Work Plan For Well Installation
for Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart
160 Holmes Street, Livermore, California

Date:
April 3, 2007

Project No.:
015-01-025

Prepared For:
Livermore Gas and Mini mart
Attention: Manwel and Samira Shuwayhat
54 Wolfe Canyon Road
Kentfield, California 94904

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

Subject: Work Plan for On-Site Extraction Well Installation for 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 Work Plan for On-Site Extraction Well Installation to propose drilling activities to be completed at 160 Holmes Street in Livermore, California (Site). The purpose of the proposed scope of work is to provide an extraction point (well EW-3) for elevated levels of hydrocarbon contamination observed during previous subsurface investigations. This work plan was prepared pursuant to a letter directive from Alameda County Environmental Health Services (ACEH) dated March 20, 2007.

Site Location and Description
The subject property is located at the northeast intersection of Holmes Street and Second Street, in Livermore, California (Figure 1). A Valero fuel station currently occupies the Site and the surrounding area is primarily residential with some retail businesses along 1st and 2nd Streets. The approximate surface elevation of the Site is 465 feet above mean sea level (MSL) and slopes to the northwest. Pertinent site features, including the locations of the former underground storage tanks (USTs), existing monitoring and extraction wells, and previous soil borings are presented in Figure 2.

Previous Work
Impacted groundwater was discovered near the northern border of the Site when a soil boring was advanced on February 26, 1999. Groundwater sample results indicated contaminant levels of 100,000 micrograms per liter (µg/L) of total petroleum hydrocarbons as gasoline (TPHg), 6,100 µg/L of benzene, and 60,000 µg/L of methyl tertiary butyl ether (MTBE). Soil and groundwater analytical results are attached as Tables 1 and 2, respectively.

On April 5, 1999, three gasoline and one diesel USTs and associated structures were removed. Following UST removals, impacted soil was over-excavated and disposed of. On May 20, 1999, soil samples were collected from below the dispenser islands. TPHg was detected beneath the east dispenser at a maximum concentration of 6,500 mg/kg. TPHd was detected beneath the diesel dispenser at a maximum concentration of 1,300 mg/kg. No MTBE was detected at or above laboratory detection limits in samples collected from beneath the dispenser islands.

On July 26, 2000, ETIC completed an investigation that included the installation of three, 2-inch diameter groundwater monitoring wells designated MW-1, MW-2, and MW-3. Analytical results of water samples from these wells indicated significant impact from petroleum hydrocarbons, particularly in well MW-1, located directly down-gradient from the suspected contaminant source. Results from water samples from MW-1 showed TPHg and MTBE at concentrations of 170,000 µg/L and 320,000 µg/L, respectively (ETIC, 2000).

On February 2, 2001, Geo Environmental Technologies (GET) completed an investigation that included five Geoprobe® borings designated B-1 to B-5. High levels of petroleum hydrocarbon contamination were detected in groundwater, including TPHg concentrations up to 650,000 µg/L, benzene concentrations up to 6,300 µg/L, and MTBE concentrations up to 290,000 µg/L (GET 2001).

On October 30, 2001, GET oversaw the installation of monitoring wells MW-4, MW-5, MW-6, and extraction well EX-1 (GET, 2001). The new wells were added to the quarterly groundwater monitoring program.

On December 30, 2002, GET performed a pump test at former well EX-1. Test results indicated that a sustainable groundwater extraction flow rate of 1 gallon per minute (gpm) could be achieved from well EX-1 (GET, 2002).

On April 24, 2003, GET performed a soil vapor extraction pilot test at MW-1. Vapor samples collected during the test indicated TPHg levels as high as 5,100 milligrams per cubic meter (mg/m^3), benzene up to 39 mg/m^3, and MTBE up to 440 mg/m^3. The soil vapor extraction flow rate and radius of influence were estimated to be 1.42 standard cubic feet per minute (scfm) and 40 feet, respectively (GET, 2003).

Between November 2005 and February 2006, Allterra conducted a soil and groundwater investigation that included the installation of ten Geoprobe® borings (MB-1, MB-2, MB-3, DB-1, DB-2, DB-5, B-1, B-2, B-3, and HP-1) and nine monitoring and extraction wells (MW-1B, MW-4A, MW-5A, MW-5B, MW-7A, MW-7B, MW-7C, EW-1, and EW-2) (see Figure 2). Soil analytical results indicated TPHg concentrations as high as 1,400 mg/kg, TPHd as high as 100 mg/kg, benzene as high as 0.27 mg/kg, and MTBE as high as 14 mg/kg. Groundwater analytical results indicated TPHg concentrations as high as 42,000 µg/L, TPHd as high as 41,000 µg/L, benzene as high as 970 µg/L, and MTBE as high as 6,900 µg/L (Allterra 2005-2006).

On April 11 and 12, 2006, Allterra personnel performed dual-phase remedial pilot tests at wells EW-1 and EW-2. Soil vapor samples from EW-1 indicated that TPHg was not detected at or above laboratory detection limits and MTBE was detected at a maximum concentration of 7.0 mg/m^3. Soil vapor samples from EW-2 revealed TPHg was detected at a maximum concentration of 41 mg/kg and MTBE was detected at a maximum concentration of 96 mg/m^3. Groundwater extraction flow rates from the wells stabilized at approximately 5 gpm and flow stream samples from EW-1 indicated levels of TPHg up to 13,000 µg/L and MTBE up to 44,000 µg/L and flow stream samples from EW-2 indicated levels of TPHg up to 1,000 µg/L and MTBE up to 2,700

µg/L. The remedial DPE test indicated that groundwater extraction from wells EW-1 and EW-2 was a feasible remedial alternative; however, soil vapor concentrations were much lower than expected (Allterra, 2006).

As documented in Allterra's August 8, 2006 Interim Remediation of Groundwater report, Allterra began interim remediation of groundwater at the Site on September 8, 2006. As of February 7, 2007, a total of 32,787 gallons of groundwater have been extracted, treated, and discharged and 0.69 pounds of TPHg, 0.047 pounds of benzene, and 3.4 pounds of MTBE have been removed through interim cleanup activities (Allterra 2007).

As proposed in Allterra's October 16, 2006 Revised Work Plan for Source Area Investigation, Allterra supervised in the installation of 20 Geoprobe® soil borings surrounding the fuel dispenser areas on January 10 and 11, 2007. Of the 65 soil samples from these borings submitted for laboratory analysis, only 36 showed detectable concentrations of petroleum hydrocarbons. All detections were at very low levels and near the water table. However, all 17 groundwater samples collected showed detectable amounts of petroleum hydrocarbon contamination, with TPHg detected at levels ranging from 160 µg/L (GP-16) to 210,000 µg/L (GP-14), benzene ranging from 1.4 µg/L (GP-11) to 11,000 µg/L (GP-14), and MTBE ranging from 61 µg/L (GP-1) to 1,500,000 µg/L (GP-14). As recommended in Allterra's Source Area Investigation Report, an additional extraction well, designated EW-3, should be installed in the immediate vicinity of boring GP-14 due to these elevated levels of contaminants found in groundwater in this area. All future interim remediation shall be performed from this new extraction well (Allterra 2007).

Proposed Scope of Work

This proposed well installation is pursuant to a March 20, 2007 letter from ACEHS and is intended to provide an extraction point for highly impacted groundwater in the area between existing fuel dispensers and USTs. The tasks described herein are subject to regulatory agency review and approval.

Pre-Field Activities

Permitting

Prior to drilling activities, a well installation permit will be acquired from Zone 7 Water Agency and work plan approvals will be obtained from the governing agencies and interested parties. Additionally, appropriate agencies and interested parties will be notified at least 72 hours prior to the commencement of field activities.

Underground Utility Locating

Underground Service Alert (USA) will be notified to identify the public service utilities in the area prior to commencing boring activities.

Field Activities

Health and Safety

During site work, Allterra personnel will wear modified Level D health and safety gear, consisting of hardhats, gloves, safety glasses, and steel-toed boots for protection from overhead drilling equipment. On-site health and safety issues will be the responsibility of the Project Manager and Site Health and Safety Officer. The Site Health and Safety Officer is responsible to inform field personnel of current health and safety issues. A site-specific health and safety plan has been prepared and will be available for review during field activities (Appendix B).

Extraction Well Installation

Rationale for Well Location and Construction

The proposed location for well EW-3 was selected based on its proximity to boring GP-14, which had very high levels of dissolved hydrocarbons in "grab" groundwater samples collected during drilling (TPHg = 210,000 µg/L; benzene = 11,000 µg/L; MTBE = 1,500,000 µg/L). Additionally, EW-3 will be have a screen interval from 25 to 30 below ground surface (bgs), which is intended to target the highest levels of groundwater contamination that occur at the top of the aquifer at approximately 28 feet bgs. The well location and screen interval are intended to provide an efficient means for removing high level contamination from beneath the Site. The proposed location for EW-3 is presented in Figure 3 and the proposed well construction detail is presented in Figure 4.

Well Drilling and Construction

Extraction well drilling and sampling will be performed using a truck-mounted drilling rig equipped with continuous-flight hollow-stem augers. Well boring EW-3 will be drilled to a depth of approximately 35 feet and will be constructed with 4–inch diameter schedule-40 polyvinyl chloride (PVC) casing. The well will have blank casing from ground surface to 25 feet bgs and from 30 to 35 feet bgs, with a screen interval from 25 to 30 feet (0.020-inch slot). Allterra field personnel will be present to supervise the drilling and construction of the wells. An extraction well construction diagram is presented in Figure 4.

Soil Sample Collection and Soil Classification

Soil will be described and classified under the Unified Soil Classification System (USCS) during drilling activities. Soil samples will be collected at approximately 5-foot intervals, at changes in lithology, and at the air/water interface. Soil samples will be field screened for volatile organic compounds (VOCs) using a photo ionization detector (PID). Soil samples will not be submitted for laboratory analysis.

Well Surveying

Upon completion of well installation activities, latitudes and longitudes, mean sea level (MSL) elevations, and lateral relationships between each of the monitoring wells, will be established in the field by a licensed land surveyor. Additionally, the wells will be surveyed in accordance with electronic submittal requirements for the RWQCB's GeoTracker database.

Well Development

At least 72 hours after installation, the newly installed well will be developed using a surging and purging technique. The well will be purged until the groundwater is relatively free of sediment and turbidity, and until groundwater parameters, such as pH, temperature, conductivity, and turbidity, have stabilized. Purge and rinse water will be collected in U.S. Department of Transportation (DOT)-approved 55-gallon drums and stored on-site pending laboratory analysis and disposal.

Groundwater Sampling

Groundwater sampling from the newly installed well will be performed at least 48 hours following well development. Work at the Site will include measuring static groundwater level and well depth, subjectively evaluating groundwater in the well, and purging and sampling the well for laboratory analysis. Prior to sampling, the well will be properly purged until measurements of pH, temperature, and conductivity have stabilized.

Laboratory Analysis

Groundwater samples will be submitted for chemical testing to McCampbell Analytical, Inc., of Pacheco, California, a state of California certified laboratory (ELAP #1644). Samples will be transported to the analytical laboratory under chain-of-custody documentation initiated by Allterra personnel. Samples will be analyzed for TPHg and TPHd by EPA Method 8015Cm, BTEX by EPA Method 8020b, and the fuel oxygenates MTBE, ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), and tertiary butanol (TBA), as well as ethanol and methanol by EPA Method 8260b. Additionally, for soil disposal purposes, drummed soil cuttings will be analyzed for TPHg, TPHd, BTEX, and total lead by EPA Method 6010.

Waste Disposal

Soil cuttings generated during drilling will be temporarily stored on-site in labeled, DOT-approved 55-gallon drums. Soil drums will be sampled, analyzed, and profiled for disposal under waste manifest at an appropriate disposal facility.

Purge water generated during drilling, well development, and groundwater sampling will be temporarily stored on-site in labeled, DOT-approved 55-gallon drums pending disposal and/or treatment and permitted discharge to the sanitary sewer system.

Final Report

Upon completion of well installation, development, and sampling activities, Allterra will prepare a final report including a discussion of the completed field activities, results of soil and groundwater analyses, a site map depicting the mapped locations of the completed well installation, well installation log, and conclusions and recommendations regarding Site conditions.

Report Distribution

To comply with state and local environmental laws, Allterra recommends that a copy of this work plan be forwarded to the following agencies:

Mr. Jerry Wickham
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Regional Water Quality Control Board
Geotracker Database

References

Allterra Environmental, Inc., 2007*, First Quarter Groundwater Monitoring and Interim Remedial Progress Report,* 160 Holmes Street, Livermore, CA

Allterra Environmental, Inc., 2007*, Source Area Investigation Report,* 160 Holmes Street, Livermore, CA

Allterra Environmental, Inc., 2006, *Dual-Phase Extraction Pilot Test Report,* 160 Holmes Street, Livermore, CA

Allterra Environmental, Inc., 2006*, Interim Remediation of Groundwater,* 160 Holmes Street, Livermore, CA

Allterra Environmental, Inc., 2006*, Revised Work Plan for Source Area Investigation,* 160 Holmes Street, Livermore, CA

Allterra Environmental, Inc., 2006, *Soil and Groundwater Investigation Report,* 160 Holmes Street, Livermore, CA

Allterra Environmental, Inc., 2005, *Preliminary Soil and Groundwater Data Submittal and Proposed Boring and Monitoring Well Locations,* 160 Holmes Street, Livermore, CA

ETIC, 2000, *Preliminary Site Assessment: Installation of Groundwater Monitoring Wells,* 160 Holmes Street, Livermore, CA

Geo Environmental Technologies, 2001, *Downgradient Investigation of Groundwater,* 160 Holmes Street, Livermore, CA

Geo Environmental Technologies, 2001, *Pump Test,* 160 Holmes Street, Livermore, CA

Geo Environmental Technologies, 2001, *Soil Vapor Extraction Feasibility Study,* 160 Holmes Street, Livermore, CA

Geo Environmental Technologies, 2002, *Off-Site Assessment and Installation of Groundwater Monitoring Wells,* 160 Holmes Street, Livermore, CA

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.

Erik Allen
Staff Scientist

Mike Killoran, P.G. 6670
Senior Geologist

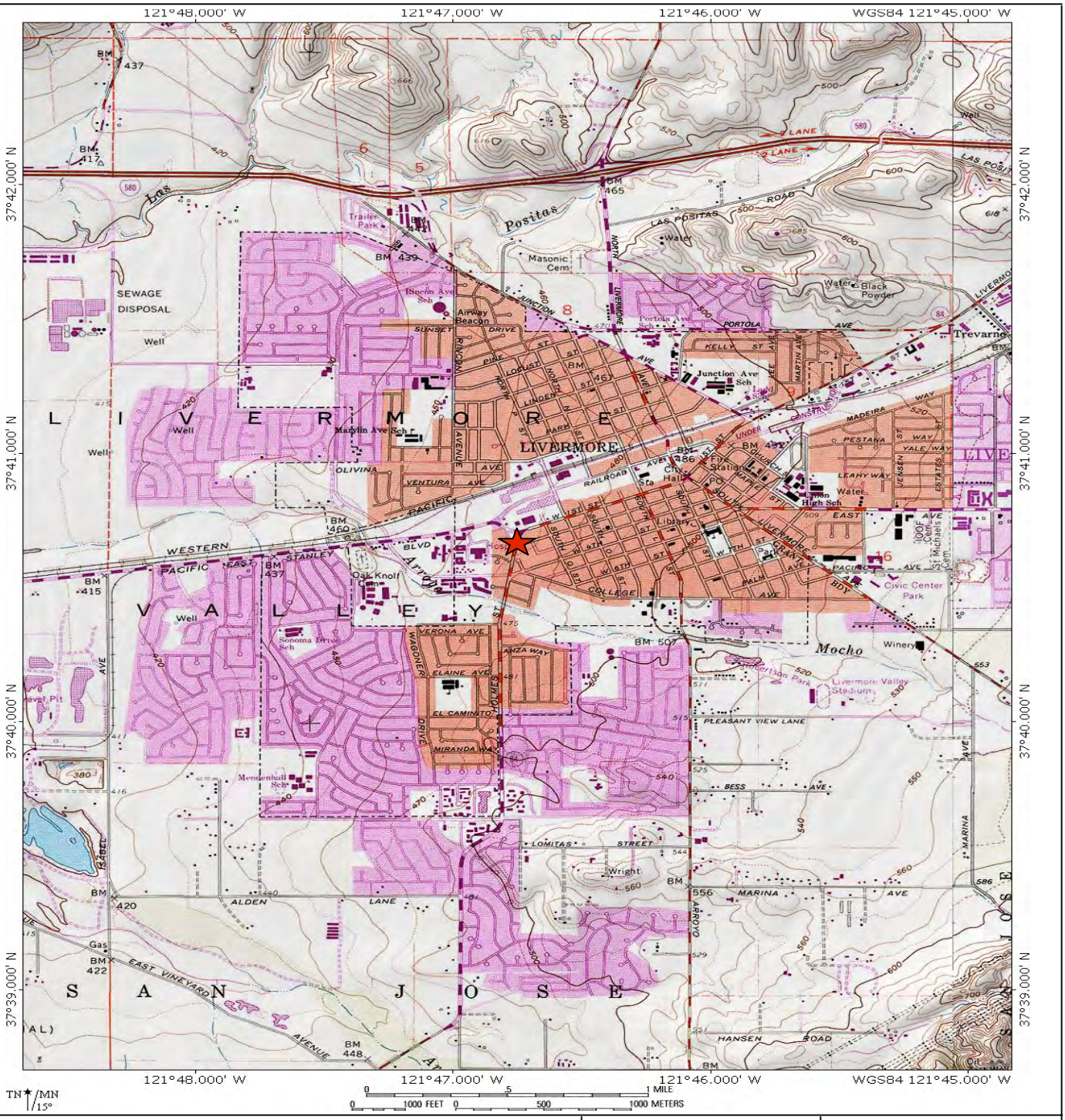
Attachments:
Figure 1, Site Vicinity Map
Figure 2, Site Map
Figure 3, Site and Proposed Well Location Plan
Figure 4, Proposed Extraction Well Diagram

Table 1, Historical Soil Analytical Results
Table 2, Historical Groundwater Analytical Results

APPENDIX A: Allterra Environmental, Inc.'s Site Investigation Field Protocol
APPENDIX B: Site Specific Health and Safety Plan

cc: Mr. Jerry Wickham, ACEH
State of California GeoTracker Database

FIGURES 1-4



Vicinity Map

Livermore Gas and Mini-mart
160 Holmes Street
Livermore, California

Figure 1

3/31/06

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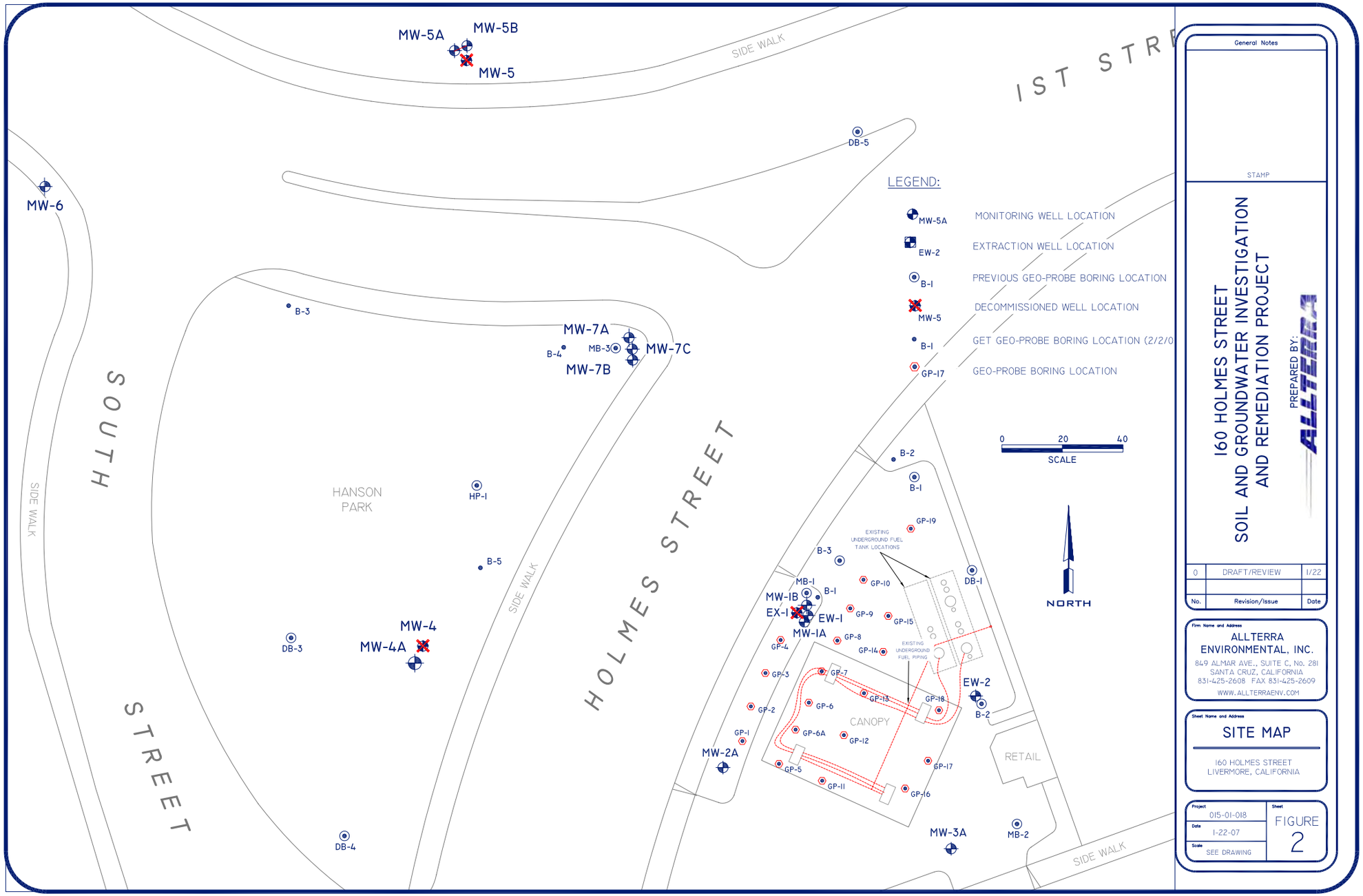

General Notes

STAMP

160 HOLMES STREET
SOIL AND GROUNDWATER INVESTIGATION
AND REMEDIATION PROJECT

PREPARED BY:
ALLTERRA

No.	Revision/Issue	Date
0	DRAFT/REVIEW	1/22

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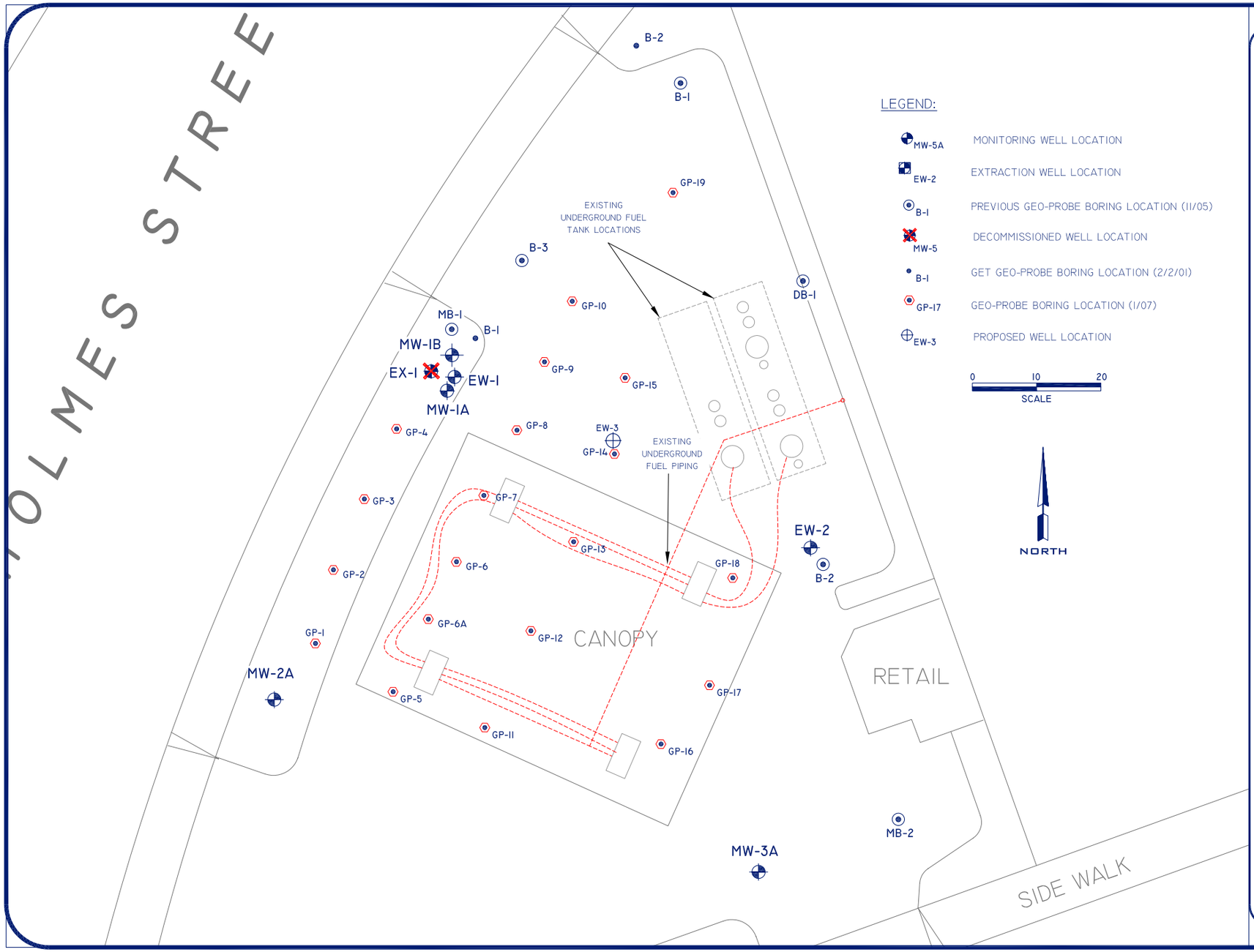
SITE MAP
160 HOLMES STREET
LIVERMORE, CALIFORNIA

Project	Sheet
015-01-018	FIGURE 2
Date: 1-22-07	
Scale: SEE DRAWING	



General Notes

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0	DRAFT/REVIEW	1/22

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SITE AND PROPOSED
WELL LOCATION PLAN

160 HOLMES STREET
LIVERMORE, CALIFORNIA

Project	Sheet
015-01-025	FIGURE 3
Date: 1-22-07	
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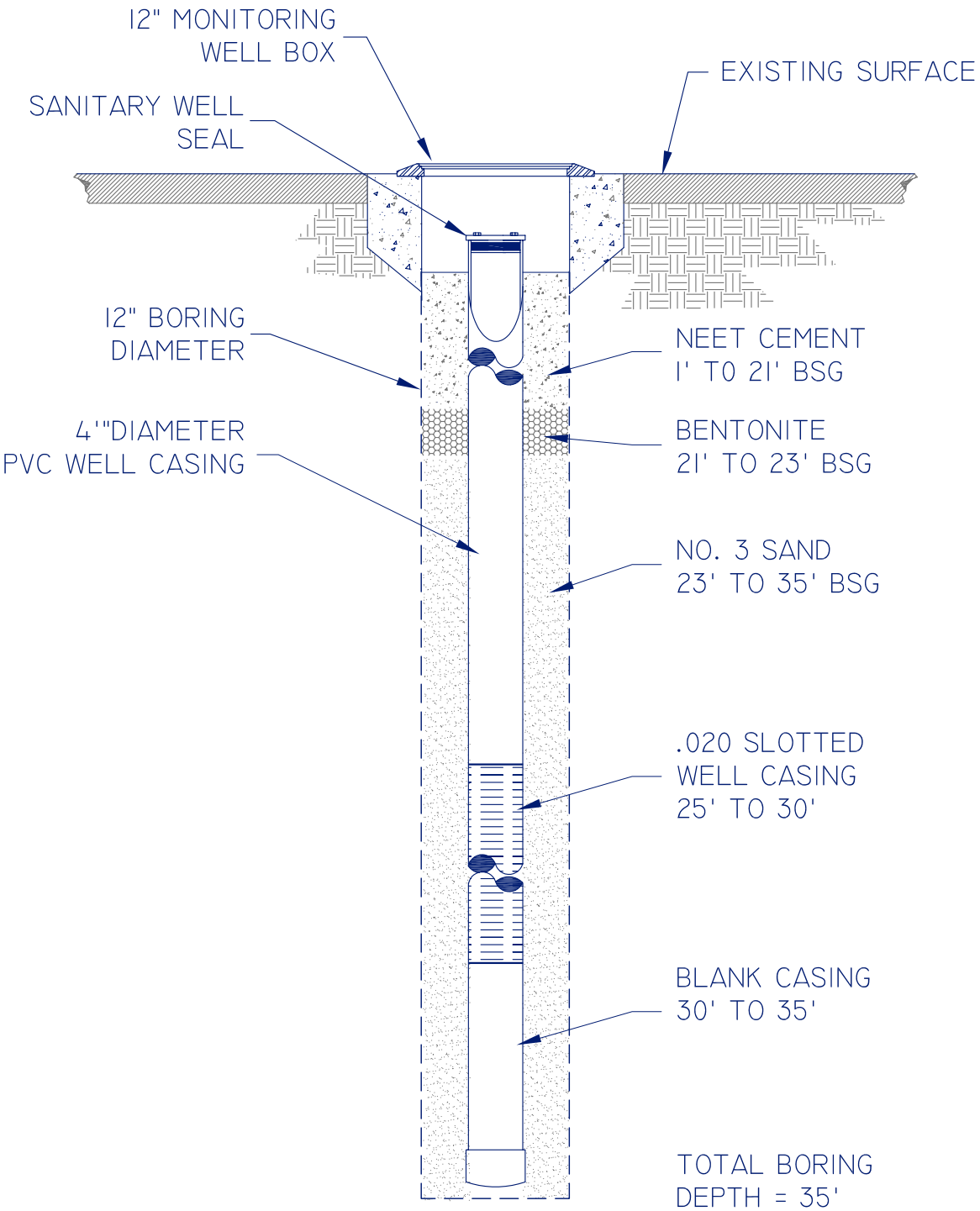

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EXTRACTION WELL EW-3
CONSTRUCTION DIAGRAM

160 HOLMES STREET
LIVERMORE, CALIFORNIA

FIGURE 4
3/28/07

TABLES 1-2

Table 1
Historical Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID (Field Point)	Sample Depth (feet)	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
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
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

Table 1
Historical Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID (Field Point)	Sample Depth (feet)	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
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
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

Table 1
Historical Soil Analytical Results
160 Holmes Street, Livermore, California

Sample ID (Field Point)	Sample Depth (feet)	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
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
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

Notes:
-- : not analyzed
All results are in milligrams per kilogram (mg/kg)
TPHg was analyzed by EPA Method 8015CM
Benzene, toluene, ethylbenzene, xylenes, and MTBE were analyzed by EPA Method 8021B
TPHg: Total Petroleum Hydrocarbons as gasoline
MTBE = methyl tertiary butyl ether

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbonss (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	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/14/01	NC	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/7/02	NC	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/11/02	438.87	130,000	NA	7,700	1,100	4,500	1,500	<5000	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/1/02	437.48	NS	NS	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
	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	<250,00(	<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	<250,00(	<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	<120,00(	<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**	**<1,7000**	**<1,700**	**<1,700**	**110,000**	**<170,00(**	**<1,700,000**	**<1,700**	**<1,700**
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**

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbonss (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- 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	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/14/01	NC	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	NA	NA
	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
MW- 2A* (cont.)	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
	1/9/06	447.27	1,700	890	4.4	1.3	120	18	530	<10	330	<10	<10	590	<1000	<10,000	<10	<10
	4/7/06	449.47	110	160	0.61	0.80	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	<5000	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**
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	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	NA	NA
	11/14/01	NC	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/7/02	NC	not sampled - well dry							NA	NA	NA	NA	NA	NA	NA	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						NA	NA	NA	NA	NA	NA	NA	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	<5.0	<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
	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**

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbonss (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-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
MW-4** (cont.)	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**
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
	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
	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
	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
	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
	9/16/03	437.82	630	<50	<0.5	3.5	<0.5	2.6	1500	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
	3/10/04	445.43	57	<50	<0.5	<0.5	<0.5	<0.5	1100	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
	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
	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
	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
	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
	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
	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
	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**
MW-5B	3/13/06	444.46	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.69	<50	<500	<0.5	<0.5
	4/7/06	447.15	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.98	<50	<500	<0.5	<0.5
	7/28/06	440.50	<50	<50	<0.5	<0.5	<0.5	<0.5	6.8	<0.5	6.3	<0.5	<0.5	0.61	NA	NA	NA	NA
	10/13/06	439.42	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	3.6	<50	<500	NA	NA
	1/4/07	**442.15**	**<50**	**89**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**<0.5**	**<5.0**	**<0.5**	**<0.5**	**1.3**	**<50**	**<500**	**<0.5**	**<0.5**

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbonss (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-6	11/14/01	430.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/7/02	437.12	<50	<67	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/11/02	437.10	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/1/02	435.36	<50	<50	<0.5	<0.5	<0.5	<0.5	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/14/03	440.67	<50	<50	<0.5	<0.5	<0.5	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-6 (cont.)	6/25/03	441.05	<50	<50	<0.5	<0.5	<0.5	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/16/03	438.36	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/22/03	441.54	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/10/04	445.48	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	6/15/04	440.82	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/17/04	437.57	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/10/04	441.04	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/2/05	446.09	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	5/27/05	444.56	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/21/05	442.53	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/10/05	441.92	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1/9/06	445.14	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	0.86	<50	<500	<0.5	<0.5
	4/6/06	447.13	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<5.0	<0.5	<50	<500	<0.5	<0.5
	7/28/06	440.68	<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
	10/13/06	439.77	<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
	1/4/07	**442.10**	**<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**
MW-7A	3/13/06	445.85	6,200	1,800	140	21	200	560	6,900	<100	4400	<100	<100	6,300	<10,000	<100,000	<100	<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	<1700	<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**	**<5000**	**<5.0**	**<5.0**
MW-7B	3/13/06	445.64	230	<50	1.8	4.7	<0.5	2.2	1,500	<50	7300	<50	<50	1,300	<5,000	<50,000	<50	<50
	4/7/06	448.54	81	<50	1.9	1.6	1.1	0.58	1,000	<50	9,200	<50	<50	930	<5,000	<50,000	<50	<50
	7/28/06	441.67	150	<50	<0.5	1.9	<0.5	<0.5	1,500	<50	16,000	<50	<50	1,900	NA	NA	NA	NA
	10/12/06	440.65	110	<50	<0.5	1.3	<0.5	<0.5	900	<17	15,000	<17	<17	860	<1700	<17,000	NA	NA
***	11/21/06	NM	61	NA	<0.5	0.76	<0.5	<0.5	740	<50	10,000	<50	<50	680	<5,000	<50,000	<50	<50
	1/4/07	**443.21**	**91**	**<50**	**<0.5**	**2.1**	**<0.5**	**<0.5**	**200**	**<50**	**11,000**	**<50**	**<50**	**180**	**<5000**	**<50,000**	**<50**	**<50**
MW-7C	3/13/06	445.34	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.60	<50	<500	<0.5	<0.5
	4/7/06	448.21	<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	441.24	<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
	10/13/06	440.65	89	<50	<0.5	1.4	<0.5	<0.5	900	<17	12,000	<17	<17	820	<1700	<17,000	NA	NA
***	11/21/06	NM	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	24	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5
	1/4/07	**442.86**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**<0.5**	**24**	**<0.5**	**<0.5**	**<0.5**	**<50**	**<500**	**<0.5**	**<0.5**

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbonss (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
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	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	4.1	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**
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	<1200	<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**	**<5000**	**<50,000**	**<50**	**<50**
B1	2/2/01	30	650,000	13,000	6,300	10,000	<2,500	12,000	290,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
B2	2/2/01	30	56	<0.5	<0.5	<0.5	<0.5	<0.5	47	NA	NA	NA	NA	NA	NA	NA	NA	NA
B3	2/2/01	30	6,200	NA	<50	<50	<50	<50	3,800	NA	NA	NA	NA	NA	NA	NA	NA	NA
B4	2/2/01	30	12,000	NA	<50	<50	<50	<50	6,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
B5	2/2/01	30	<25,000	960	<250	<250	<250	<250	16,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
MB-1-A	11/10/01	28	21,000	4,300	970	<25	3,300	1200	NA	<2,500	<25,000	<2,500	<2,500	100,000	NA	NA	NA	NA
MB-1-B	11/10/01	50	470	210	7.8	0.97	31	48	NA	<25	<250	<25	<25	1,500	NA	NA	NA	NA
MB-1-C	11/10/01	70	990	NA	17	1.3	89	160	NA	<25	<250	<25	<25	1,200	NA	NA	NA	NA
MB-2-A	11/9/01	28	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
MB-2-B	11/10/01	50	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
MB-3-A	11/10/01	28	40,000	41,000	120	130	1,700	2,800	NA	<50	2,500	<50	<50	<4,500	NA	NA	NA	NA
MB-3-B	11/13/01	50	1,400	210	0.93	9.3	14	27	NA	<50	6,200	<50	<50	190	NA	NA	NA	NA
MB-3-C	11/13/01	70	930	260	1.7	3.8	33	100	NA	<100	16,000	<100	<100	330	NA	NA	NA	NA
DB-1-A	11/9/01	28	160	NA	<0.5	<0.5	<0.5	<0.5	NA	<1.7	<17	<1.7	<1.7	86	NA	NA	NA	NA
DB-2-A	11/10/01	28	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
DB-3-A	11/13/01	28	<50	51	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
DB-4-A	11/13/01	28	<50	57	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
DB-5-A	11/10/01	28	<50	910	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<5.0	<0.5	<0.5	<0.5	NA	NA	NA	NA
B-1-A	11/9/01	28	<50	230	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<5.0	<0.5	<0.5	28	NA	NA	NA	NA
B-2-A	11/9/01	28	25,000	6,200	900	<50	2,000	2,600	NA	<1,700	<17,000	<1,700	<1,700	80,000	NA	NA	NA	NA
B-3-A	11/9/01	28	42,000	14,000	530	140	2,400	7,800	NA	<500	<5,000	<500	<500	19,000	NA	NA	NA	NA
HP-1-A	11/13/01	28	<50	NA	<0.5	<0.5	<0.5	0.80	NA	<50	24	<50	<50	12	NA	NA	NA	NA

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbonss (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
GP-1	1/10/07	28	270	--	<0.5	<0.5	2.6	0.85	61	--	--	--	--	--	--	--	--	--
GP-2	1/10/07	28	2,000	--	61	46	93	280	2,600	--	--	--	--	--	--	--	--	--
GP-3	1/10/07	28	11,000	--	38	27	1,100	980	37,000	--	--	--	--	--	--	--	--	--
GP-4	1/10/07	28	20,000	--	820	260	1,400	3,200	35,000	--	--	--	--	--	--	--	--	--
GP-5	1/10/07	28	4,100	--	64	6.6	13	550	780	--	--	--	--	--	--	--	--	--
GP-6	NS	NS	--	--	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--
GP-6A	1/11/07	28	11,000	--	360	150	1,500	480	6,100	--	--	--	--	--	--	--	--	--
GP-7	NS	NS	--	--	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--
GP-8	1/10/07	28	61,000	--	2,800	490	2,600	4,400	190,000	--	--	--	--	--	--	--	--	--
GP-9	1/10/07	28	100,000	--	5,600	3,400	3,500	24,000	260,000	--	--	--	--	--	--	--	--	--
GP-10	1/10/07	28	44,000	--	2,400	590	3,600	3,300	92,000	--	--	--	--	--	--	--	--	--
GP-11	1/11/07	28	550	--	1.4	1.3	2.1	36	110	--	--	--	--	--	--	--	--	--
GP-12	1/11/07	28	15,000	--	68	20	1,800	94	6,600	--	--	--	--	--	--	--	--	--
GP-13	1/11/07	28	88,000	--	5,100	<50	5,500	7,400	87,000	--	--	--	--	--	--	--	--	--
GP-14	1/11/07	28	210,000	--	11,000	26,000	4,600	21,000	1,500,000	--	--	--	--	--	--	--	--	--
GP-15	NS	NS	--	--	NS	NS	NS	NS	NS	--	--	--	--	--	--	--	--	--
GP-16	1/11/07	28	160	--	5.2	3.2	18	7.5	210	--	--	--	--	--	--	--	--	--
GP-17	1/11/07	28	460	--	7.7	4.8	8.0	7.4	790	--	--	--	--	--	--	--	--	--
GP-18	1/11/07	28	35,000	--	250	72	2,800	380	13,000	--	--	--	--	--	--	--	--	--
GP-19	1/11/07	28	430	--	8.9	1.6	24	31	430	--	--	--	--	--	--	--	--	--

Notes:

Samples analyzed for TPHg and TPHd by EPA Method 8015Cm, BTEX by EPA Method 8021B, MTBE by EPA Method 8021B and/or 8260B, and the fuel oxygenates DIPE, ETBE, TAME, EDB, 1,2-DCA, ethanol, methanol, and TBA by EPA Method 8260B.

µg/L = micrograms per liter
NA = Not Analyzed
EDB = 1,2-Dibromoether
NS = Not Sampled
1,2-DCA = 1,2-Dichloroethane
MTBE = methyl tertiary butyl ether
DIPE =Di-isoprpopyl Ether
ETBE = Ethyl tert-Butyl Ether
TAME - tert-Amyl Methyl Ether
TBA = tert-Butanol

* = 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. Therfore, wells MW-7A, MW-7B, and MW-7C were resampled on November 21, 2006.
-- = Not Analyzed

APPENDIX A
Site Investigation Field Protocol

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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.

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
Site Specific Health and Safety Plan

Site Specific Health and Safety Plan
160 Holmes Street, Livermore, California

Date: April 3, 2007
Project No.: 015-01-018

Prepared For:
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Introduction
The purpose of this Health and Safety Plan (HASP) is to ensure that all individuals engaged in site activities do so in a safe manner and in compliance with EPA, state and local regulations. The primary regulatory documents with which site personnel need to comply are OSHA 29 CFR, Part 1910, and the California Administrative Code, Title 8. In addition, all site work will comply with Allterra Environmental, Inc.'s (Allterra) Health and Safety Program and all supporting Standard Operating Procedures. This HASP may be modified during actual field activities, if necessary, as more information and site-specific data are obtained.

Prior to beginning any work on-site, an approved copy of this HASP shall be provided to all employees and subcontractors by the Project Manager. Each subcontractor will be responsible for providing his own HASP. Allterra retains the right to review and approve each subcontractor's Health and Safety Plan prior to the beginning of fieldwork.

Purpose and Objectives
The purpose of this site-specific Health and Safety Plan is to provide guidelines and procedures to ensure the health and physical safety of those persons working at the site. While it may be impossible to eliminate all risks associated with site work, the goal is to provide state-of-the-art precautionary and responsive measures for the protection of on-site personnel, the general public and the environment. The HASP objectives are as follows:

a. Ensure the safety of all site personnel;
b. Protect the public and the environment; and
c. Adhere to Allterra health and safety policies and procedures.

Implementation
This site-specific Health and Safety Plan, and any additional HASP, will be reviewed by all site personnel prior to their scheduled field work. Whenever the site-specific HASP is revised or amended, personnel will be instructed of changes and new procedures.

The site-specific Health and Safety Plan will be implemented in the field by Allterra's Health and Safety Coordinator and/or designated Site Safety Officer (SSO).

Background and Site Description
The subject site is located on the southwest corner of Holmes Street and Second Street at 160 Holmes Street in Livermore, California. The site currently operates as a service station and convenience store.

Proposed Work
Allterra has proposed to install one, 4 inch extraction well on the Site.

Job Hazard Assessment

Chemical Health Hazards

Chemical	PEL/Ceiling/ IDLH	Known Concentrations in Soil, Water, Air, Etc.	Signs/Symptoms
Benzene	1 ppm	Soil = NA Water = 7,700 ppb	Irritation of eyes, nose, and respiratory systems. Headache, giddiness, fatigue, anorexia, staggered gait, and dermatitis
Toluene	100 ppm	Soil = NA Water = 11,000 ppb	Irritation of eyes and mucous membrane, headache, dermatitis, narcosis, and coma.
Xylene	100 ppm	Soil = NA Water = 13,000 ppb	Irritation of eyes, nose, and throat, excitement, drowsiness, headache, dizziness, nausea ,vomiting, anorexia, staggered gait, and dermatitis.
Ethyl Benzene	300 ppm	Soil = NA Water = 13,000 ppb	Irritation of eyes and mucous membrane, headache, dermatitis, narcosis, and coma.
Gasoline	300 ppm	Soil = 6,500 ppm Water = 180,000 ppb	Skin irritant, disturbance of eyes. Deep burning in the throat and respiratory track and bronchopneumonia. Repeated chronic dermal contact may result in drying of skin, lesions and other dermatological conditions.
Diesel	100 mg/m^3	Soil = 1,300 ppm Water = 57,000 ppb	Irritation to skin. Prolonged breathing at high vapor concentrations can cause central nervous system effects
Lead	100 mg/m^3	NA	Prolonged exposure may result in anorexia, low weight, malnutrition, constipation, abdominal pain, colic, or anemia
Tetraethyl-lead	40 mg/m^3	NA	Irritating to the eyes. Prolonged exposure may result in insomnia, anxiety, tremors, hypotension, nausea, low-weight, convulsions, and coma.
Tetramethyl-lead	40 mg/m^3	NA	Prolonged exposure may result in insomnia, anxiety, tremors, hypotension, nausea, low-weight, convulsions, and coma.
Tetra-chloro-ethylene	500 ppm	NA	Inhalation exposure is associated with eye, nose and throat irritation. Ingestion is associated with nausea, flush face and neck.

Physical Hazards

Hazard	Mitigation Measure
Drilling Equipment Hazard	Heavy equipment will be in good working order and operated in accordance with recognized industry standards. Strive to keep a safe distance from heavy machinery so that you would not be in the path of a moving part if it were to swing suddenly. Always be aware of the movement of machinery around you. Approach vehicles from the driver's side. Make sure you are seen by the vehicle operator. Make eye contact.
Trip/Fall Hazard	Good housekeeping and shoes with traction will be worn.

Fire and Explosion Hazards

List Flammable or combustible materials kept on-site. Keep ignition sources away from the following materials.

Flammable (Flash Point < 100 °F)	Combustible (Flash Point < 200 °F)
Gasoline (43 °F)	Diesel (130 °F)

Flammability will be monitored by LEL meter.

List all oxidizers kept on-site: Unknown

Type and location of Fire Extinguisher: ABC fire extinguisher will be located in the support zone in the truck or outside.

Other Hazards

X *Noise*:

Activities likely to generate noise exceeding 85 Db: drilling Use hearing protection during these activities.

X *Heat Stress*

Symptoms: Heat Cramps: Muscular pains and spasms.
Heat Exhaustion: Cool, pale, moist skin; dilated pupils, headache, sweating, nausea, dizziness, vomiting, near normal body temperature.
Heat Stroke: Hot, red skin; small pupils; high body temperature; reduced sweating

Mitigation: Cool place for breaks (in the shade or in trucks)
Whenever ambient temperatures exceed 80 °F, or whenever semipermeable or impermeable protective clothing is worn and ambient temperatures exceed 70 °F, monitoring the worker may include:

Calculate the workers heart rate at the beginning of the rest period. If the heart rate exceeds 110 beats/min shorten the next work cycle. If the heart

rate still exceeds 110 beats/min during the next rest period, shorten the work cycle by 1/2 and continue monitoring.

Take frequent breaks in shaded areas. Remove PPE during breaks and provide plenty of drinking water. Record the time and duration of all breaks. Heat stroke victims must receive emergency medical care.

_____*Hypothermia/ Frostbite*

Symptoms: Hypothermia: Shivering, apathy, loss of consciousness, decreasing pulse and breathing rate.
Frostbite: White, then greyish yellow processing to greyish blue skin. Cold numb body parts.

Mitigation: Wear multi-layer cold weather clothing. Take frequent breaks in a warm sheltered area. Provide warm drinks. For frostbite victims, warm the injured part gradually, do not rub the affected area. Warm hypothermia victims and transport to emergency medical care.

Exposure Monitoring
All samples will be recorded in the exposure log. Copies of the exposure log are filed in the job file. All sampling instruments will be calibrated per the manufacturer's instructions on a daily basis.

Monitoring Equipment	Hazard Monitored	Sample Location	Sample Frequency	Action Level	Action
PID	Volatile organic vapors	To be determined	hourly	1,000 ppm	Use of a respirator while working

Personal Protective Equipment
As a minimum, Level D protection is required on all Allterra worksites. Level D includes: steel-toe boots, safety glasses, and a hard hat. For each task on this project, identify additional protective garments as requires, include the conditions (exposure levels, etc.) under which the level of PPE would be modified for each task.

Task(s)	Condition	Garment(s)
All	At all times	steel-toe boots, safety glasses, and hard hat

Site Control and Communication
The site will be secured as follows: Traffic safety equipment and caution tape.

Work Zones will be marked as follows: Marked with florescent or caution tape and traffic safety equipment. Exclusion Zone is within 15 feet of machinery. Only essential personnel will be allowed into an Exclusion Zone. When practical, 25 to 75 feet of space surrounding Exclusion Zones will be designated as Contamination Reduction Zones. Support Zone is all other area.

On-site communication:	Radio	
	Verbal	X
	Hand Signals	X
	Other	

Off-site communication:	Radio	
	Telephone	X
	Other	

The specific signal for an emergency is: Waving both arms overhead
The specific signal for an evacuation is: Wave personnel toward assembly point
Evacuation assembly point is: To be designated prior to work so a head count can be taken in the event of an evacuation.

Sanitation and Decontamination
As required, all equipment (trucks, field equipment, heavy machinery, etc.) shall be decontaminated prior to exiting the work zone. Personnel decontamination shall be conducted as needed in accordance with the health and safety section of this plan. All waste soils removed during drilling activities will be placed into drums and will remain on site pending disposal.

Personal decontamination procedure: *Hands and face must be clean prior to eating, drinking, or smoking*.
Location of Wash Water: *Support Zone, or to designated prior to work start*.
Location of toilet: *Support Zone, or to designated prior to work start.*
Location of drinking water: *Support Zone, or to designated prior to work start*.
Equipment Decontamination Procedures: *Steam cleaned or washed with Alconox*.
Materials to be disposed of as Hazardous Waste: *Personal Protective Equipment*.

This hazard assessment is based on available information concerning chemical hazards suspected to be present at the site. The work to be performed will be conducted in accordance with EPA and CAL-OSHA regulations and Monterey County requirements.

Emergency Services

If an emergency should occur on-site, the Emergency System (911) should be activated. Two-way communication between the site and the emergency trauma center will be maintained via a portable cellular telephone. Emergency telephone numbers shall be posted on-site and a portable telephone unit made immediately available at all times. These numbers shall include the following:

Emergency

Ambulance	911
Police	911
Poison Control	(800) 662-9886
Pleasanton Urgent Care Medical Center	(925) 462-9300

Non Emergency

Alameda County Fire Department #8	(925) 551-6868
Livermore Police Department	(925) 371-4900
National Response Center	(800) 424-8802

Emergency/Contingency Plans and Procedures

Start at 160 Holmes Street going towards and turn onto 1st Street. Continue on 1st Street for approximately 0.2 miles and turn onto P Street. Continue on P Street and turn onto Portola Avenue. Continue on Portola Avenue and take the I-580 west towards Oakland. Continue on I-580 west for approximately 5 miles and take the Santa Rita Road/Tassajara Road Exit (Exit #47). Coninue for approximately 0.3 miles and turn onto Santa Rita Road. Continue on Santa Rita Road for approximately 1.0 mile and arrive at 3128 Santa Rita Road in Pleasanton, California.

Key Safety Personnel and Responsibilities

Project Manager

The Allterra Project Manager is the SSO. The SSO will ensure that site personnel have proper protective equipment available, that specific site hazards are noted, and that personnel have knowledge of the nearest hospital location. The site safety officer can stop work at the site upon determination that an eminent health or safety hazard exists. If a stop-work order is issued, Allterra will take appropriate steps to remedy the situation and resume site activities. Allterra's Project Manager is responsible for directing all project operations. The Project Manager is also responsible for ensuring that the safety personnel are given free access to all relevant site information that could impact health and safety. The project manager will remain in view of all field activities, and he will inform site personnel of a change in activities.

Employees

All Allterra employees working at the site are responsible for reading and understanding the HASP. Other subcontractors at the site are responsible for providing their own HASPs, which must incorporate, at a minimum, Allterra's HASP. As described above, Allterra's SSO has the authority to ensure that subcontractor employees are following the Allterra Health and Safety Plan provisions.

Site Safety Briefing Procedures (Tailgate Meeting):

All field personnel from Allterra and the subcontractors must attend a safety orientation meeting prior to commencing field activities. The meeting will be scheduled and conducted by the SSO and is to include an overview of the site history, the potentially hazardous compounds, their potential mode of ingress into the body, protective equipment requirements, and emergency response equipment. All individuals who do not have respirators and who may be required to wear them, will not be allowed on the site until they are provided with and fit tested for respirators by their respective employers.

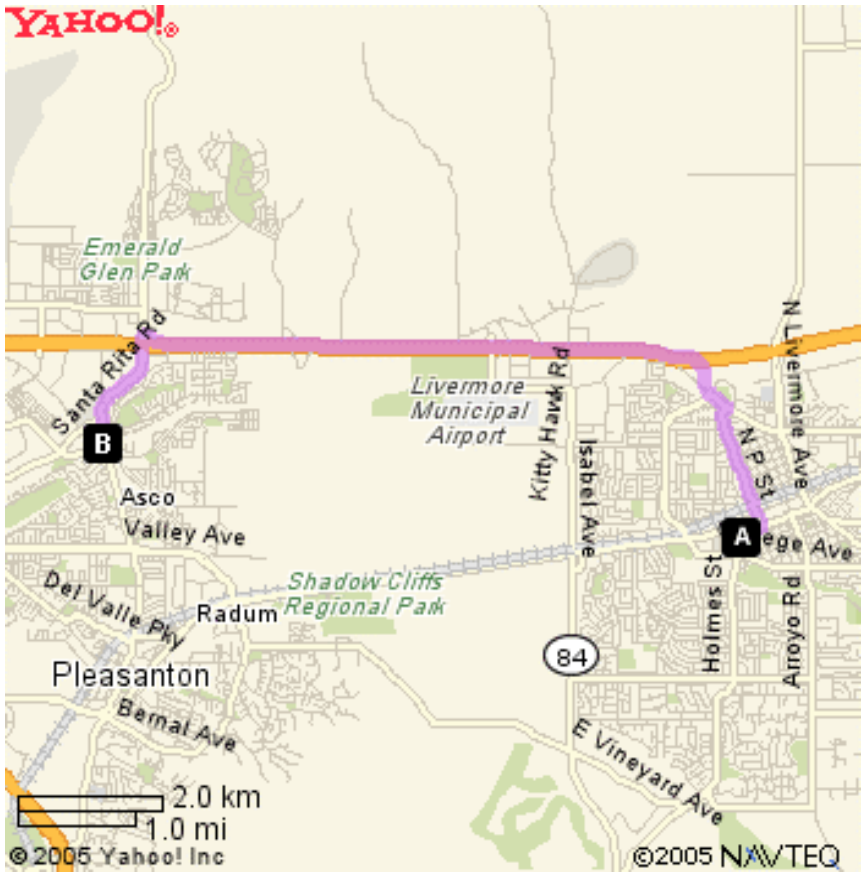
A tailgate meeting will be held every morning before the start of work and is to be attended by all personnel on-site. The purpose of the meeting is to discuss the days work, potential hazards, and specific health and safety procedures to be utilized during the day.

Sign-Off

I have read the HASP and fully understand the hazards associated with the following job:
160 Holmes Street, Livermore, California

I will comply with the minimum safety requirements set forth in the HASP. I agree to notify the responsible employee of Allterra should any unsafe acts be witnessed by me while I am on-site.

Print Name	Signature	Date



Driving Route to Hospital

Hospital Location

Hospital Location Map

160 Holmes Street, Livermore, California