provided below. Using a five well application array results an application volume of 2,843 gallons/well/event.

$$14,214 \text{ gals of fluid}/5 \text{ wells} = 2,843 \text{ gals/well/event}$$

Hydraulic Test Volume Estimation:

The hydraulic test volume per well is estimated based on the above application rate (2,843 gallons) x (application factor of 1.3). This yields a total clear water test volume of 3,696 gallons/well.

RegenOx – Part B Application:

This method is significantly different from a direct-push application. This method requires application of a solution of the catalyst material separately and prior to application of the Part A oxidant material. As discussed previously, application of Part B is typically installed at a low concentration, spread over two events and is followed by a clear water chaser equal to 1.5-3x the wells borehole volume.

Step 1:

Mix Part B at solution that is 3-8% by weight, see Table 1 (below) for a volumetric estimation per bucket of material for each percentage solution. This range in volume is provided to allow for variations in aquifer types and specifically to adjust for each site’s aquifer hydraulic conductivity and effective porosity. The aquifers hydraulic characteristics should dictate the solution percentage.

For example, Part B application in a fine grained aquifer (hydraulic conductivity of 10^{-5} to 10^{-6} cm/sec) should be mixed at approximately a 7% solution by weight while a coarse grained aquifer (10^{-2} to 10^{-3} cm/sec) should be mixed at approximately a 3% solution by weight.

TABLE 1.

No. of Buckets	Weight of Material (lbs.)	Desired Solution (%)	Volume of Water (gals.)
1	30	3	116
1	30	4	86
1	30	5	68
1	30	6	56
1	30	7	48
1	30	8	41

Example:

Based on application into a silty sand aquifer (10^{-4} cm/sec) the Part B solution should be mixed at 5%.

Using the previous example, this application will require a total of 5,970 pounds of Part B applied via two events of 2,985 pounds or 100 bucket/event

$$2,985 \text{ lbs./}30 \text{ lbs./bucket} = 100 \text{ buckets}$$

Thus, for each of the two Part B applications, the water volume necessary is calculated using the following equation:

$$100 \text{ buckets Part B} \times 68 \text{ gallons water/bucket} = 6,800 \text{ gallons of water}$$

This yields a total solution application per event estimation of:

$$(6,800 \text{ gals of H}_2\text{O} + 260 \text{ gals Part B})/5 \text{ wells} = 1,412 \text{ gals Part B Solution/well/event}$$

Step 2:

Clear Part B material from the injection well and surrounding well pack by application of a clear water chaser equivalent to the volume of 1.5-3x the borehole volume.

Example:

For a 2-inch diameter well with a 6-inch borehole diameter, a total depth of 20 feet (10 feet of blank and 10 feet of screen). A single borehole volume with an assumed sand pack void space of 30% would be the sum of the following:

Borehole Volume = (screened interval borehole volume + blank casing volume)

$$[(10 \text{ feet} \times 0.543 \text{ gals/ft}) + (10 \text{ feet} \times 0.163 \text{ gals/ft})] = 7 \text{ gals}$$

Using a clear water chaser application factor of 1.5-3x yields a total clear water chaser volume ranging from 11 to 21 gallons/well.

For a 4-inch diameter well with a 8.25-inch borehole diameter, a total depth of 20 feet (10 feet of blank and 10 feet of screen). A single borehole volume using an assumed sand pack void space of 30% would be the sum of the following:

Borehole Volume = (screened interval borehole volume + blank casing volume)

$$[(10 \text{ feet} \times 1.23 \text{ gals/ft}) + (10 \text{ feet} \times 0.65)] = 19 \text{ gals}$$

Using a clear water chaser application factor of 1.5-3x yields a total clear water chaser volume ranging from 28 to 57 gallons/well.

Step 3:

Mix Part A at a solution of between 3-5%. As discussed previously the transmissivity and reactivity of a particular aquifer as well as hydraulic testing should be factored into the application volume decision. The stability of RegenOx Part A is optimal at approximately 3%. In coarse grained aquifers it is best to apply Part A at or near a 3% solution. In fine grained aquifers it may be necessary to decrease the water content to near a 5% solution. NOTE: Do not apply a Part A that is >5% solution.

Example:

Based on application of Part A solution into a silty sand aquifer, the Part A solution should be mixed at 5%. As discussed previously this application is designed for application of 5,970 pounds of Part A per event via a 5 well application array. Using Table 1 the number of buckets of Part A is required is estimated as follows:

$$5,970 \text{ lbs Part A} / 30 \text{ lbs/bucket} = 199 \text{ buckets}$$

The volume of water necessary to create a 5% Part A solution is calculated using Table 1 and the following equation:

$$199 \text{ buckets Part A} \times 68 \text{ gallons H}_2\text{O/bucket} = 13,532 \text{ gallons of H}_2\text{O}$$

This yields a total solution application per event estimation of:

$$(13,532 \text{ gals of H}_2\text{O} + 682 \text{ gals Part A}) / 5 \text{ wells} = 2,843 \text{ gals Part A Solution/well/event}$$

Step 4:

Clear the Part A solution from the injection well and some of the surrounding well pack by application of a clear water chaser equivalent to the volume of 1.5-3x the borehole volume.

Example:

For a 2-inch diameter well with a 6-inch borehole diameter, a total depth of 20 feet (10 feet of blank and 10 feet of screen). A single borehole volume with an assumed sand pack void space of 30% would be the sum of the following:

Borehole Volume = (screened interval borehole volume + blank casing volume)

$$[(10 \text{ feet} \times 0.543 \text{ gallons/ft}) + (10 \text{ feet} \times 0.163)] = 7.1 \text{ gallons}$$

Using a clear water chaser application factor of 1.5-3x yields a total clear water chaser volume ranging from 11 to 21 gallons/well.

For a 4-inch diameter well with a 8.25-inch borehole diameter, a total depth of 20 feet (10 feet of blank and 10 feet of screen). A single borehole volume using an assumed sand pack void space of 30% would be the sum of the following:

Borehole Volume = (screened interval borehole volume + blank casing volume)

$$[(10 \text{ feet} \times 1.23 \text{ gallons/ft}) + (10 \text{ feet} \times 0.65)] = 19 \text{ gallons.}$$



Using a clear water chaser application factor of 1.5-3x yields a total clear water chaser volume ranging from 28 to 57 gallons/well.

Repeat the above series of steps as needed. As discussed previously the first two injection events will consist of application of Part B followed by Part A and thereafter as a series of Part A only injections.

Pump Selection (Wells)

It stands to reason that application of RegenOx via a series of wells is best accomplished using a pump that can deliver high volumes of fluids in a relatively low pressure setting. Regenesis has evaluated a number of pumps that are capable of delivery of these volumes of RegenOx in a reasonably efficient manner. These pumps are typically the positive displacement pumps and the diaphragm pumps. The positive displacement pumps are generally a stader driven (auger) and are electrically driven via a generator while the diaphragm pump is composed of one or two diaphragms that use pneumatic pressure to drive the pump. Both of these types of pumps can provide a relatively high volume of reagent while allowing significant control of volume and pressure.

Pressure Gauge System:

It is critical that application of RegenOx by preformed with proper pressure gauge set up. The gauges used should be configured to read PSI at the pump effluent and either along the delivery line or at the well head. This provides on-site personnel with adequate information on the pumps working pressure as well as the well delivery pressure. The difference in the two is the result of line loss. It is critical that application of RegenOx not exceed the burst pressure of the application well casing.

Pump Cleaning (Wells)

For best results, flush all moving parts and hoses with clean water at the end of the day, flush the injection system with a mixture of water and biodegradable cleaner such as Simple Green.

For more information or technical assistance please call Regenesis at 949-366-8000