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Environmental Health



## **Work Plan for Pilot Scale Vapor Extraction System Installation and Operation**

**Fuel Leak Case No. RO0000324, Livermore Gas and Mini-Mart,  
160 Holmes Street, Livermore, California**

*Date:*  
November 4, 2008

*Prepared For:*  
Manwel and Samira Shuwayhat  
54 Wolfe Canyon Road  
Kentfield, CA 94904

**Allterra Environmental, Inc.**  
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November 4, 2008

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

**Subject: Work Plan for Pilot Scale Vapor Extraction System Installation and Operation 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 Pilot Scale Vapor Extraction System Installation and Operation* to propose corrective action work to be completed at 160 Holmes Street in Livermore, California (Site). The purpose of this work plan is provide a proposed work scope for construction and operation of a pilot scale vapor extraction and treatment system (VES) at the Site in order to collect treatment system operation data that will be used for designing a full-scale remediation system and provide interim remediation of petroleum hydrocarbon-contaminated soil beneath the Site. This work plan was prepared pursuant to a letter directive from Alameda County Environmental Health (ACEH) dated September 23, 2008.

### **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 1<sup>st</sup> and 2<sup>nd</sup> 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.

### **Description of Site Conditions**

#### Subsurface Soil Contamination

In general, previous site investigations indicate that the majority of soil contamination beneath the Site occurs at depths between 24 and 40 feet bgs, with the highest levels of contamination at depths between 28 and 32 feet bgs. The highest levels of soil contamination were detected in samples collected from Geoprobe® borings installed the area between the northwestern fuel dispenser and USTs. Using soil analytical data from this and previous investigations, it appears that the majority of soil contamination occurs at depths between 24 and 40 feet bgs and extends laterally in the approximate area between Allterra boring B-3, boring GP-2, and well EW-2 (Figure 2 and Table 1).

### Current Groundwater Levels

On September 27, 2007, Allterra staff collected groundwater level measurements from wells MW-1B, MW-5B, and MW-7B. Measurements indicated water levels at approximately 46 bgs, which represents a drop in water level of more than 20 feet since second quarter 2007. Current water levels beneath the Site are the lowest they have been in at least 5 years. According to Zone 7 Water Agency staff, the lowering of the water table was likely caused by the recent termination of the local groundwater recharge program.

### Previous Vapor Extraction (VE) Pilot Testing

In September 2007, Allterra completed a one-day soil vapor extraction pilot test at the Site using extraction well EW-3 (as documented in Allterra's October 8, 2007 *Submittal of Soil Vapor Extraction Data*). Pilot testing results indicated an approximate vapor extraction flow rate of 131 cubic feet per minute (cfm) and influent contaminant levels up to 72,000 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) for TPHg, up to  $630 \text{ mg}/\text{m}^3$  for benzene, and up to  $8,600 \text{ mg}/\text{m}^3$  for MTBE (Table 3). The test data extrapolated to a 24-hour period results in daily mass removal estimates of approximately 750 pounds per day (ppd) for TPHg, 6.4 ppd for benzene, and 80 ppd for MTBE. Based on the one-day pilot test, vapor extraction is a viable remedial strategy for targeting soil contamination beneath the Site.

## **Proposed Scope of Work**

### Purpose

At this time, it appears that the vertical and lateral extent of soil and groundwater contamination has been sufficiently characterized. However, remedial pilot testing is incomplete; therefore, additional pilot testing is required in order to collect sufficient data for evaluating remedial strategies and abatement technologies. In order to address remediation of soil contamination in the "source area", Allterra proposes to install and operate an interim VES that will provide flow rate, radius of influence, and vapor stream contaminant level data that will be used for treatment system design and permitting. Additionally, operation of a pilot scale SVE system at the Site will provide immediate contaminant source removal.

### Pilot Scale VES Description

The VES will consist of a remediation compound area that includes a vapor extraction blower, electrical controls, and vapor abatement equipment, as well as subsurface conveyance piping and wellhead connections to extraction well EW-3. The layout of the proposed VES is presented in Figure 3.

### Remediation Compound

A temporary remediation compound will be constructed along the northeastern edge of the property (Figure 3). The compound will consist of temporary fencing enclosing vapor extraction and off-gas abatement equipment and associated electrical controls and conveyance piping.

### Vapor Extraction Well

Well EW-3 will be used as the soil vapor extraction well. Well EW-3 was selected because it has a screen interval from 25 to 30 feet bgs, which spans the targeted smear zone. A previous vapor extraction test completed using EW-3 indicated it was conducive for a VES.

### Extraction Well Tie-In

Subsurface conveyance piping will be installed in a shallow trench that will run from the remediation compound to well EW-3. The conveyance piping will daylight inside the remediation compound and will be plumbed into the EW-3 wellhead.

### VES Operation and Data Collection

#### *Permitting*

Prior to startup of the VES, an air discharge permit will be obtained from the Bay Area Air Quality Management District (BAAQMD).

#### *Duration of Operation*

A three-month operation time-frame (one quarter) is proposed for initial operation of the pilot scale VES. After the three-month operation, data will be evaluated to determine the logical next step. If additional testing is necessary, it will be recommended in a report. If cost effective, VES operations will continue. This amount of time should provide sufficient data to make evaluations for future remedial strategies.

#### *Data Collection*

Allterra plans to implement a data collection program that will provide information that can be used for evaluating remedial strategies for achieving the ultimate goal of site case closure. Data that will be collected includes the following:

- Measurements of vacuum applied on well EW-3.
- Measurements of induced vacuum at wells EW-1 and EW-2 for evaluating radius of influence (ROI).
- Vapor extraction flow rate.
- Sample collection from the influent vapor flowstream.

For the first month of operation, vapor samples will be collected from the VES influent on a weekly basis; influent vapor samples will be collected monthly thereafter.

#### *Laboratory Analysis*

Vapor samples will be collected in 1-liter tedlar bags and submitted under chain-of-custody protocol for chemical testing to McCampbell Analytical, Inc., of Pacheco, California, a State of California certified laboratory (ELAP #1644). Soil and groundwater samples collected from the borings will be analyzed for TPHg by EPA Method 8015C, and benzene, toluene, ethylbenzene, and xylenes (BTEX) and MTBE by EPA Method 8021b.

#### Reporting

System operation data will be presented in quarterly VES operation and maintenance (O&M) reports.

### 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.



James Allen, R.E.A.II  
Project Manager

#### Attachments:

Figure 1, Vicinity Map  
Figure 2, Pilot Scale Vapor Extraction System

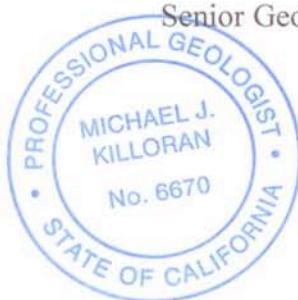
Table 1, Historical Soil Analytical Results  
Table 2, Historical Groundwater Analytical Results  
Table 3, Historical Soil Vapor Analytical Results

APPENDIX A: Site Specific Health and Safety Plan

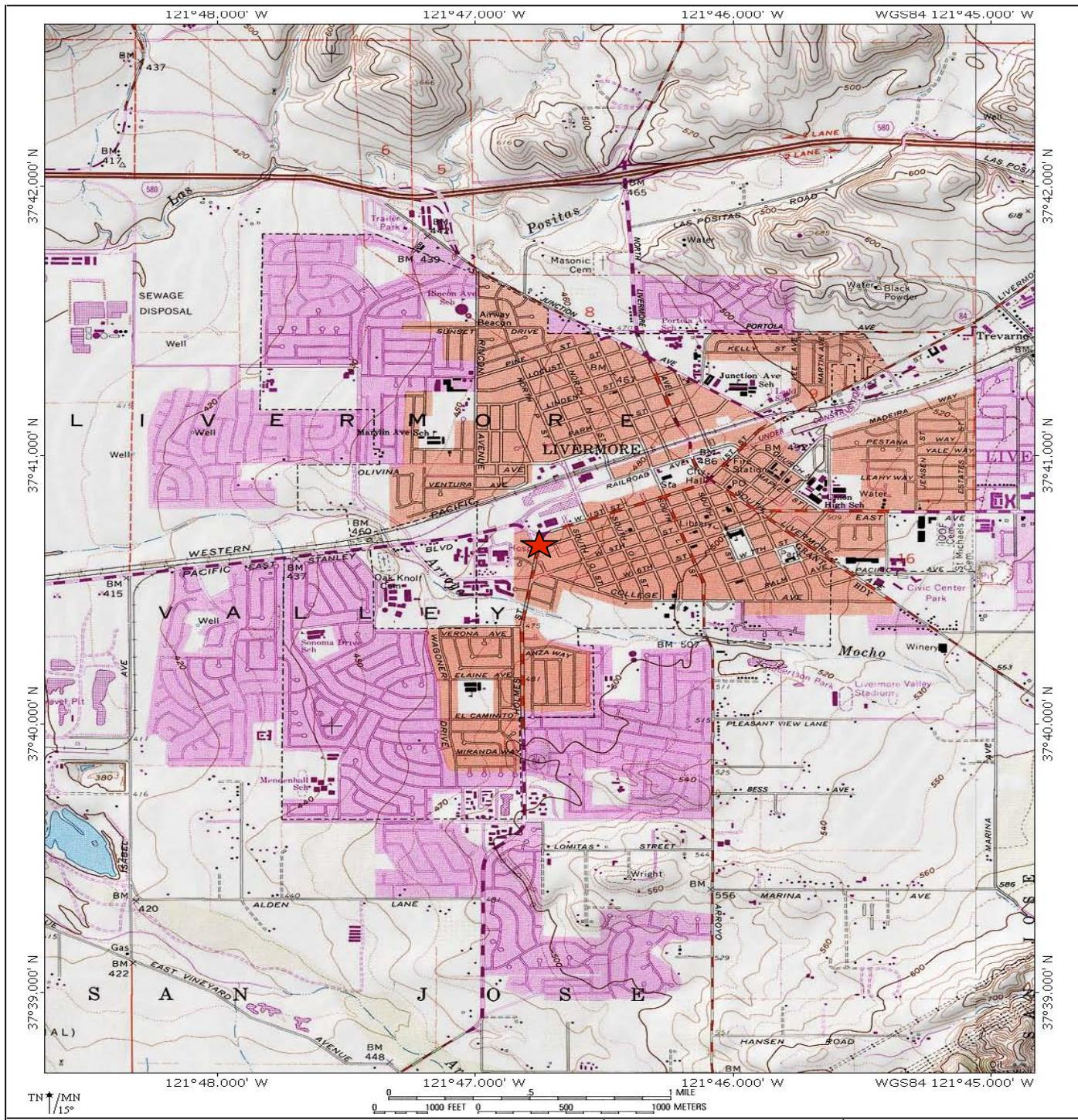
cc: Mr. Jerry Wickham, ACEH



Mike Killoran, P.G. 6670  
Senior Geologist



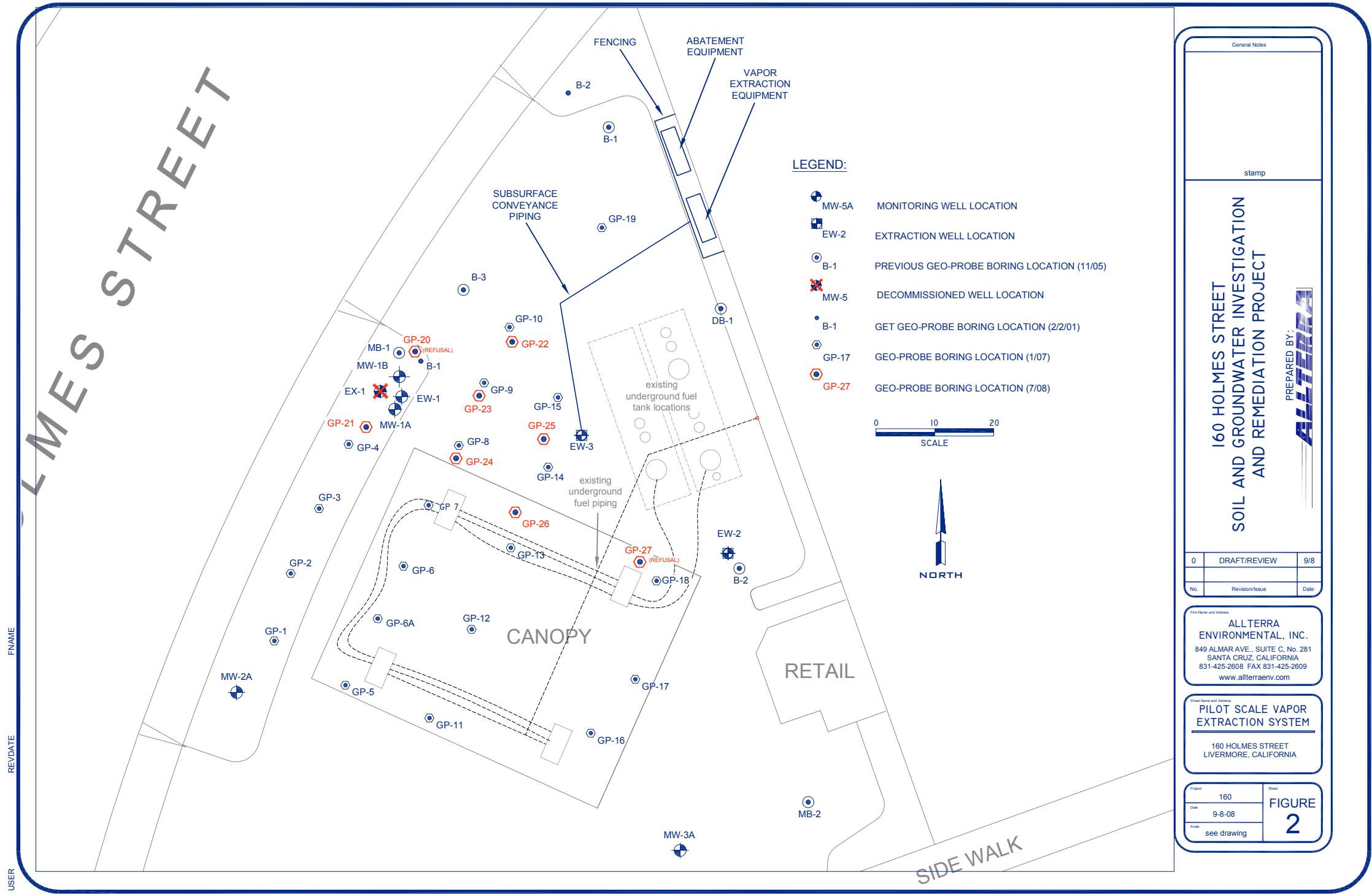
## FIGURES 1-2



**Vicinity Map**  
 Livermore Gas and Mini-mart  
 160 Holmes Street  
 Livermore, California

Figure 1      3/31/06

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## TABLES 1-3

**Table 1**  
**Historical Soil Analytical Data**  
160 Holmes Street, Livermore, California

| Sample ID<br>(Field Point) | Sample Depth<br>(feet) | 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      | --              | --  | --   | --   | --   |

**Table 1**  
**Historical Soil Analytical Data**  
160 Holmes Street, Livermore, California

| Sample ID<br>(Field Point) | Sample Depth<br>(feet) | Sample Date | TPHg  | TPHd | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE  | Fuel Oxygenates |     |      |      |      |
|----------------------------|------------------------|-------------|-------|------|---------|---------|---------------|---------------|-------|-----------------|-----|------|------|------|
|                            |                        |             |       |      |         |         |               |               |       | TAME            | TBA | DIPE | ETBE | MTBE |
| 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 | --              | --  | --   | --   | --   |

**Table 1**  
**Historical Soil Analytical Data**  
160 Holmes Street, Livermore, California

| Sample ID<br>(Field Point) | Sample Depth<br>(feet) | Sample Date | TPHg | TPHd | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE  | Fuel Oxygenates |     |      |      |      |
|----------------------------|------------------------|-------------|------|------|---------|---------|---------------|---------------|-------|-----------------|-----|------|------|------|
|                            |                        |             |      |      |         |         |               |               |       | TAME            | TBA | DIPE | ETBE | MTBE |
| 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 | --              | --  | --   | --   | --   |

**Table 1**  
**Historical Soil Analytical Data**  
160 Holmes Street, Livermore, California

| Sample ID<br>(Field Point) | Sample Depth<br>(feet) | Sample Date | TPHg | TPHd | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE  | Fuel Oxygenates |     |      |      |      |
|----------------------------|------------------------|-------------|------|------|---------|---------|---------------|---------------|-------|-----------------|-----|------|------|------|
|                            |                        |             |      |      |         |         |               |               |       | TAME            | TBA | DIPE | ETBE | MTBE |
| 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 Data**  
160 Holmes Street, Livermore, California

| Sample ID<br>(Field Point) | Sample Depth<br>(feet) | Sample Date | TPHg | TPHd | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE  | Fuel Oxygenates |       |        |        |        |
|----------------------------|------------------------|-------------|------|------|---------|---------|---------------|---------------|-------|-----------------|-------|--------|--------|--------|
|                            |                        |             |      |      |         |         |               |               |       | TAME            | TBA   | DIPE   | ETBE   | 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 | --              | --    | --     | --     | --     |
| 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 |

**Table 1**  
**Historical Soil Analytical Data**  
160 Holmes Street, Livermore, California

| Sample ID<br>(Field Point) | Sample Depth<br>(feet) | Sample Date | TPHg | TPHd | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE  | Fuel Oxygenates |       |        |        |        |
|----------------------------|------------------------|-------------|------|------|---------|---------|---------------|---------------|-------|-----------------|-------|--------|--------|--------|
|                            |                        |             |      |      |         |         |               |               |       | TAME            | TBA   | DIPE   | ETBE   | MTBE   |
| 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 | --              | --    | --     | --     | --     |

Notes:

-- : not analyzed

NA : not available

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

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

Refusal in borings GP-20 and GP-27 - no samples

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



**Table 2**  
**Historical 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        | --                                     | 170,000                             | 57,000 | 6,400                                      | 7,600   | 4,200         | 9,700         | 320,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 10/19/00       | 443.09                                 | 170,000                             | 17,000 | 8,400                                      | 3,200   | 2,700         | 10,000        | 200,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 2/22/01        | 442.12                                 | 82,000                              | 11,000 | 5,100                                      | 1,000   | 13,000        | 8,700         | 190,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 5/30/01        | DRY                                    | not sampled - well dry              |        |  |         |               | --            |              |                                     |         |        | --     |         |          |                        |        |         |
|         | 11/14/01       | DRY                                    | not sampled - well dry              |        |  |         |               | --            |              |                                     |         |        | --     |         |          |                        |        |         |
|         | 5/7/02         | DRY                                    | not sampled - well dry              |        |  |         |               | --            |              |                                     |         |        | --     |         |          |                        |        |         |
|         | 9/11/02        | 438.87                                 | 130,000                             | NA     | 7,700                                      | 1,100   | 4,500         | 1,500         | <5000        | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 12/1/02        | 437.48                                 | 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      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 6/25/03        | 442.93                                 | 71,000                              | 3,100  | 7,500                                      | 4,700   | 4,800         | 8,900         | 210,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 9/16/03        | 440.12                                 | 37,000                              | 3,600  | 4,600                                      | 220     | 3,600         | 930           | 150,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 12/22/03       | 443.28                                 | 44,000                              | 4,000  | 6,800                                      | 1,500   | 4,000         | 3,800         | 180,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 3/10/04        | 447.58                                 | 72,000                              | 3,100  | 6,000                                      | 11,000  | 3,900         | 10,000        | 260,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 6/15/04        | 442.65                                 | 42,000                              | 4,300  | 5,000                                      | 1,800   | 3,700         | 6,000         | 210,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 9/17/04        | 439.42                                 | 24,000                              | 2,900  | 2,800                                      | <33     | 2,900         | 500           | 83,000       | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 12/10/04       | 442.85                                 | 31,000                              | 2,700  | 4,600                                      | 190     | 4,400         | 2,800         | 200,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 3/2/05         | 448.08                                 | 58,000                              | 2,800  | 4,000                                      | 2,500   | 4,500         | 7,800         | 230,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 5/27/05        | 446.61                                 | 79,000                              | 4,600  | 4,300                                      | 6,200   | 5,100         | 13,000        | 240,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 7/21/05        | 443.65                                 | 80,000                              | NS     | 4,300                                      | 5,300   | 5,400         | 14,000        | 300,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 10/10/05       | 442.54                                 | 58,000                              | NS     | 4,300                                      | 240     | 5,600         | 8,300         | 170,000      | --                                  | --      | --     | --     | --      | --       | --                     | --     |         |
|         | 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 | --       | --                     | --     | --      |
|         | 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             | --     | --      |
|         | 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        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS                     | NS     |         |
|         | 10/29/07       | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS                     | NS     |         |
|         | 2/1/08         | DRY                                    | 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     |         |
|         | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS                     | NS     |         |
| 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    | --       | --                     | --     | --      |
|         | 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                   | --     | --      |
|         | 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        | --                                     | <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 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       |
| MW- 2A* | 8/11/00        | NC                                     | 4,500                               | 1,900  | 220  | 52      | 160           | 170           | 3,000                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 10/19/00       | 443.14                                 | 3,400                               | 1,300  | 150  | 21      | 100           | 70            | 1,900                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 2/22/01        | 442.07                                 | 7,600                               | 880    | 25   | <10     | 69            | 25            | 2,200                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 5/30/01        | DRY                                    | not sampled - well dry              |        |  |         |               |               |                                     | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 11/14/01       | DRY                                    | not sampled - well dry              |        |  |         |               |               |                                     | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 5/7/02         | 438.24                                 | 400                                 | 86     | 5.4  | <0.5    | 1.9           | 2.3           | 230                                 | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 9/11/02        | 438.98                                 | 260                                 | NA     | 1.3  | <0.5    | 0.57          | 0.77          | 200                                 | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 12/1/02        | 437.38                                 | 250                                 | 120    | 7.9  | 1.6     | 13            | 9.9           | 180                                 | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 3/14/03        | 442.53                                 | 830                                 | 110    | 56   | <0.5    | <0.5          | <1.0          | 1,200                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 6/25/03        | 442.97                                 | 260                                 | 180    | 0.92                                       | 2.9     | 3.1           | 8.1           | 2,000                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 9/16/03        | 440.24                                 | 420                                 | 260    | 3.6  | 3.4     | 5.2           | 2.4           | 1,300                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 12/22/03       | 443.36                                 | 240                                 | 120    | 0.82                                       | 3.1     | 7.8           | 3.9           | 1,400                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 3/10/04        | 447.63                                 | 280                                 | 210    | 9.4  | 4.2     | 14            | 11            | 1,400                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 6/15/04        | 442.76                                 | 150                                 | 150    | 2.1  | 2.4     | 2.2           | 1.3           | 1,500                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 9/17/04        | 439.50                                 | 61                                  | 70     | <0.5                                       | 1.0     | <0.5          | <0.5          | 730                                 | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 12/10/04       | 442.94                                 | 84                                  | 110    | <0.5                                       | 1.2     | <0.5          | 1.5           | 1,300                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 3/2/05         | 448.19                                 | 63                                  | 91     | 0.55                                       | <0.5    | 0.63          | 0.51          | 1,000                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 5/27/05        | 446.65                                 | 270                                 | 59     | 14   | 3.9     | 19            | 6.8           | 1,100                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 7/21/05        | 444.48                                 | 280                                 | NS     | 8.6  | 2.5     | 17            | 2.5           | 1,500                               | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 10/10/05       | 442.64                                 | <50                                 | NS     | <.5  | <.5     | <.5           | <.5           | 680                                 | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 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  | --                     | --       | --        |
|         | 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    | -- --     |
|         | 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                                       | 0.60    | <0.5          | <0.5          | 16                                  | <5.0 | 740 | <5.0 | <5.0 | 16   | <500                   | <5,000   | <5.0 <5.0 |
|         | 7/16/07        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS                                  | NS   | NS  | NS   | NS   | NS   | NS                     | NS       | NS        |
|         | 10/29/07       | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS                                  | NS   | NS  | NS   | NS   | NS   | NS                     | NS       | NS        |
|         | 2/1/08         | DRY                                    | 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        |
|         | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS                                  | NS   | NS  | NS   | NS   | NS   | NS                     | NS       | NS        |
| MW- 3A* | 8/11/00        | --                                     | 59                                  | 260    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 10/19/00       | 443.39                                 | <50                                 | <65    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 2/22/01        | 442.33                                 | <50                                 | 100    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 5/30/01        | DRY                                    | not sampled - well dry              |        |  |         |               |               |                                     | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 11/14/01       | DRY                                    | not sampled - well dry              |        |  |         |               |               |                                     | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 5/7/02         | DRY                                    | not sampled - well dry              |        |  |         |               |               |                                     | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 9/11/02        | 439.23                                 | <50                                 | NA     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 12/1/02        | 437.66                                 |                                     | NS     |  |         |               |               |                                     | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 3/14/03        | 442.80                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 6/25/03        | 443.25                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 9/16/03        | 440.51                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 12/22/03       | 443.47                                 | <50                                 | 69     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 3/10/04        | 447.96                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 6/15/04        | 443.02                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |
|         | 9/17/04        | 439.75                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0                                | --   | --  | --   | --   | --   | --                     | --       | --        |

**Table 2**  
**Historical 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-3A*<br>(cont.) | 12/10/04       | 443.19                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 7.6          | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 3/2/05         | 448.51                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 5/27/05        | 446.95                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 7/21/05        | 444.74                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 10/10/05       | 442.90                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 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 | <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 | <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 | --      | --                     | --   |         |
|                   | 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 | <500    | --                     | --   |         |
|                   | 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 | <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 | <500    | <0.5                   | <0.5 |         |
|                   | 7/16/07        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS   |         |
|                   | 10/29/07       | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS   |         |
|                   | 2/1/08         | DRY                                    | 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   |         |
|                   | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | 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           | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 5/7/02         | 438.40                                 | 150                                 | <50    | 3.5  | 0.5     | <0.5          | <0.5          | 48           | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 9/11/02        | 438.49                                 | <50                                 | NA     | <0.5                                       | <0.5    | <0.5          | <0.5          | 15           | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 12/1/02        | 436.76                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 24           | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 3/14/03        | 442.01                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <1.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 6/25/03        | 442.43                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <1.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 9/16/03        | 439.76                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 12/22/03       | 442.73                                 | <50                                 | 69     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 3/10/04        | 446.95                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 37           | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 6/15/04        | 442.20                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 7.4          | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 9/17/04        | 439.03                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 12/10/04       | 442.42                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 3/2/05         | 447.55                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 14           | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 5/27/05        | 446.01                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 9.6          | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 7/21/05        | 443.90                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 10/10/05       | 442.30                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --   | --   | --   | --   | --      | --                     | --   |         |
|                   | 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  | --      | --                     | --   | --      |
|                   | 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                   | --   | --      |
|                   | 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    |
|                   | 4/13/07        | 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        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS   |         |
|                   | 10/29/07       | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS   |         |
|                   | 2/1/08         | DRY                                    | 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   |         |
|                   | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS   |         |

**Table 2**  
**Historical 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       |
| MW-5**  | 11/14/01       | 429.71                                 | <50                                 | <66    | <0.5                                       | <0.5    | <0.5          | <0.5          | 8.2          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 5/7/02         | 436.75                                 | 140                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 110          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 9/11/02        | 436.66                                 | <50                                 | NA     | <0.5                                       | <0.5    | <0.5          | <0.5          | 6.3          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 12/1/02        | 435.15                                 | 73                                  | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 160          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 3/14/03        | 440.39                                 | 110                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 170          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 6/25/03        | 440.64                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 89           | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 9/16/03        | 437.82                                 | 630                                 | <50    | <0.5                                       | 3.5     | <0.5          | 2.6           | 1500         | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 12/22/03       | 440.97                                 | <0.5                                | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 630          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 3/10/04        | 445.43                                 | 57                                  | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 1100         | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 6/15/04        | 440.45                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 750          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 9/17/04        | 436.97                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 780          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 12/10/04       | 440.72                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 120          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 3/2/05         | 446.09                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 320          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 5/27/05        | 444.50                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | 120          | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 7/21/05        | 442.10                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | 97           | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 10/10/05       | 441.30                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | 41           | --                                  | --   | --   | --   | --   | --      | --                     | --        |
|         | 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 | --      | --                     | --        |
|         | 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                   | -- --     |
|         | 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        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS        |
|         | 10/29/07       | DRY                                    | 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        |
| MW-5B   | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS        |
|         | 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 | --      | --                     | --        |
|         | 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                   | -- --     |
|         | 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 |
|         | 4/16/07        | 439.26                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | <0.5                                | <5.0 | <0.5 | <0.5 | 1.5  | <50     | <500                   | <0.5 <0.5 |
|         | 7/17/07        | 428.09                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | <0.5                                | <5.0 | <0.5 | <0.5 | 1.4  | NA      | NA                     | NA        |
|         | 10/29/07       | 416.69                                 | <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         | 431.34                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | <0.5                                | <2.0 | <0.5 | <0.5 | 1.9  | <50     | <500                   | <0.5 <0.5 |
|         | 4/18/08        | 435.82                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | <0.5                                | <2.0 | <0.5 | <0.5 | 1.5  | <50     | <500                   | <0.5 <0.5 |
|         | 7/29/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS   | NS   | NS   | NS   | NS      | NS                     | NS        |

**Table 2**  
**Historical 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       |
| MW-6    | 11/14/01       | 430.25                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 5/7/02         | 437.12                                 | <50                                 | <67    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 9/11/02        | 437.10                                 | <50                                 | NA     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 12/1/02        | 435.36                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <1.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 3/14/03        | 440.67                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <1.0          | <1.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 6/25/03        | 441.05                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <1.0          | <1.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 9/16/03        | 438.36                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 12/22/03       | 441.54                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 3/10/04        | 445.48                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 6/15/04        | 440.82                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 9/17/04        | 437.57                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 12/10/04       | 441.04                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 3/2/05         | 446.09                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 5/27/05        | 444.56                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 7/21/05        | 442.53                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 10/10/05       | 441.92                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | --                                  | --    | --   | --   | --    | --      | --                     | --        |
|         | 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  | --      | --                     | --        |
|         | 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                   | -- --     |
|         | 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 |
|         | 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        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS    | NS   | NS   | NS    | NS      | NS                     | NS        |
|         | 10/29/07       | DRY                                    | 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        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS    | NS   | NS   | NS    | NS      | NS                     | NS        |
| 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   | --      | --                     | --        |
|         | 10/12/06       | 440.82                                 | 6,500                               | 2,400  | 83   | 38      | 300           | 160           | 980          | <17                                 | 4,700 | <10  | <17  | 1200  | <1700   | <17,000                | -- --     |
|         | 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 |
|         | 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        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS    | NS   | NS   | NS    | NS      | NS                     | NS        |
|         | 10/29/07       | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS    | NS   | NS   | NS    | NS      | NS                     | NS        |
|         | 2/1/08         | DRY                                    | 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        |
|         | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS    | NS   | NS   | NS    | NS      | NS                     | NS        |

**Table 2**  
**Historical 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-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 | --      | --       | --                     | --      |     |
|         | 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  | --                     | --      |     |
|         | ***            | 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     |     |
|         | 4/16/07        | 440.98                                 | 94                                  | <50    | <0.5                                       | 2.6     | <0.5          | <0.5          | 35           | <50                                 | 10,000 | <50    | <50  | <50   | <5000   | <50,000  | <50                    | <50     |     |
|         | 7/17/07        | 428.99                                 | <50                                 | <50    | 0.61                                       | 0.63    | <0.5          | <0.5          | 13           | <17                                 | 4,000  | <17    | <17  | <17   | --      | --       | --                     | --      |     |
|         | 10/29/07       | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS     | NS     | NS   | NS    | NS      | NS       | NS                     | NS      |     |
|         | 2/1/08         | 431.55                                 | 420                                 | <50    | 0.77                                       | 17      | <0.5          | 0.97          | 45           | <25                                 | 4000   | <25    | <25  | 49    | <2500   | <25000   | <25                    | <25     |     |
|         | 4/18/08        | 436.87                                 | 650                                 | 100    | 3.4  | 15      | 8.3           | <0.5          | 150          | <25                                 | 3800   | <25    | <25  | 140   | <2500   | <25000   | <25                    | <25     |     |
|         | 7/28/08        | --                                     | <50                                 | <50    | <0.5                                       | 0.56    | <0.5          | <0.5          | 17           | <5.0                                | 760    | <5.0   | <5.0 | 22    | <500    | <5000    | <5.0                   | <5.0    |     |
| 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  | --      | --       | --                     | --      |     |
|         | 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  | --                     | --      |     |
|         | ***            | 11/21/06                               | NM                                  | <50    | NA   | <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    |     |
|         | 4/16/07        | 440.66                                 | <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    |     |
|         | 7/17/07        | 428.69                                 | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | <0.5                                | <5.0   | <0.5   | <0.5 | <0.5  | --      | --       | --                     | --      |     |
|         | 10/29/07       | 417.14                                 | <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         | 431.39                                 | <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        | 436.64                                 | <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    |     |
|         | 7/28/08        | --                                     | <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    |     |
| MW-8A   | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS     | NS     | NS   | NS    | NS      | NS       | NS                     | NS      |     |
| MW-8B   | 7/28/08        | --                                     | <50                                 | <50    | <0.5                                       | <0.5    | <0.5          | <0.5          | <5.0         | <0.5                                | <2.0   | <0.5   | <05  | 2.5   | <50     | <500     | <0.5                   | <0.5    |     |
| MW-9A   | 7/28/08        | DRY                                    | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS     | NS     | NS   | NS    | NS      | NS       | NS                     | NS      |     |
| MW-9B   | 7/29/08        | --                                     | <50                                 | 63     | <0.5                                       | <0.5    | <0.5          | <0.5          | 100          | <10                                 | 2,800  | <10    | <10  | 160   | <1000   | <10,000  | <10                    | <10     |     |
| EX-1**  | 11/14/01       | 431.89                                 | 13,000                              | 2,000  | 180  | 1,000   | 330           | 3,200         | 2,200        | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 5/7/02         | 437.72                                 | 7,700                               | 560    | 320  | <25     | 66            | 150           | 6,200        | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 9/11/02        | NC                                     | 2,800                               | NA     | 32   | <13     | 14            | <13           | 2,500        | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 12/1/02        | 437.32                                 | 3,000                               | 100    | 81   | <0.5    | 44            | <1.0          | 4,800        | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 3/14/03        | 442.28                                 | 750                                 | 50     | <0.5                                       | <0.5    | 7.7           | 13            | 1,200        | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 6/25/03        | 442.89                                 | 120                                 | <50    | 3.2  | 3.7     | 4.2           | 7.6           | 260          | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 9/16/03        | 440.65                                 | 170                                 | <50    | 0.5  | 1.5     | <0.5          | 0.9           | 1,600        | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 3/10/04        | 447.31                                 | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 6/15/04        | 442.82                                 | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 9/17/04        | 439.39                                 | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 12/10/04       | NC                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 3/2/05         | NC                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |
|         | 5/27/05        | 446.62                                 | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | --                                  | --     | --     | --   | --    | --      | --       | --                     | --      |     |

**Table 2**  
**Historical 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 |
| EX-1**<br>(cont.) | 7/21/05        | 443.75                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | 610          | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
|                   | 10/10/05       | 442.57                                 | <50                                 | NS     | <0.5                                       | <0.5    | <0.5          | <0.5          | 31           | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
|                   | 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  | --       | --       | --                     | --      |
|                   | 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  | --                     | --      |
|                   | 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        | NM                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS       | NS                     | NS      |
|                   | 10/29/07       | NM                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS       | NS                     | NS      |
|                   | 2/1/08         | NM                                     | 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        | NM                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS       | NS                     | NS      |
| 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  | --       | --       | --                     | --      |
|                   | 10/12/06       | 444.51                                 | 110                                 | <50    | 2.0  | 1.0     | 3.1           | 3.9           | 620          | <12                                 | <120    | <12    | <12    | 680     | <1200    | <12,000  | --                     | --      |
|                   | 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     |
|                   | 4/13/07        | 442.06                                 | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS       | NS                     | NS      |
|                   | 7/16/07        | NM                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS       | NS                     | NS      |
|                   | 10/29/07       | NM                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS       | NS                     | NS      |
|                   | 2/1/08         | NM                                     | 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        | NM                                     | NS                                  | NS     | NS   | NS      | NS            | NS            | NS           | NS                                  | NS      | NS     | NS     | NS      | NS       | NS       | NS                     | NS      |
| Exxon1            | 2/26/99        | 30                                     | 100,000                             |        | 6,100                                      | 16,000  | 2,500         | 11,000        | 60,000       | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
| B1                | 2/2/01         | 30                                     | 650,000                             | 13,000 | 6,300                                      | 10000.0 | <2,500        | 12,000        | 290,000      | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
| B2                | 2/2/01         | 30                                     | 56                                  | <0.5   | <0.5                                       | <0.5    | <0.5          | <0.5          | 47           | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
| B3                | 2/2/01         | 30                                     | 6,200                               | NA     | <50  | <50     | <50           | <50           | 3,800        | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
| B4                | 2/2/01         | 30                                     | 12,000                              | NA     | <50  | <50     | <50           | <50           | 6,000        | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
| B5                | 2/2/01         | 30                                     | <25,000                             | 960    | <250                                       | <250    | <250          | <250          | 16,000       | --                                  | --      | --     | --     | --      | --       | --       | --                     | --      |
| 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 | --       | --       | --                     | --      |
| MB-1-B            | 11/10/01       | 50                                     | 470                                 | 210    | 7.8  | 0.97    | 31            | 48            | NA           | <25                                 | <250    | <25    | <25    | 1,500   | --       | --       | --                     | --      |
| MB-1-C            | 11/10/01       | 70                                     | 990                                 | NA     | 17   | 1.3     | 89            | 160           | NA           | <25                                 | <250    | <25    | <25    | 1,200   | --       | --       | --                     | --      |
| 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    | --       | --       | --                     | --      |
| 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    | --       | --       | --                     | --      |
| 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  | --       | --       | --                     | --      |
| MB-3-B            | 11/13/01       | 50                                     | 1,400                               | 210    | 0.93                                       | 9.3     | 14            | 27            | NA           | <50                                 | 6,200   | <50    | <50    | 190     | --       | --       | --                     | --      |
| MB-3-C            | 11/13/01       | 70                                     | 930                                 | 260    | 1.7  | 3.8     | 33            | 100           | NA           | <100                                | 16,000  | <100   | <100   | 330     | --       | --       | --                     | --      |
| 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      | --       | --       | --                     | --      |
| 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    | --       | --       | --                     | --      |
| 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    | --       | --       | --                     | --      |

**Table 2**  
**Historical 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 |
| 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   | --      | --       | --                     | --      |
| 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   | --      | --       | --                     | --      |
| 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     | --      | --       | --                     | --      |
| 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 | --      | --       | --                     | --      |
| 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 | --      | --       | --                     | --      |
| HP-1-A  | 11/13/01       | 28                                     | <50                                 | NA     | <0.5                                       | <0.5    | <0.5          | 0.80          | NA           | <50                                 | 24      | <50    | <50    | 12     | --      | --       | --                     | --      |
| 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            | NS            | NS           | NS                                  | NS      | 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            | NS            | NS           | NS                                  | NS      | 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            | NS            | NS           | NS                                  | NS      | 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          | --                                  | --      | --     | --     | --     | --      | --       | --                     | --      |
| GP-21   | 7/9/08         | 52                                     | <50                                 | --     | <0.5                                       | <0.5    | 0.73          | 3.3           | 9.2          | <0.5                                | 4.5     | <0.5   | <0.5   | 7.9    | --      | --       | --                     | --      |
| GP-22   | 7/8/08         | 47                                     | <50                                 | --     | <0.5                                       | <0.5    | <0.5          | 0.55          | 8.3          | <0.5                                | 31      | <0.5   | <0.5   | 8.7    | --      | --       | --                     | --      |
| GP-23   | 7/7/08         | 50                                     | 220                                 | --     | 7.1  | 9.1     | 7.0           | 30            | 61           | <2.5                                | <10     | <2.5   | <2.5   | 76     | --      | --       | --                     | --      |
| GP-24   | 7/7/08         | 48                                     | 800                                 | --     | 4.3  | 0.89    | 39            | 180           | 1,100        | <50                                 | <200    | <50    | <50    | 1300   | --      | --       | --                     | --      |
| GP-25   | 7/8/08         | 50                                     | 210                                 | --     | 4.9  | 18      | 7.2           | 19            | 63           | <2.5                                | <10     | <2.5   | <2.5   | 69     | --      | --       | --                     | --      |
| GP-26   | 7/8/08         | 48                                     | <50                                 | --     | 1.6  | <0.5    | 2.6           | 5.1           | <50          | <0.5                                | 2.2     | <0.5   | <0.5   | 24     | --      | --       | --                     | --      |

**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

MTBE = methyl tertiary butyl ether

EDB = 1,2-Dibromoether

NA = Not Analyzed

No samples were collected from Borings GP-20 and GP-27

NM = Not Monitored

-- = Not Analyzed

NS = Not Sampled

TAME - tert-Amyl Methyl Ether

1,2-DCA = 1,2-Dichloroethane

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.

**Table 3**  
**Historical Soil Vapor Analytical Data**  
160 Holmes Street, Livermore, California

| Sample ID | Test Hour | Date    | Total Petroleum Hydrocarbons as (mg/m3) | Aromatic Volatile Organic Compounds (mg/m3) |         |         |               | Oxygenated Volatile Organic Compounds (mg/m3) |
|-----------|-----------|---------|---|---|---------|---------|---------------|---|
|           |           |         |   | Gasoline                                    | Benzene | Toluene | Ethyl-benzene |   |
| MW-1      | 0         | 4/24/03 | 4,000                                   | 23  | 280     | 60      | 207           | 210   |
| MW-1      | 7         | 4/24/03 | 5,100                                   | 39  | 480     | 120     | 480           | 440   |
| EW-2      | 0         | 4/11/06 | 41                                      | 0.97  | 0.39    | 0.6     | 2.4           | 96  |
| EW-2      | 3         | 4/11/06 | <25                                     | <0.25                                       | <0.25   | <0.25   | <0.25         | <2.5  |
| EW-2      | 6         | 4/11/06 | <25                                     | <0.25                                       | <0.25   | <0.25   | <0.25         | <2.5  |
| EW-1      | 0         | 4/12/06 | <25                                     | <0.25                                       | <0.25   | <0.25   | <0.25         | 7.0   |
| EW-1      | 6         | 4/12/06 | <25                                     | <0.25                                       | <0.25   | <0.25   | 0.51          | 4.9   |
| EW-3      | 0         | 9/27/07 | 72,000                                  | 630   | 1,800   | 280     | 560           | 8,600   |
| EW-3      | 1.5       | 9/27/07 | 61,000                                  | 520   | 1,800   | 260     | 580           | 5,600   |
| EW-3      | 2.5       | 9/27/07 | 59,000                                  | 490   | 1,800   | 280     | 680           | 6,700   |

Notes:

Sampes analyzed for TPHg by EPA Method 8015CM and BTEX and MTBE (unless otherwise noted) by EPA Method 8021B

mg/m3 = milligrams per cubic meter (or parts per billion)

MTBE = methyl tertiary butyl ether

**APPENDIX A**  
**Site Specific Health and Safety Plan**



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

*Prepared For:*  
Manwell and Samira Shuwayhat  
54 Wolfe Canyon Road  
Kentfield, California 94904

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

Phone: (831) 425-2608  
Fax: (831) 425-2609  
<http://www.allterraenv.com>

## **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 and operate a vapor extraction system at the site. Work will include installing a shallow trench for conveyance piping from the remediation compound area to well EW-3, constructing a security fence, and installing and operating vapor extraction equipment.

## Job Hazard Assessment

### Chemical Health Hazards

| Chemical              | PEL/Ceiling/<br>IDLH  | Known<br>Concentrations in<br>Soil, Water, Air,<br>Etc. | Signs/Symptoms  |
|-----------------------|-----------------------|---|---|
| Benzene               | 1 ppm                 | Soil = NA<br>Water = 7,700 ppb                          | Irritation of eyes, nose, and respiratory systems. Headache, giddiness, fatigue, anorexia, staggered gait, and dermatitis   |
| Toluene               | 100 ppm               | Soil = NA<br>Water = 11,000 ppb                         | Irritation of eyes and mucous membrane, headache, dermatitis, narcosis, and coma.   |
| Xylene                | 100 ppm               | Soil = NA<br>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<br>Water = 13,000 ppb                         | Irritation of eyes and mucous membrane, headache, dermatitis, narcosis, and coma.   |
| Gasoline              | 300 ppm               | Soil = 6,500 ppm<br>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 <sup>3</sup> | Soil = 1,300 ppm<br>Water = 57,000 ppb                  | Irritation to skin. Prolonged breathing at high vapor concentrations can cause central nervous system effects   |
| Lead                  | 100 mg/m <sup>3</sup> | NA  | Prolonged exposure may result in anorexia, low weight, malnutrition, constipation, abdominal pain, colic, or anemia   |
| Tetraethyl-lead       | 40 mg/m <sup>3</sup>  | 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 <sup>3</sup>  | 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  |
|------------------|---|
| Heavy Equipment  | 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: heavy equipment operation 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 progressing 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 required, 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.

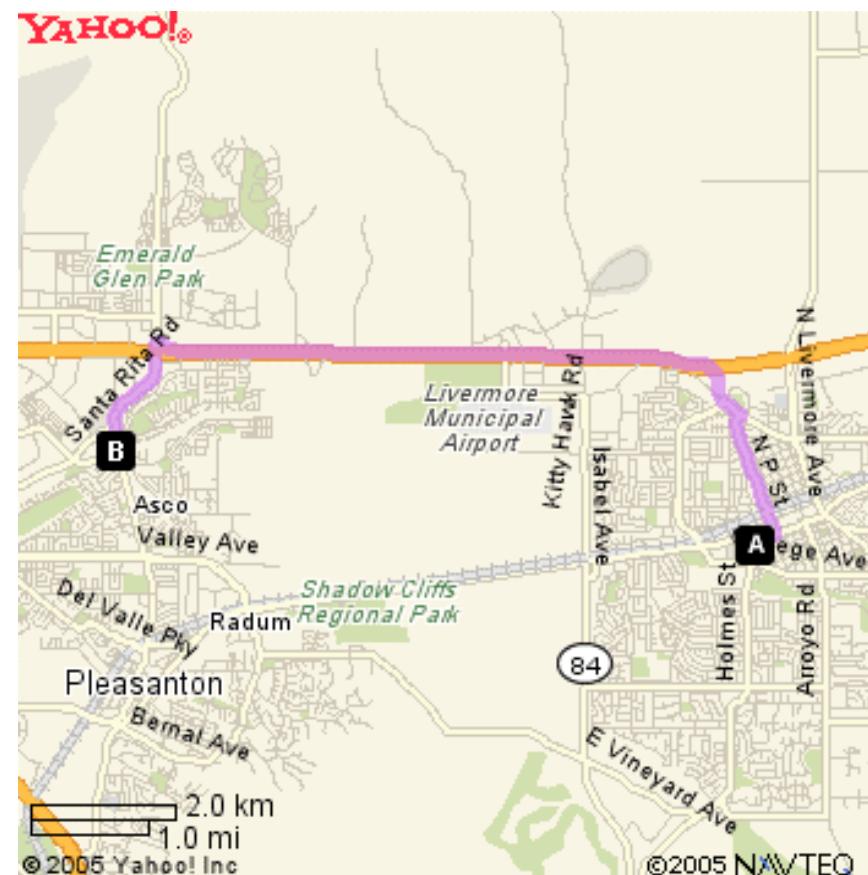
A tailgate meeting will be held every morning before the start of work and is to be attended by all personnel on-site. The purpose of the meeting is to discuss the day's work, potential hazards, and specific health and safety procedures to be utilized during the day.

**Sign-Off**

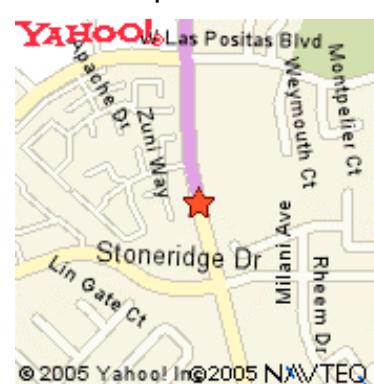
I have read the HASP and fully understand the hazards associated with the following job:  
160 Holmes Street, Livermore, California

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 Map

160 Holmes Street, Livermore, California