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By Alameda County Environmental Health 2:34 pm, Oct 09, 2015

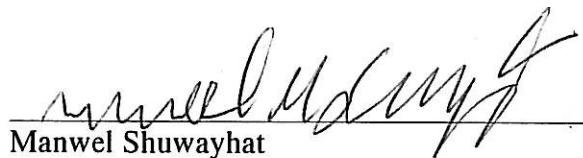
Allterra Environmental, Inc.  
849 Almar Avenue, Suite C  
No. 281  
Santa Cruz, California 95060

**Client:** Manwel Shuwayhat  
**Project Location:** 160 Holmes Street, Livermore, California  
**Subject:** Additional Groundwater Sampling Report and Case Closure Request  
**Report Date:** October 8, 2015

To Whom It May Concern:

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

Sincerely,



A handwritten signature in black ink, appearing to read "Manwel Shuwayhat". The signature is fluid and cursive, with a horizontal line underneath it.

Manwel Shuwayhat



**Additional Groundwater Sampling Report and Case Closure Request  
Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart  
160 Holmes Street, Livermore, California**

*Date:*  
October 8, 2015

*Project No.:*  
160

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

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October 8, 2015

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

**Subject: Additional Groundwater Sampling Report and Case Closure Request, 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 *Additional Groundwater Sampling Report and Case Closure Request* for the property located at 160 Holmes Street in Livermore, California (Site). The purpose of the completed work was to evaluate shallow groundwater in the former source area and further assess the effectiveness of remedial efforts at the Site, as well as satisfy requirements for low-threat case closure. Work was conducted in accordance with discussions with Alameda County Environmental Health (ACEH) and Allterra's *Work Plan for Additional Groundwater Sampling* dated June 25, 2015. Work was also performed in conformance with guidelines established by the ACEH, Zone 7 Water Agency (Zone 7), Regional Water Quality Control Board (RWQCB), and Allterra's field protocols presented in Appendix A.

### **Site Location and Description**

The Site is located at the northeast intersection of Holmes Street and Second Street in Livermore, California (Figure 1). A gasoline fuel station currently occupies the Site and the surrounding area is primarily residential with scattered retail businesses along 1<sup>st</sup> and 2<sup>nd</sup> Streets. The approximate surface elevation at the Site is 465 feet above mean sea level (MSL) and the surface slightly 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 on Figure 2.

### **Site Geology and Hydrogeology**

The local geology in the vicinity of the Site has been interpreted as Quaternary fluvial and alluvial deposits. Subsurface sediments encountered beneath the Site primarily consist of gravel and sand mixtures with varying amounts of fine-grained material from surface grade to between approximately 8 and 15 feet below ground surface (bgs). This material has been interpreted as artificial fill that may be associated with previous UST and product piping removal activities. Based on available subsurface data, it appears the artificial fill occupies the central portion of the Site in the vicinity of the former and existing USTs and fuel dispenser islands. This fill is underlain by native alluvial materials consisting of clayey silt, silty to sandy clay, and sandy to clayey gravel to a maximum explored depth of 61 feet bgs. Native materials directly below the artificial fill consist of clayey silt to silty clay to a depth of approximately 15 to 19 feet bgs. This layer is underlain by a continuous gravel rich layer, which ranges from sandy to clayey gravel. This coarse-grained material grades into finer grained material (gravelly silt and clay to silty

clay) at depths between approximately 21 to 26 feet bgs. In the source area, this clay rich material continued to depths ranging between approximately 35 to 37 feet bgs. This argillaceous zone does not appear continuous and does not extend down- or up-gradient of the source area at this depth interval. Below this clay lens is a generally continuous coarse-grained deposit consisting of gravel rich material with varying amounts of silt and clay from approximately 35 feet bgs to depths ranging from approximately 54 to 69 feet bgs, where a sandy to silty clay layer exists. The thickness of this lower clay layer has not been determined; however, a thickness of at least five feet was confirmed in previous boring MW-1B. Geologic cross-sections depicting detailed soil lithology in the source area are presented as Figures 3 and 4.

Subsurface materials encountered down-gradient of the Site consist primarily of gravel with varying amounts of fines, interbedded with clayey silts and silty clays. Based on available subsurface data a continuous layer of clayey silt extends from the ground surface to depths ranging from approximately 6 to 11 feet bgs. This material is underlain by silty to clayey gravels to depths ranging from approximately 19 to 21 feet bgs. This gravel rich layer is underlain by silty to sandy clays to depths ranging between 21 to 30 feet bgs, where another gravel rich layer was encountered. These gravel rich materials continue to depths ranging between approximately 54 to 69 feet bgs where a silty clay layer was encountered. This lower silty clay layer appears to be continuous from the source area to the farthest down-gradient boring (MW-5B).

First-encountered groundwater beneath the Site has fluctuated between depths of approximately 22 and 51 feet bgs (Table 1). Currently, static groundwater occurs between depths of approximately 51 and 54 feet bgs due to widespread drought conditions. Differences between initial and static water levels indicate shallow groundwater is likely semi-confined in areas where fine-grained soils extend below the potentiometric surface. The significant groundwater elevation fluctuations appear to be largely dependent upon regional factors including, but not limited to, regional groundwater pumping, large-scale regional dewatering associated with mining activities, seasonal drought conditions, and government managed groundwater recharge programs. Based on historic monitoring data, shallow groundwater generally flows to the north-northwest at gradients ranging from 0.0039 feet per foot (ft/ft) to 0.0157 ft/ft. During the March 2014 monitoring event, shallow groundwater generally flowed to the northwest at an approximate gradient of 0.0061 ft/ft. The groundwater potentiometric map for the first quarter 2014 monitoring event is included as Figure 5. Also, historic groundwater flow directions and gradient magnitudes are presented in a rose diagram on Figure 5.

## Site Background

### Previous Site Investigations

A detailed summary of previous investigation activities is presented in Allterra's *Low-Risk Case Closure Evaluation* dated December 30, 2011. Extensive soil and groundwater investigation work has been performed at the Site since 2000, including the advancement of forty-three (43) soil borings and the installation of 19 monitoring wells on- and off-site. Site investigation work has resulted in full characterization of the lateral and vertical extent of petroleum constituents in soil and groundwater beneath and down-gradient of the Site. The locations of previous soil borings and monitoring wells are presented on Figures 2 and 5, and associated groundwater and soil analytical data is presented in Tables 2 and 3, respectively.

In addition to characterizing the extent of petroleum impacts, previous site investigation activities have identified a subsurface area of the Site containing the majority of high-level concentrations of petroleum constituents in soil and groundwater. The highest levels of soil and groundwater contamination were detected in samples collected from previous borings advanced in the area between the northwestern fuel dispenser and USTs. This source area or “area of concern” is generally located between borings GP-8, GP-9, GP-14, and well EW-3 at depths between approximately 24 and 34 feet bgs. This area of concern has been the primary target for pilot-scale and in-situ remedial efforts conducted at the Site.

#### Previous Site Remediation

A detailed summary of previous remedial activities is presented in Allterra’s *Low-Risk Case Closure Evaluation* dated December 30, 2011. Several episodes of remedial action have been performed at the Site since 2010. In 2010, Allterra completed pilot-scale soil vapor extraction (SVE) and groundwater extraction (GWE) from on-site extraction wells EW-1 and EW-3. A total of approximately 13 pounds of total petroleum hydrocarbons as gasoline (TPHg) and 45 pounds of methyl tert-butyl ether (MTBE) were removed from the subsurface through SVE and GWE activities in 2010.

In 2011, Allterra developed an in-situ remedial work scope designed to aggressively treat residual soil and groundwater impacts in the source area. Allterra completed in-situ chemical oxidation (ISCO) remedial activities at the Site involving the pressure injection of approximately 4,000 lbs of RegenOx™ and 600 lbs of Oxygen Release Compound Advanced™ (ORC-A™) into the subsurface during three separate direct push injection events. A full description of 2011 ISCO activities is presented in Allterra’s *In-Situ Soil and Groundwater Remedial Implementation Report* dated August 19, 2011.

In 2013, Allterra completed additional ISCO activities at the Site to further reduce contaminant mass, stabilize and reduce the size of the contaminant plume, and ultimately attain proposed cleanup goals for the Site. Approximately 1,600 lbs of RegenOx™ was pressure injected into the source area using wells EW-1, EW-3, and EW-3B to further treat residual contaminants in soil and groundwater beneath the Site. A full description of these activities is presented in Allterra’s *Additional Remedial Action and Confirmatory Sampling Report* dated August 30, 2013.

Following remedial implementation activities, monitoring data indicates residual contaminants in shallow groundwater beneath and down-gradient of the Site have been significantly reduced and continue to exhibit decreasing trends, with the exception of tert-butyl alcohol (TBA) in select wells. Recent increases in dissolved TBA concentrations are likely attributed to the degradation of MTBE resulting from in-situ remedial efforts as well as natural processes.

The corrective action performed at the Site was focused on treating contaminant mass in soil and groundwater beneath the Site to minimize continued degradation of groundwater, minimize future off-site migration of contaminants, and reduce contaminant concentrations to levels at which natural processes will provide further attenuation of contaminants to the ultimate cleanup goals within a reasonable timeframe.

## Conceptual Site Model

The current conceptual site model (CSM) summarizes subsurface conditions beneath the Site, the extent of petroleum constituents in soil and groundwater, the likely sources of petroleum constituents in soil and groundwater, potential release mechanisms and transport pathways, potential exposure pathways, and potential receptors.

The Site geology and hydrogeology discussion presented above describes subsurface sediments and groundwater conditions encountered beneath the Site. The predominant chemicals historically detected in subsurface soil and groundwater samples at the Site are TPHg, TPHd, benzene, toluene, ethylbenzene, xylenes (BTEX), MTBE, and TBA. The extent of contamination has been fully defined and the current area of down-gradient impact appears to be bounded by sample locations MW-7A/B/C (Figure 2) where only traces of petroleum constituents have been detected recently. The extent of the groundwater plume in the upgradient direction is defined by wells MW-3A and EW-2. Significant remediation and biodegradation has occurred at the Site resulting in major contaminant reductions since the last update to the CSM in 2011. Remaining impacts are minor and appear to be confined to the area proximate to source area well EW-3. Additionally, groundwater elevations beneath the Site have been dramatically affected by recent widespread drought conditions and most of the shallow “A” zone wells have been dry since June 2014.

The likely sources of petroleum constituents detected in the subsurface are the former gasoline and diesel USTs and residual petroleum-impacted soil that may not have been removed during over-excavation activities (secondary source). According to available data, no waste oil tanks were historically present at the Site. The former USTs and associated fuel dispensers and product lines were excavated and removed from the Site in 1999. Petroleum constituents were likely released in a free phase due to perforations or cracks in the former single-walled USTs, or leakage from product delivery lines and dispensers. Contaminants likely moved from these sources to the surrounding subsurface soil and eventually reached shallow groundwater. Dissolved TPHg, TPHd, BTEX, MTBE, and TBA in groundwater migrated north-northwest following the general direction of shallow groundwater flow. Some of these chemicals in soil and groundwater may have also volatilized into the soil pore space above the water table.

Based on the types of chemicals present at the Site and the media in which the chemicals are present, the following potential mechanisms for chemical transport have been identified:

- Volatilization of petroleum constituents from soil and groundwater into unsaturated soil pore space (soil gas);
- Leaching of petroleum constituents from the soil into the groundwater; and
- Transport of petroleum constituents in groundwater via advective flow and dispersion.

The following potential human exposure routes for chemicals have been identified for the Site:

- Inhalation of petroleum constituents volatilized from soil gas (outdoor and indoor); and
- Ingestion of petroleum-impacted groundwater.

### Incomplete Exposure Pathways

Potential receptors include on-site commercial and construction workers (who may potentially be exposed by inhaling (breathing) chemical vapors present in indoor and/or outdoor air. However, the inhalation of petroleum constituents volatilized from soil gas (outdoor and indoor) is considered an incomplete pathway based on the following:

- Remaining petroleum impacts on- and off-site appear to be limited to first-encountered groundwater and soils found in the smear zone at depths ranging from 24 to 34 feet bgs; both of these elements have a minimum of 10 feet of clean soil cover (bioattenuation zone);
- Current benzene concentrations detected in on- and off-site wells are well below the RWQCB environmental screening level (ESL) for potential vapor intrusion concerns at commercial sites ( $1,800 \mu\text{g/L}$ );
- The majority of the Site is capped with an impervious concrete surface;
- The current contaminant plume does not extend under any buildings or structures; and
- The residual contaminates have been mitigated to the greatest extent practical by extensive DPE and in-situ remedial activities.

Other potential receptors include people who may ingest groundwater impacted by Site-related petroleum constituents. However, this exposure route is considered hypothetical because drinking water in the area of the Site is supplied by the Livermore Municipal Water utility from off-site sources and, to a limited extent, from municipal wells located more than  $\frac{1}{4}$  mile from the Site that extract water from deeper aquifers than those impacted by contaminants originating from the Site.

### **Water Well Survey**

In 2012, Allterra performed an updated water well survey to identify nearby water supply wells with the potential to be impacted by Site-related contaminates. Allterra requested all available well information from the Zone 7 Water Agency (Zone 7) and obtained a map and a list of all documented water wells within a 2,000-foot radius of the Site. The well survey map and associated table with well details are included as Appendix B. The data obtained from Zone 7 indicated there are 10 water supply wells within a 2,000-foot radius of the Site. Eight (8) of these wells are located up-gradient of the Site and the remaining two (2) wells are located down-gradient of the Site (north). The two down-gradient wells, designated as 3S/2E 8P 2 and 3S/2E 8P 1, are located approximately 800 and 1,700 feet north of the Site, respectively. Zone 7 identified these wells as municipal water supply wells, and also indicated that 3S/2E 8P 2 was destroyed in 2001. To further evaluate the potential for contaminates originating on-site to impact these wells, well construction details for these two wells were obtained from Zone 7. Well construction details indicate that well 3S/2E 8P 1 is drawing groundwater from much deeper aquifers than the shallow water-bearing zones impacted beneath the Site. Additionally, existing monitoring wells MW-5A/B and MW-6, which are located in the down-gradient direction between the existing residual plume and the active down-gradient production well, have demonstrated over 10 years of trace to non-detectable levels of petroleum constituents.

## **Groundwater Sampling Activities - 2015**

Due to widespread drought conditions, groundwater levels at the Site have declined significantly and most of the “A” zone wells (including key wells MW-1A, MW-7A, EW-1, EW-3, and EW-3B) have been dry since June 2014. Data from these wells is essential to evaluate the current concentrations of dissolved petroleum hydrocarbons (particularly TBA) and the effectiveness of previous remedial efforts at the Site. Since it’s not certain when the “A” zone wells will have sufficient water to be sampled again, Allterra and ACEH discussed collecting grab groundwater samples in the former source area to assess current shallow groundwater conditions. The following is a discussion of additional sampling activities completed at the Site to comply with this request and satisfy requirements for low-threat case closure.

### Permitting and Underground Utility Locating

Prior to drilling activities, a soil boring permit was acquired from Zone 7 for the soil borings (Appendix C). Additionally, the Underground Service Alert (USA) was notified prior to the commencement of drilling activities to identify the public service utilities in the work area (USA Ticket #0377538). Allterra’s field personnel also hand cleared each boring location to approximately 5 feet bgs to mitigate the potential risk of encountering fuel dispenser piping.

### Field Activities

On August 12, 2015, Geoprobe® borings were advanced at three locations (HP-1 through HP-3) to evaluate first-encountered groundwater conditions in the former source area. The borings were advanced near currently dry source area wells that previously contained elevated TBA levels (MW-1A, EW-1, EW-3, and EW-3B). Borings HP-1 through HP-3 were advanced to total depths of approximately 54, 60, and 65 feet bgs, respectively, using a truck-mounted Geoprobe® rig equipped with 2.5-inch diameter push core drilling equipment. To facilitate grab groundwater sampling, temporary one-inch diameter PVC well screens were installed in boreholes HP-1 through HP-3 with screen intervals of 40 to 54, 45 to 60, and 45 to 65 feet bgs, respectively.

Grab groundwater samples were collected for laboratory analysis from the temporary well screens installed in borings HP-2 and HP-3. Groundwater was not encountered in boring HP-1; therefore a grab sample was not collected. Additionally, no soil samples were collected during this investigation. Upon completion of drilling and sampling activities, the borings were backfilled to surface grade with neat cement containing 5% bentonite. The locations of the borings are presented on Figures 2 and 6. Drilling and sampling procedures are further described in Appendix A.

### Monitoring Well Measurements and Sampling

To evaluate current groundwater conditions in the deeper groundwater zones in and down-gradient from the source area, groundwater samples were collected from monitoring wells MW-1B and MW-7C. Monitoring well MW-7B was dry; therefore no groundwater sample was collected. Additionally, water level measurements were collected from monitoring wells MW-1B, MW-5B, MW-7B/C, MW-8B, and MW-9B to assess declining groundwater elevations due to the current drought and potential nearby pumping activities. Groundwater samples were not collected from shallow “A” zone wells since they have been dry for at least a year.

### Laboratory Analysis

Groundwater samples collected during sampling activities were submitted for chemical testing under chain-of-custody protocol to McCampbell Analytical, Inc., of Pittsburgh, California, a State of California certified laboratory (ELAP #1644). All samples were analyzed for TPHg, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE by EPA Method 8021B/8015Bm; total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015B; fuel oxygenates tert-amyl methyl ether (TAME), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), TBA, and MTBE by EPA Method 8260B; and lead scavengers 1,2-dibromoethane (EDB) and 1,2-dichloroethane (1,2-DCA) by EPA Method 8260B. Copies of the chain-of-custody documentation and certified analytical reports, including quality assurance and quality control (QA/QC) data, are included in Appendix C.

### **Results of Groundwater Sampling**

#### Subsurface Conditions

Subsurface materials encountered during recent drilling activities were generally consistent with previous observations in the source area; please refer to site geology and hydrology section presented above for greater detail. Some staining and slight product odor was encountered in boring HP-1 at depths between 24 and 34 feet bgs. Geologic cross-sections depicting detailed soil lithology in the source area are presented as Figures 3 and 4.

Groundwater in the source area borings was first encountered at depths between approximately 50 and 55 feet bgs and static groundwater was measured at approximately 51.06 feet bgs in source area well MW-1B. Due to widespread drought conditions, groundwater levels at the Site have declined significantly and most of the "A" zone wells have been dry since June 2014. Additionally, monitoring wells MW-7B and MW-8B were dry during this investigation.

#### Analytical Results

Petroleum constituents were detected in both grab groundwater samples (HP-2-W and HP-3-W) collected during field activities. TPHg was detected in one sample at a concentration of 1,800 micrograms per liter ( $\mu\text{g/L}$ ) in HP-3-W. TPHd was detected in both samples at concentrations of 74  $\mu\text{g/L}$  in HP-2-W and 190  $\mu\text{g/L}$  in HP-3-W. MTBE was detected in one sample at a concentration of 21  $\mu\text{g/L}$  in HP-3-W. TBA was detected in both samples at concentrations of 63  $\mu\text{g/L}$  in HP-2-W and 34  $\mu\text{g/L}$  in HP-3-W. Benzene not detected at or above laboratory reporting limits in either of the grab groundwater samples collected. Additionally, petroleum constituents were not detected in either of the monitoring well samples (MW-1B and MW-7C) collected during this investigation. Copies of the certified analytical reports are included in Appendix C. Current groundwater analytical results are presented in Table 2 and on Figure 6.

#### Discussion of Current Groundwater Conditions

Groundwater levels at the Site have declined significantly over the past year and several on- and off-site wells are currently dry. Recent water level measurements indicate static groundwater beneath the Site occurs at approximately 51 feet bgs. Low residual concentrations of petroleum constituents were detected in the grab groundwater samples collected from source area borings HP-2 and HP-3 indicating stable to decreasing contaminant trends in groundwater beneath the Site. Petroleum constituents were not detected in the groundwater samples collected from

monitoring wells MW-1B and MW-7C. The last time "A" zone wells were sampled (March 2104), only one well contained MTBE at a concentration above 1,000 µg/L (EW-3 at 8,800 µg/L). However, as previously stated, we believe that EW-3 data represented a very thin layer of contamination within the capillary fringe and the results should not be used when evaluating contaminant levels for the entire shallow water-bearing zone (A-zone). This conclusion is partially based on the total depth of the well (only 30 feet bgs), the historic data from nearby "A" zone wells (MW-1A and EW-1), and the understanding that samples collected from the top of the water table tend to show higher levels of contaminants than wells screened through an adequate length of the targeted water column.

Although trace to low levels of petroleum constituents still exist beneath the Site, it appears that residual contaminants levels (including MTBE and TBA) have stabilized and are expected to continue to biodegrade reaching long-term cleanup goals within a reasonable timeframe. Additionally, previous remedial activities were very effective and reduced contaminants in groundwater by up to 99% in the source area. Overall percent reductions of petroleum constituents in key wells within and down-gradient of the source area following remedial activities is presented in the table below.

**TPHg, Benzene, MTBE, and TBA percent (%) reductions in groundwater:**

Sample ID	TPHg (µg/L)	% Reduction	Benzene (µg/L)	% Reduction	MTBE (µg/L)	% Reduction	TBA (µg/L)	% Reduction
MW-1A	180,000 (3/14/03)	--	8,400 (10/19/00)	--	320,000 (8/11/00)	--	40,000 (1/20/11)	--
	<50 (7/22/13)	<b>99.9</b>	<0.5 (7/22/13)	<b>99.9</b>	<5.0 (7/22/13)	<b>99.6</b>	17,000 (7/22/13)	<b>57.5</b>
MW-7A	6,500 (10/12/06)	--	140 (3/13/06)	--	6,900 (3/13/06)	--	540 (4/11/12)	--
	<50 (7/22/13)	<b>99.2</b>	<0.5 (7/22/13)	<b>99.6</b>	<5.0 (7/22/13)	<b>99.9</b>	7.9 (7/22/13)	<b>98.5</b>
EW-1	4,400 (3/4/10)	--	460 (3/4/10)	--	31,000 (3/4/10)	--	50,000 (2/2/12)	--
	<50 (7/22/13)	<b>98.9</b>	<0.5 (7/22/13)	<b>99.9</b>	33 (7/22/13)	<b>99.9</b>	530 (7/22/13)	<b>98.9</b>
EW-3	140,000 (3/4/10)	--	240 (3/4/10)	--	420,000 (2/4/09)	--	130,000 (3/14/13)	--
	410 (7/22/13)	<b>99.7</b>	1.0 (7/22/13)	<b>99.6</b>	1,500 (7/22/13)	<b>99.6</b>	7,100 (7/22/13)	<b>94.5</b>

To date, there has been adequate remedial effort to consider this Site a low threat. Currently, the plume is less than a 250 feet in length, there is no free product, the nearest water supply well and surface water body is greater than 1,500 feet from the plume boundary, and the dissolved concentrations of benzene, MTBE, and TBA are below 1,000 µg/L. Remedial activities performed at the Site were effective and significantly reduced contaminants in groundwater within and down-gradient of the former source area. Overall, the lateral and vertical extent of petroleum constituents have been adequately delineated, declining to stable trends have been

observed, and remaining impacts do not currently pose a significant threat to human health, safety, or the environment.

### **Low-Threat Case Closure Evaluation**

To further evaluate current subsurface conditions and the effectiveness of remedial efforts at the Site, Allterra performed a low-threat screening using criteria established in the State Water Resources Control Board (SWRCB) Low-Threat Underground Storage Tank Case Closure Policy (LTCP), which became effective on August 17, 2012. The results of the low-threat screening for the Site are presented in Appendix D.

### **Conclusions**

Based on the results of site activities, Allterra concludes the following:

- Soils encountered during recent drilling activities at the Site were generally consistent with previous investigations, and primarily consisted of native alluvial materials (clayey silt, silty to sandy clay, and sandy to clayey gravel) to a maximum explored depth of 65 feet bgs. Groundwater was first encountered at depths between approximately 51 to 55 feet bgs and static groundwater was observed at approximately 51.06 feet bgs.
- Petroleum constituents were detected in both grab groundwater samples (HP-2-W and HP-3-W) collected during field activities. TPHg was detected in one sample at a concentration of 1,800 µg/L in HP-3-W. TPHd was detected in both samples at concentrations of 74 and 190 µg/L in HP-2-W and HP-3-W, respectively. MTBE was detected in one sample at a concentration of 21 µg/L in HP-3-W. TBA was detected in both samples at concentrations of 63 and 34 µg/L in HP-2-W and HP-3-W, respectively. Benzene not detected at or above laboratory reporting limits in either of the grab groundwater samples collected.
- Petroleum constituents were not detected at or above laboratory reporting limits in any of the monitoring wells (MW-1B and MW-7C) sampled during this investigation.
- All of the general and media-specific screening criteria for low-threat closure identified in the SWRQB's Low-Threat Underground Storage Tank Case Closure Policy (LTCP) are satisfied for this Site.
- Trace to low levels of residual petroleum constituents remain in shallow groundwater beneath and down-gradient of the Site. However, the contaminant plume is adequately delineated, stable, and current groundwater conditions meet LTCP groundwater-specific criteria.
- Remaining petroleum impacts beneath and down-gradient of the Site do not currently pose a significant threat to human health, safety, or the environment and natural attenuation will allow further reduction of concentrations to the ultimate cleanup levels within a reasonable timeframe.

## Recommendations

Based on the conclusions presented above, Allterra recommends the following:

- No further investigation or remediation is recommended at this time.
- This Site should be considered for case closure under the SWRCB's Low-Threat Underground Storage Tank Case Closure Policy.

## References

Allterra Environmental, Inc., 2011a, "In-Situ Soil and Groundwater Implementation Report, Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart, 160 Holmes Street, Livermore, California," August 19, 2011.

Allterra Environmental, Inc., 2011b, "Low-Risk Case Closure Evaluation, Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart, 160 Holmes Street, Livermore, California," December 30, 2011.

Allterra Environmental, Inc., 2013, "Additional Remedial Action and Confirmatory Sampling Report, Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart, 160 Holmes Street, Livermore, California," August 30, 2013.

Allterra Environmental, Inc., 2014, "First Quarter 2014 Groundwater Monitoring Report, Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart, 160 Holmes Street, Livermore, California," April 22, 2014.

State Water Resources Control Board, 2012, "Low-Threat Underground Storage Tank Case Closure Policy," August 17, 2012.

## Limitations

Allterra prepared this report for the use of Mr. and Mrs. Shuwayhat, ACEH, and RWQCB in evaluating environmental conditions at select locations at the time of this study. Statements, conclusions, and recommendations in this report are based solely on the field observations and analytical results related to work performed by Allterra and there is no warranty, expressed or implied. Site conditions and data may change over time; therefore, data presented in this report is only applicable to the timeframe of this study. Allterra's services have been performed in accordance with environmental principles and practices generally accepted at this time and location.

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

Sincerely,  
Allterra Environmental, Inc.



Aaron Powers, P.G 8977  
Project Geologist



Joe Magine, P.G. 8423  
Senior Geologist

Attachments:

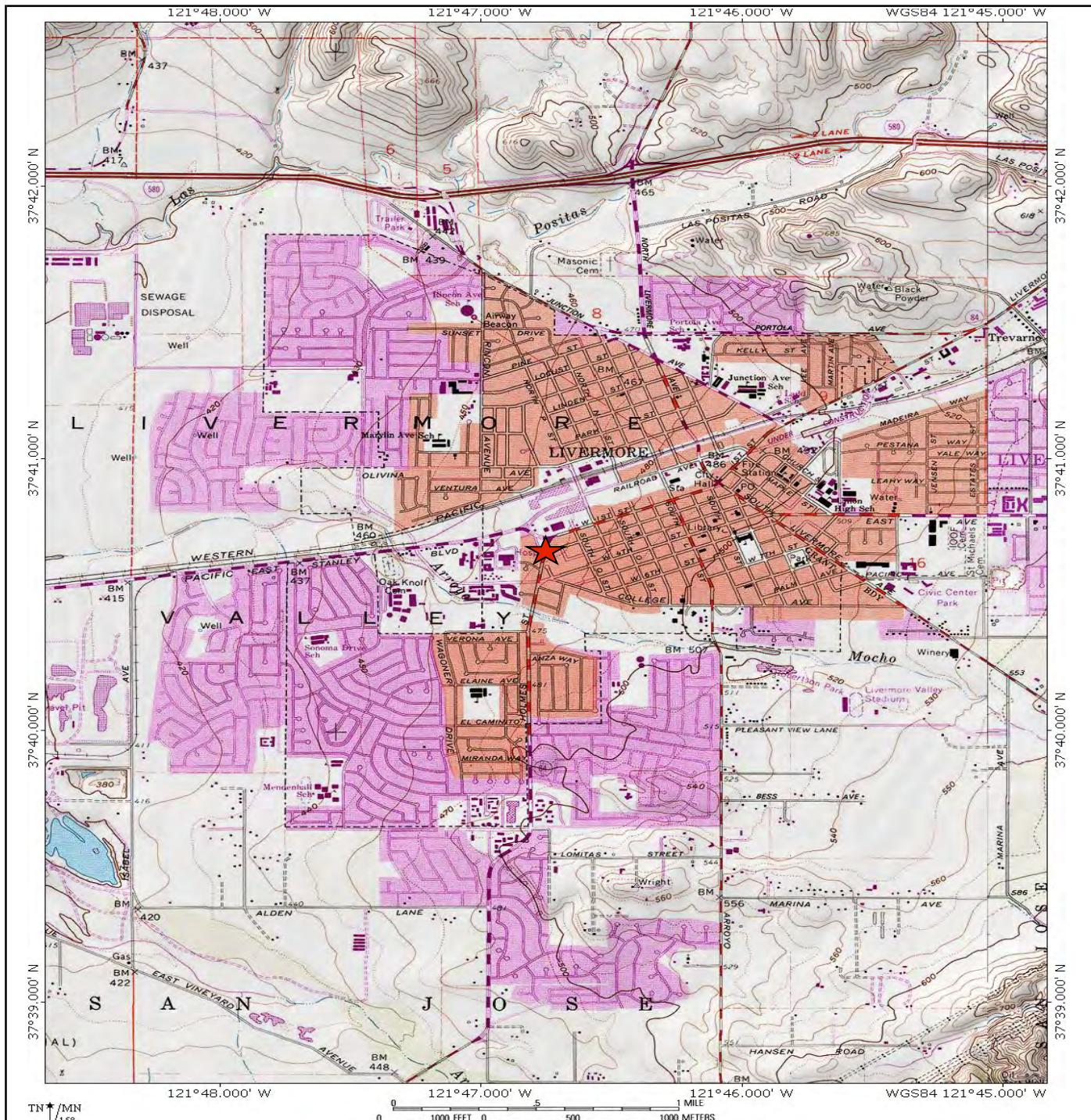
- Figure 1: Vicinity Map
- Figure 2: Site Plan and Sampling Locations
- Figure 3: Geologic Cross Section A-A'
- Figure 4: Geologic Cross Section B-B'
- Figure 5: Groundwater Potentiometric Map for 3-6-14
- Figure 6: Concentrations of Petroleum Constituents in Groundwater

- Table 1: Groundwater Elevation Data
- Table 2: Groundwater Analytical Results
- Table 3: Soil Analytical Results

- Appendix A: Allterra's Site Investigation Field Protocol
- Appendix B: Water Well Survey
- Appendix C: Certified Analytical Reports and Chains-of-Custody
- Appendix D: Low-Threat Case Closure Evaluation

cc: Jerry Wickham, ACEH

## **FIGURES 1 - 6**

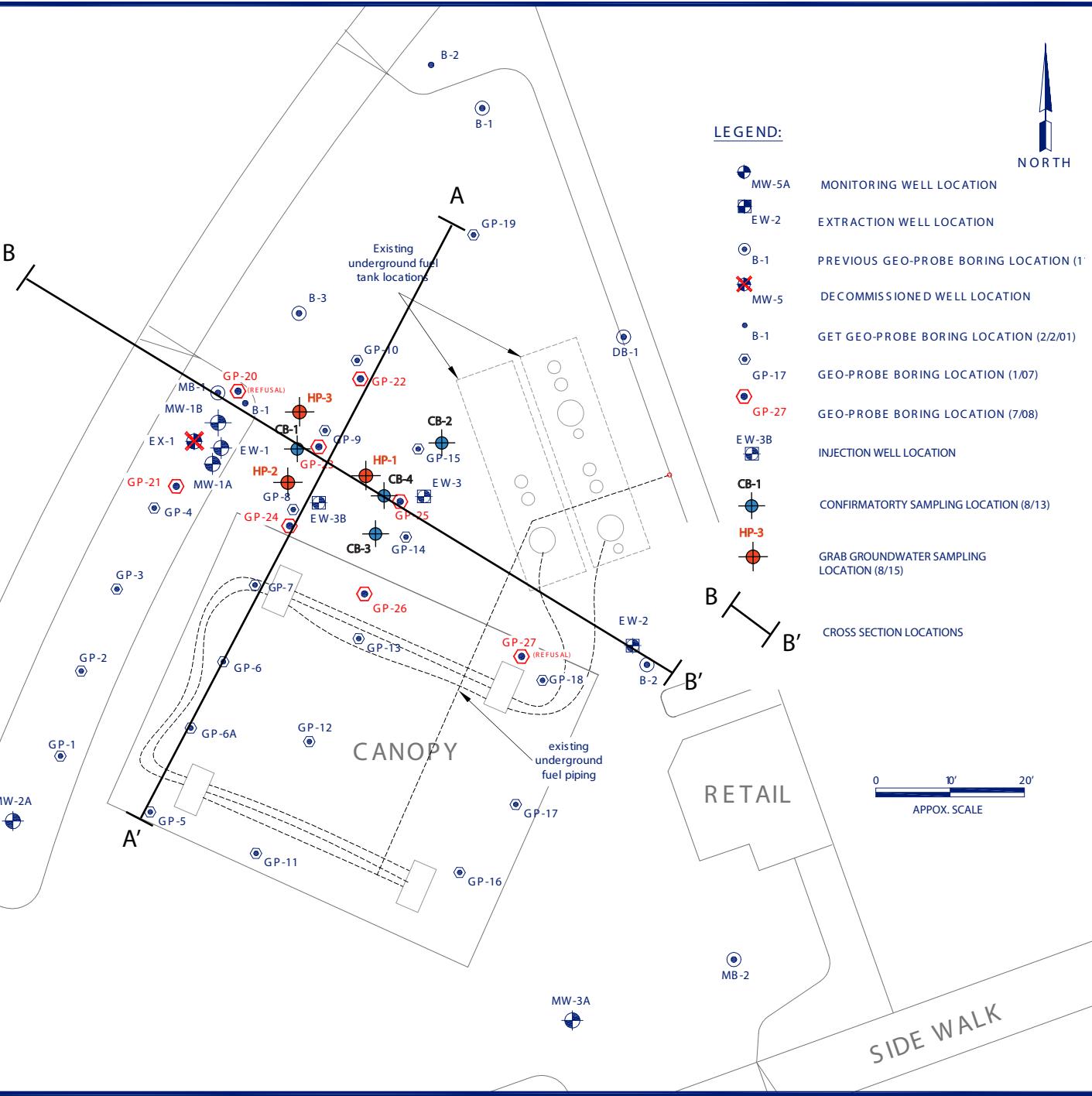


**Vicinity Map**  
 Livermore Gas and Minimart  
 160 Holmes Street  
 Livermore, California

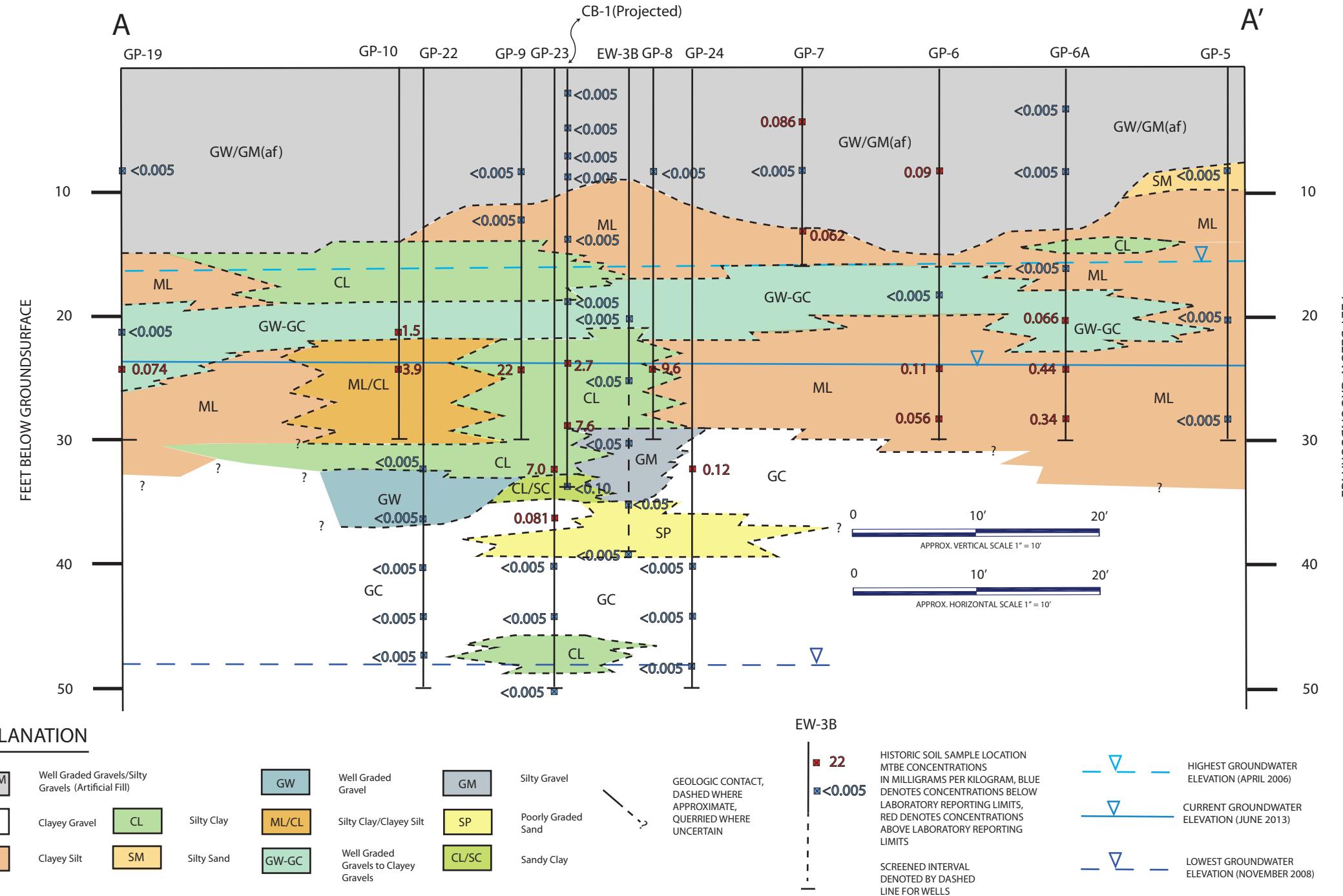
Figure 1      6/19/15

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 Santa Cruz, California  
<http://www.allterraenv.com>

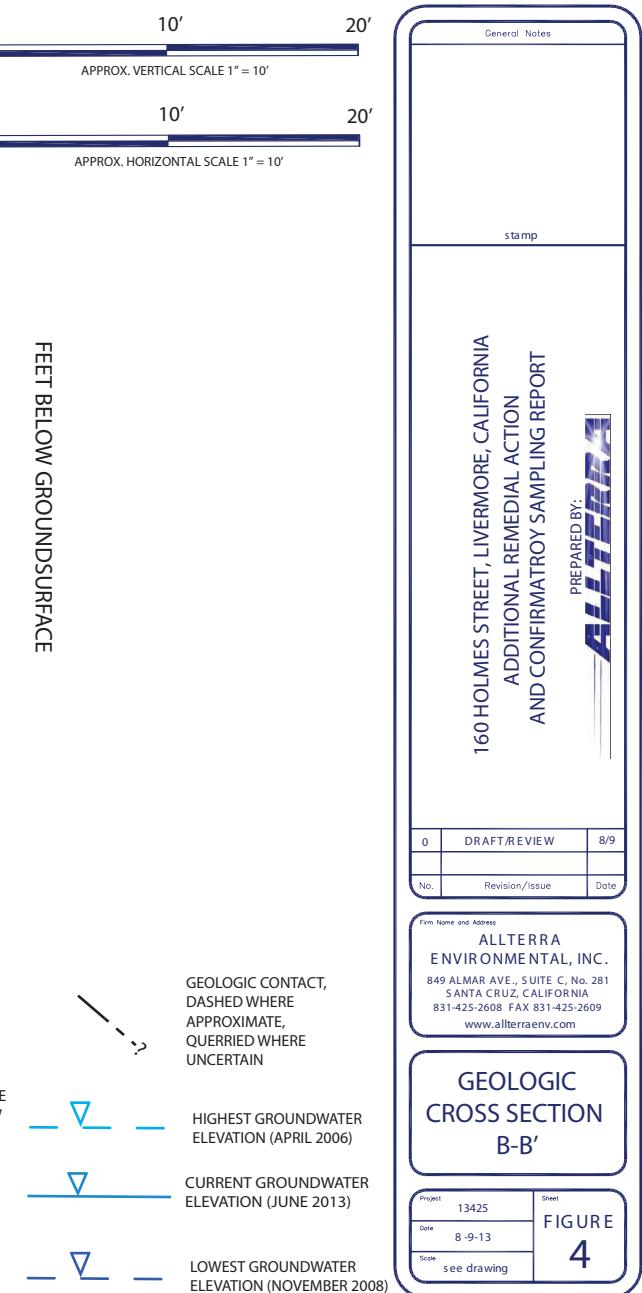
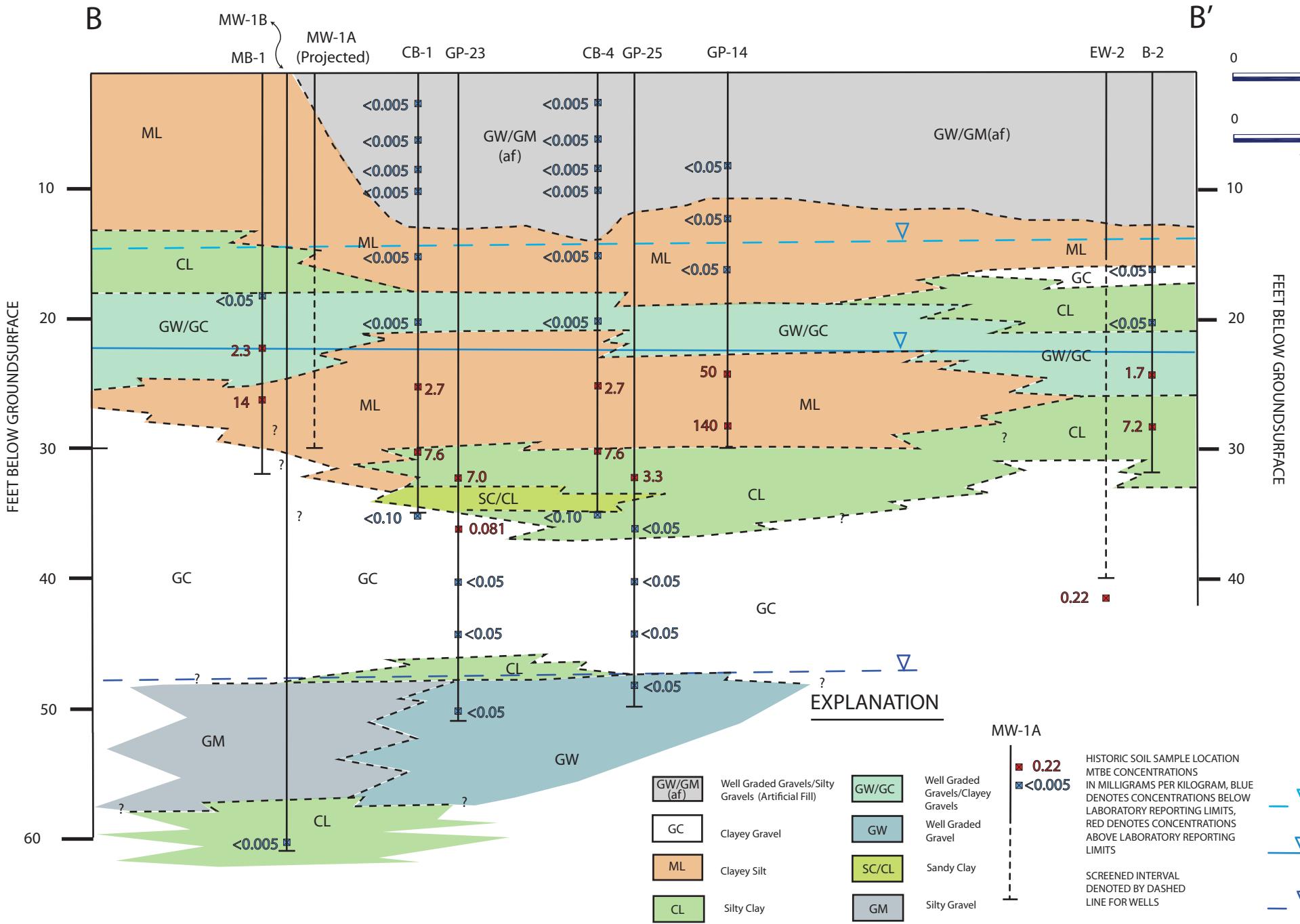
# HOLMES STREET

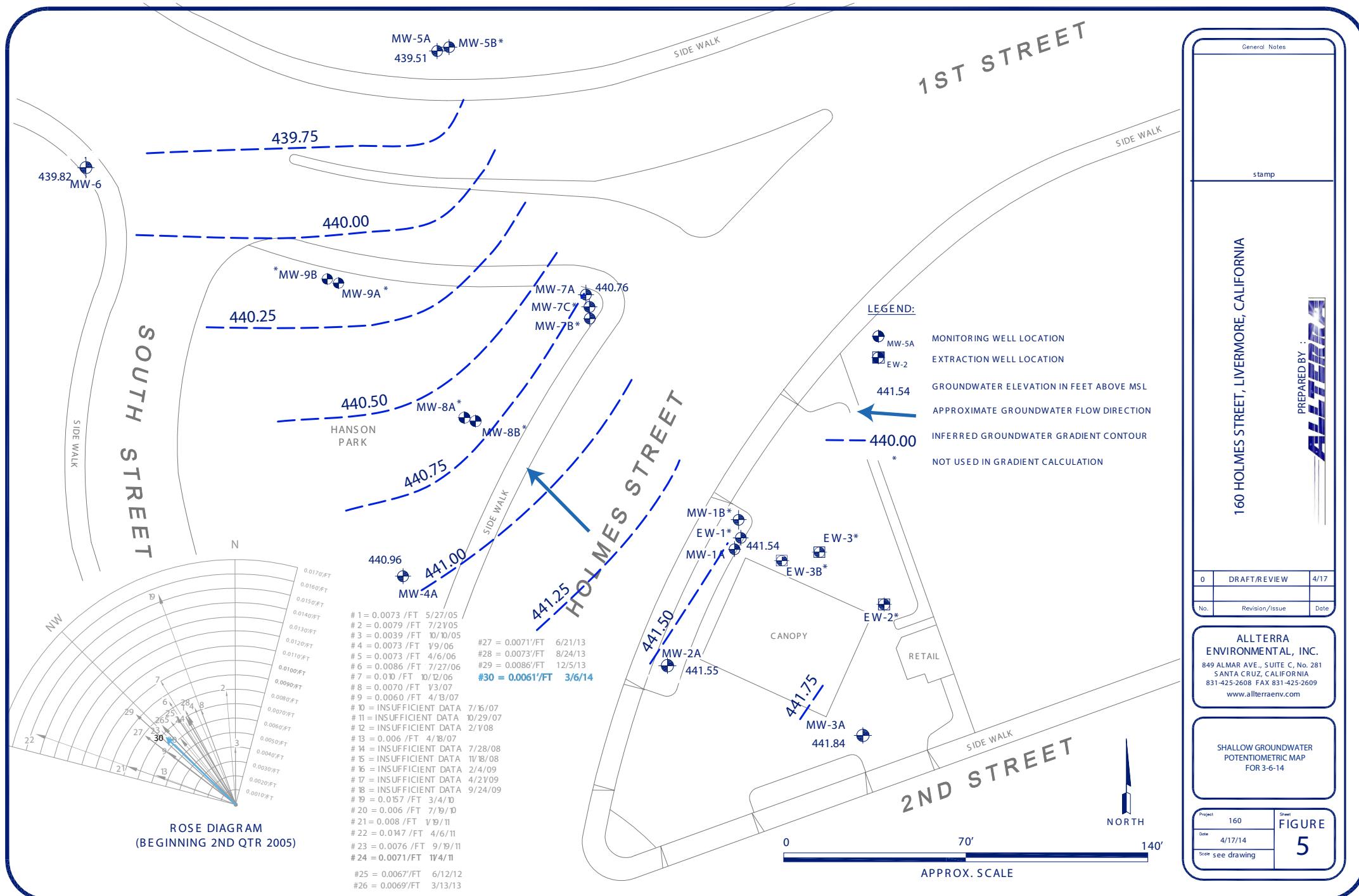


General Notes											
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160 HOLMES STREET, LIVERMORE, CALIFORNIA											
PREPARED BY : ALLTERRA											
<table border="1"> <tr> <td>0</td> <td>DRAFT/REVIEW</td> <td>6/5</td> </tr> <tr> <td>No.</td> <td>Revision/Issue</td> <td>Date</td> </tr> </table>			0	DRAFT/REVIEW	6/5	No.	Revision/Issue	Date			
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No.	Revision/Issue	Date									
Firm Name and Address											
<b>ALLTERRA ENVIRONMENTAL, INC.</b> 849 ALMAR AVE., SUITE C, NO. 281 SANTA CRUZ, CALIFORNIA 831-425-2608 FAX 831-425-2609 <a href="http://www.allterraenv.com">www.allterraenv.com</a>											
<b>FIGURE 2</b> <table border="1"> <tr> <td>Project</td> <td>160</td> <td>Sheet</td> </tr> <tr> <td>Date</td> <td>6-5-15</td> <td>FIGURE</td> </tr> <tr> <td>Scale</td> <td>see drawing</td> <td>2</td> </tr> </table>			Project	160	Sheet	Date	6-5-15	FIGURE	Scale	see drawing	2
Project	160	Sheet									
Date	6-5-15	FIGURE									
Scale	see drawing	2									

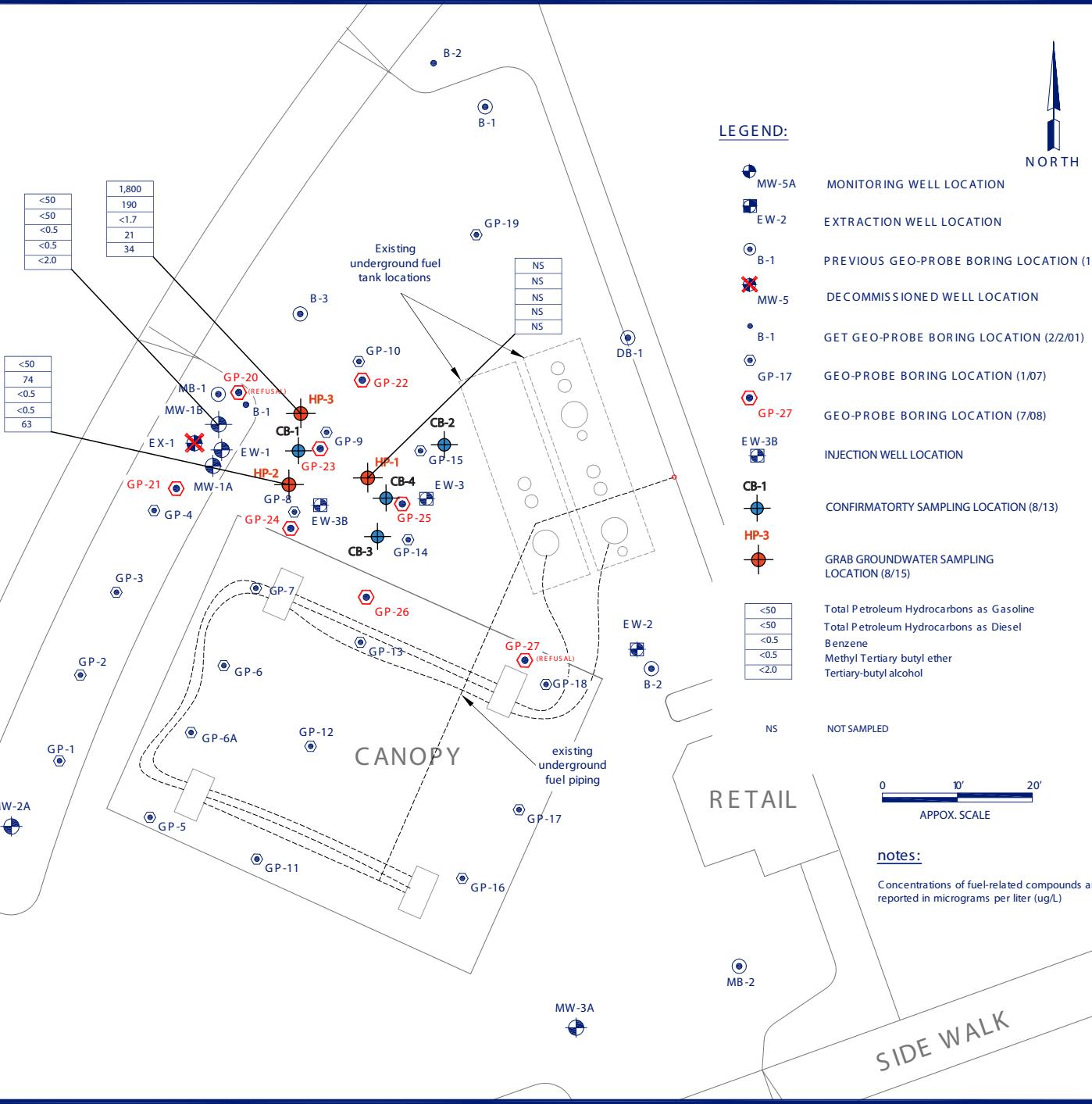


CONFIRMATORY SAMPLING REPORT  
PREPARED BY: 





# HOLMES STREET



General Notes													
stamp													
160 HOLMES STREET, LIVERMORE, CALIFORNIA													
PREPARED BY : ALLTERRA													
<table border="1"> <tr> <td>0</td> <td>DRAFT/REVIEW</td> <td>6/5</td> </tr> <tr> <td>No.</td> <td>Revision/Issue</td> <td>Date</td> </tr> </table>		0	DRAFT/REVIEW	6/5	No.	Revision/Issue	Date						
0	DRAFT/REVIEW	6/5											
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ALLTERRA ENVIRONMENTAL, INC. 849 ALMAR AVE., SUITE C, NO. 281 SANTA CRUZ, CALIFORNIA 831-425-2608 FAX 831-425-2609 www.allterraenv.com													
CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER													
<table border="1"> <tr> <td>Project</td> <td>160</td> <td>Sheet</td> <td>FIGURE</td> </tr> <tr> <td>Date</td> <td>6-5-15</td> <td>Scale</td> <td>6</td> </tr> <tr> <td colspan="4">see drawing</td> </tr> </table>		Project	160	Sheet	FIGURE	Date	6-5-15	Scale	6	see drawing			
Project	160	Sheet	FIGURE										
Date	6-5-15	Scale	6										
see drawing													

## TABLES 1 - 3

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-1*	8/11/00	465.03	15-30	NM	NC
	10/19/00	465.03	15-30	21.94	443.09
	2/22/01	465.03	15-30	22.91	442.12
	5/30/01	465.03	15-30	Dry	NC
	11/14/01	465.03	15-30	Dry	NC
	5/7/02	465.03	15-30	Dry	NC
	9/11/02	465.03	15-30	26.16	438.87
	12/1/02	465.03	15-30	27.55	437.48
	3/14/03	465.03	15-30	22.63	442.40
	6/25/03	465.03	15-30	22.10	442.93
	9/16/03	465.03	15-30	24.91	440.12
	12/22/03	465.03	15-30	21.75	443.28
	3/10/04	465.03	15-30	17.45	447.58
	6/15/04	465.03	15-30	22.38	442.65
	9/17/04	465.03	15-30	25.61	439.42
	12/10/04	465.03	15-30	22.18	442.85
	3/2/05	465.03	15-30	16.95	448.08
	5/27/05	465.03	15-30	18.42	446.61
	7/21/05	465.03	15-30	21.38	443.65
	10/10/05	465.03	15-30	22.49	442.54
	1/9/06	465.03	15-30	18.05	446.98
MW-1A*	4/6/06	465.03	15-30	15.60	449.43
	7/27/06	465.03	15-30	22.42	442.61
	10/12/06	465.03	15-30	23.46	441.57
	1/3/07	465.03	15-30	21.00	444.03
	4/13/07	465.03	15-30	23.24	441.79
	7/16/07	465.03	15-30	Dry	NC
	10/29/07	465.03	15-30	Dry	NC
	2/1/08	465.03	15-30	Dry	NC
	4/18/08	465.03	15-30	27.34	437.69
	7/28/08	465.03	15-30	Dry	NC
	11/18/08	465.03	15-30	Dry	NC
	2/4/09	465.03	15-30	Dry	NC
	4/21/09	465.03	15-30	Dry	NC
	9/24/09	465.03	15-30	35.00	430.03
	3/4/10	465.03	15-30	28.05	436.98
	7/19/10	465.03	15-30	23.85	441.18
	1/19/11	465.03	15-30	23.12	441.91
	4/6/11	465.03	15-30	18.40	446.63
	4/18/11	465.03	15-30	18.70	446.33
	5/9/11	465.03	15-30	19.26	445.77
	6/1/11	465.03	15-30	20.10	444.93
	6/15/11	465.03	15-30	20.44	444.59
	6/30/11	465.03	15-30	20.73	444.30
	9/19/11	465.03	15-30	22.91	442.12
	11/4/11	465.03	15-30	23.00	442.03
	2/1/12	465.03	15-30	Dry	NC
	6/13/12	465.03	15-30	26.90	438.13
	8/28/12	465.03	15-30	Dry	NC
	3/13/13	465.03	15-30	21.94	443.09
	6/21/13	465.03	15-30	25.52	439.51
	8/24/13	465.03	15-30	25.09	439.94
	12/5/13	465.03	15-30	23.31	441.72
	3/6/14	465.03	15-30	23.49	441.54
	6/4/14	465.03	15-30	Dry	NC
	8/12/15	465.03	15-30	Dry	NC

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-1B**	4/6/06	465.02	50-55	15.59	449.43
	7/27/06	465.02	50-55	22.47	442.55
	10/12/06	465.02	50-55	23.51	441.51
	1/3/07	465.02	50-55	21.04	443.98
	4/13/07	465.02	50-55	23.30	441.72
	7/16/07	465.02	50-55	35.57	429.45
	10/29/07	465.02	50-55	47.32	417.70
	2/1/08	465.02	50-55	33.90	431.12
	4/18/08	465.02	50-55	27.35	437.67
	7/28/08	465.02	50-55	44.03	420.99
	11/18/08	465.02	50-55	48.50	416.52
	2/4/09	465.02	50-55	46.83	418.19
	4/21/09	465.02	50-55	37.10	427.92
	9/24/09	465.02	50-55	37.76	427.26
	3/4/10	465.02	50-55	27.41	437.61
	7/19/10	465.02	50-55	NM	NC
	1/19/11	465.02	50-55	23.10	441.92
	4/6/11	465.02	50-55	18.40	446.62
	4/18/11	465.02	50-55	18.60	446.42
	5/9/11	465.02	50-55	19.11	445.91
	6/1/11	465.02	50-55	20.10	444.92
	6/15/11	465.02	50-55	20.44	444.58
	6/30/11	465.02	50-55	20.74	444.28
	9/19/11	465.02	50-55	22.92	442.10
	11/4/11	465.02	50-55	22.95	442.07
	2/2/12	465.02	50-55	33.00	432.02
	6/13/12	465.02	50-55	26.99	438.03
	8/28/12	465.02	50-55	29.51	435.51
	3/13/13	465.02	50-55	21.96	443.06
	6/21/13	465.02	50-55	24.55	440.47
	8/24/13	465.02	50-55	25.11	439.91
	12/5/13	465.02	50-55	23.35	441.67
	3/6/14	465.02	50-55	23.53	441.49
	6/4/14	465.02	50-55	33.74	431.28
	<b>8/12/15</b>	<b>465.02</b>	<b>50-55</b>	<b>51.06</b>	<b>413.96</b>
MW-2*	8/11/00	464.94	15-30	NM	NC
	10/19/00	464.94	15-30	21.80	443.14
	2/22/01	464.94	15-30	22.87	442.07
	5/30/01	464.94	15-30	Dry	NC
	11/14/01	464.94	15-30	Dry	NC
	5/7/02	464.94	15-30	26.70	438.24
	9/11/02	464.94	15-30	25.96	438.98
	12/11/02	464.94	15-30	27.56	437.38
	3/14/03	464.94	15-30	22.41	442.53
	6/25/03	464.94	15-30	21.97	442.97
	9/16/03	464.94	15-30	24.70	440.24
	12/22/03	464.94	15-30	21.58	443.36
	3/10/04	464.94	15-30	17.31	447.63
	6/15/04	464.94	15-30	22.18	442.76
	9/17/04	464.94	15-30	25.44	439.50
	12/10/04	464.94	15-30	22.00	442.94
	3/2/05	464.94	15-30	16.75	448.19
	5/27/05	464.94	15-30	18.29	446.65
	7/21/05	464.94	15-30	20.46	444.48
	10/10/05	464.94	15-30	22.30	442.64
	1/9/06	464.94	15-30	17.67	447.27

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-2A*	4/6/06	464.94	15-30	15.47	449.47
	7/27/06	464.94	15-30	22.27	442.67
	10/12/06	464.94	15-30	23.35	441.59
	1/3/07	464.94	15-30	20.90	444.04
	4/13/07	464.94	15-30	23.16	441.78
	7/16/07	464.94	15-30	Dry	NC
	10/29/07	464.94	15-30	Dry	NC
	2/1/08	464.94	15-30	Dry	NC
	4/18/08	464.94	15-30	27.26	437.68
	7/28/08	464.94	15-30	Dry	NC
	11/18/08	464.94	15-30	Dry	NC
	2/4/09	464.94	15-30	Dry	NC
	4/21/09	464.94	15-30	Dry	NC
	9/24/09	464.94	15-30	Dry	NC
	3/4/10	464.94	15-30	25.12	439.82
	7/20/10	464.94	15-30	25.90	439.04
	1/19/11	464.94	15-30	25.30	439.64
	4/6/11	464.94	15-30	18.30	446.64
	9/19/11	464.94	15-30	22.45	442.49
	11/4/11	464.94	15-30	22.77	442.17
	2/1/12	464.94	15-30	Dry	NC
	6/12/12	464.94	15-30	26.79	438.15
	8/28/12	464.94	15-30	NM	NC
	3/13/13	464.94	15-30	21.81	443.13
	6/21/13	464.94	15-30	24.33	440.61
	8/24/13	464.94	15-30	NM	NC
	12/5/13	464.94	15-30	23.16	441.78
	3/6/14	464.94	15-30	23.39	441.55
	6/4/14	464.94	15-30	Dry	NC
	<b>8/12/15</b>	<b>464.94</b>	<b>15-30</b>	<b>Dry</b>	<b>NC</b>
MW-3*	8/11/00	465.84	15-30	NM	NC
	10/19/00	465.84	15-30	22.45	443.39
	2/22/01	465.84	15-30	23.51	442.33
	5/30/01	465.84	15-30	Dry	NC
	11/14/01	465.84	15-30	Dry	NC
	5/7/02	465.84	15-30	Dry	NC
	9/11/02	465.84	15-30	26.61	439.23
	12/11/02	465.84	15-30	28.18	437.66
	3/14/03	465.84	15-30	23.04	442.80
	6/25/03	465.84	15-30	22.59	443.25
	9/16/03	465.84	15-30	25.33	440.51
	12/22/03	465.84	15-30	22.37	443.47
	3/10/04	465.84	15-30	17.88	447.96
	6/15/04	465.84	15-30	22.82	443.02
	9/17/04	465.84	15-30	26.09	439.75
	12/10/04	465.84	15-30	22.65	443.19
	3/5/05	465.84	15-30	17.33	448.51
	5/27/05	465.84	15-30	18.89	446.95
	7/21/05	465.84	15-30	21.10	444.74
	10/10/05	465.84	15-30	22.94	442.90
	1/9/06	465.84	15-30	18.24	447.60
MW-3A*	4/6/06	465.84	15-30	16.02	449.82
	7/27/06	465.84	15-30	22.90	442.94
	10/12/06	465.84	15-30	23.99	441.85
	1/3/07	465.84	15-30	21.52	444.32
	4/13/07	465.84	15-30	23.78	442.06
	7/16/07	465.84	15-30	Dry	NC
	10/29/07	465.84	15-30	Dry	NC

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-3A*	2/1/08	465.84	15-30	Dry	NC
cont.	4/18/08	465.84	15-30	27.86	437.98
	7/28/08	465.84	15-30	Dry	NC
	11/18/08	465.84	15-30	Dry	NC
	2/4/09	465.84	15-30	Dry	NC
	4/21/09	465.84	15-30	Dry	NC
	9/24/09	465.84	15-30	Dry	NC
	3/4/10	465.84	15-30	27.95	437.89
	7/19/10	465.84	15-30	26.55	439.29
	1/19/11	465.84	15-30	23.63	442.21
	4/6/11	465.84	15-30	18.90	446.94
	9/19/11	465.85	15-30	23.40	442.45
	11/4/11	465.85	15-30	23.60	442.25
	2/1/12	465.85	15-30	Dry	NC
	6/12/12	465.85	15-30	27.47	438.38
	8/28/12	465.85	15-30	NM	NC
	3/13/13	465.85	15-30	22.47	443.38
	6/21/13	465.85	15-30	24.99	440.86
	8/24/13	465.85	15-30	NM	NC
	12/5/13	465.85	15-30	23.81	442.04
	3/6/14	465.85	15-30	24.01	441.84
	6/4/14	465.85	15-30	Dry	NC
<b>8/12/15</b>	<b>465.85</b>	<b>15-30</b>	<b>Dry</b>	<b>NC</b>	
MW-4***	11/14/01	465.15	15-30	33.84	431.31
	5/7/02	465.15	15-30	26.75	438.40
	9/11/02	465.15	15-30	26.66	438.49
	12/11/02	465.15	15-30	28.39	436.76
	3/14/03	465.15	15-30	23.14	442.01
	6/25/03	465.15	15-30	22.72	442.43
	9/16/03	465.15	15-30	25.39	439.76
	12/22/03	465.15	15-30	22.42	442.73
	3/4/04	465.15	15-30	18.20	446.95
	6/15/04	465.15	15-30	22.95	442.20
	9/17/04	465.15	15-30	26.12	439.03
	12/10/04	465.15	15-30	22.73	442.42
	3/2/05	465.15	15-30	17.60	447.55
	5/27/05	465.15	15-30	19.14	446.01
	7/21/05	465.15	15-30	21.25	443.90
	10/10/05	465.15	15-30	22.85	442.30
	1/9/06	465.15	15-30	18.54	446.61
MW-4A**	4/6/06	464.96	15-30	16.19	448.77
	7/27/06	464.96	15-30	22.87	442.09
	10/12/06	464.96	15-30	23.90	441.06
	1/3/07	464.96	15-30	21.52	443.44
	4/13/07	464.96	15-30	23.78	441.18
	7/16/07	464.96	15-30	Dry	NC
	10/29/07	464.96	15-30	Dry	NC
	2/1/08	464.96	15-30	Dry	NC
	4/18/08	464.96	15-30	27.91	437.05
	7/28/08	464.96	15-30	Dry	NC
	11/18/08	464.96	15-30	Dry	NC
	2/4/09	464.96	15-30	Dry	NC
	9/24/09	464.96	15-30	Dry	NC
	4/21/09	464.96	15-30	Dry	NC
	3/4/10	464.96	15-30	25.66	439.30
	7/20/10	464.96	15-30	24.25	440.71
	1/19/11	464.96	15-30	23.64	441.32
	4/6/11	464.96	15-30	18.90	446.06
	9/19/11	464.96	15-30	23.43	441.53

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-4A**	11/4/11	464.96	15-30	23.40	441.56
	2/1/12	464.96	15-30	Dry	NC
	6/12/12	464.96	15-30	27.27	437.69
	8/28/12	464.96	15-30	NM	NC
	3/13/13	464.96	15-30	22.38	442.58
	6/21/13	464.96	15-30	24.88	440.08
	8/24/13	464.96	15-30	NM	NC
	12/5/13	464.96	15-30	23.75	441.21
	3/6/14	464.96	15-30	24.00	440.96
	6/4/14	464.96	15-30	Dry	NC
MW-5***	9/7/15	<b>464.96</b>	<b>15-30</b>	<b>Dry</b>	<b>NC</b>
	11/14/01	464.65	20-50	34.94	429.71
	5/7/02	464.65	20-50	27.90	436.75
	9/11/02	464.65	20-50	27.99	436.66
	12/11/02	464.65	20-50	29.50	435.15
	3/14/03	464.65	20-50	24.26	440.39
	6/25/03	464.65	20-50	24.01	440.64
	9/16/03	464.65	20-50	26.83	437.82
	12/22/03	464.65	20-50	23.68	440.97
	3/10/04	464.65	20-50	19.22	445.43
	6/15/04	464.65	20-50	24.20	440.45
	9/17/04	464.65	20-50	27.68	436.97
	12/10/04	464.65	20-50	23.93	440.72
	3/2/05	464.65	20-50	18.56	446.09
MW-5A**	5/27/05	464.65	20-50	20.15	444.50
	7/21/05	464.65	20-50	22.55	442.10
	10/10/05	464.65	20-50	23.35	441.30
	1/9/06	464.65	20-50	19.53	445.12
	4/6/06	464.64	20-35	17.35	447.29
	7/27/06	464.64	20-35	24.40	440.24
	10/12/06	464.64	20-35	25.58	439.06
	1/3/07	464.64	20-35	22.53	442.11
	4/13/07	464.64	20-35	24.77	439.87
	7/16/07	464.64	20-35	Dry	NC
	10/29/07	464.64	20-35	Dry	NC
	2/1/08	464.64	20-35	34.03	430.61
	4/18/08	464.64	20-35	28.13	436.51
	7/28/08	464.64	20-35	Dry	NC
	11/18/08	464.64	20-35	33.82	430.82
	2/4/09	464.64	20-35	Dry	NC
MW-5B**	4/21/09	464.64	20-35	Dry	NC
	9/24/09	464.64	20-35	Dry	NC
	3/4/10	464.64	20-35	28.77	435.87
	7/20/10	464.64	20-35	24.57	440.07
	1/19/11	464.64	20-35	24.52	440.12
	4/6/11	464.64	20-35	19.98	444.66
	9/19/11	464.64	20-35	24.62	440.02
	11/4/11	464.64	20-35	24.50	440.14
	2/1/12	464.64	20-35	Dry	NC
	6/12/12	464.64	20-35	28.39	436.25
	8/28/12	464.64	20-35	31.10	433.54
	3/13/13	464.64	20-35	23.38	441.26
	6/21/13	464.64	20-35	26.15	438.49
	8/24/13	464.64	20-35	26.66	437.98
MW-5C**	12/5/13	464.64	20-35	25.05	439.59
	3/6/14	464.64	20-35	25.13	439.51
	6/4/14	464.64	20-35	33.86	430.78
	9/7/15	<b>464.64</b>	<b>20-35</b>	<b>Dry</b>	<b>NC</b>

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-5B**	4/6/06	464.59	50-55	17.44	447.15
	7/27/06	464.59	50-55	24.09	440.50
	10/12/06	464.59	50-55	25.17	439.42
	1/3/07	464.59	50-55	22.44	442.15
	4/13/07	464.59	50-55	25.33	439.26
	7/16/07	464.59	50-55	36.50	428.09
	10/29/07	464.59	50-55	47.90	416.69
	2/1/08	464.59	50-55	33.25	431.34
	4/18/08	464.59	50-55	28.77	435.82
	7/28/08	464.59	50-55	44.76	419.83
	11/18/08	464.59	50-55	51.65	412.94
	2/4/09	464.59	50-55	47.63	416.96
	4/21/09	464.59	50-55	37.00	427.59
	9/24/09	464.59	50-55	39.73	424.86
	3/4/10	464.59	50-55	28.97	435.62
	7/19/10	464.59	50-55	25.40	439.19
	1/19/11	464.59	50-55	24.52	440.07
	4/6/11	464.59	50-55	20.05	444.54
	9/19/11	464.59	50-55	24.50	440.09
	11/4/11	464.59	50-55	24.40	440.19
	2/1/12	464.59	50-55	33.96	430.63
	6/12/12	464.59	50-55	28.65	435.94
	8/28/12	464.59	50-55	31.22	433.37
	3/13/13	464.59	50-55	23.42	441.17
	6/21/13	464.59	50-55	26.21	438.38
	8/24/13	464.59	50-55	26.86	437.73
	12/5/13	464.59	50-55	25.06	439.53
	3/6/14	464.59	50-55	25.16	439.43
	6/4/14	464.59	50-55	34.83	429.76
	9/7/15	<b>464.59</b>	<b>50-55</b>	<b>33.80</b>	<b>430.79</b>
MW-6	11/14/01	464.13	20-50	33.88	430.25
	5/7/02	464.13	20-50	27.01	437.12
	9/11/02	464.13	20-50	27.03	437.10
	12/11/02	464.13	20-50	28.77	435.36
	3/14/03	464.13	20-50	23.46	440.67
	6/25/03	464.13	20-50	23.08	441.05
	9/16/03	464.13	20-50	25.77	438.36
	12/22/03	464.13	20-50	22.59	441.54
	3/10/04	464.13	20-50	18.65	445.48
	6/15/04	464.13	20-50	23.31	440.82
	9/17/04	464.13	20-50	26.56	437.57
	12/10/04	464.13	20-50	23.09	441.04
	3/2/05	464.13	20-50	18.04	446.09
	5/27/05	464.13	20-50	19.57	444.56
	7/21/05	464.13	20-50	21.60	442.53
	10/10/05	464.13	20-50	22.21	441.92
	1/9/06	464.13	20-50	18.99	445.14
	4/6/06	464.13	20-50	17.00	447.13
	7/27/06	464.13	20-50	23.45	440.68
	10/12/06	464.13	20-50	24.36	439.77
	1/3/07	464.13	20-50	22.03	442.10
	4/13/07	464.13	20-50	24.40	439.73
	7/16/07	464.13	20-50	NM	NC
	10/29/07	464.13	20-50	Dry	NC
	2/1/08	464.13	20-50	33.05	431.08
	4/18/08	464.13	20-50	28.20	435.93
	7/28/08	464.13	20-50	Dry	NC
	11/18/08	464.13	20-50	Dry	NC
	2/4/09	464.13	20-50	Dry	NC

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-6	4/21/09	464.13	20-50	38.71	425.42
cont.	9/24/09	464.13	20-50	38.26	425.87
	3/4/10	464.13	20-50	26.02	438.11
	7/19/10	464.13	20-50	24.65	439.48
	1/19/11	464.13	20-50	24.00	440.13
	4/6/11	464.13	20-50	21.76	442.37
	9/19/11	464.13	20-50	23.76	440.37
	11/4/11	464.13	20-50	23.00	441.13
	2/1/12	464.13	20-50	33.43	430.70
	6/12/12	464.13	20-50	27.62	436.51
	8/28/12	464.13	20-50	30.17	433.96
	3/13/13	464.13	20-50	22.72	441.41
	6/21/13	464.13	20-50	25.30	438.83
	8/24/13	464.13	20-50	25.86	438.27
	12/5/13	464.13	20-50	24.21	439.92
	3/6/14	464.13	20-50	24.31	439.82
	6/4/14	464.13	20-50	34.19	429.94
	<b>9/7/15</b>	<b>464.13</b>	<b>20-50</b>	<b>Dry</b>	<b>NC</b>
MW-7A**	4/6/06	465.32	15-30	16.61	448.71
	7/27/06	465.32	15-30	23.40	441.92
	10/12/06	465.32	15-30	24.50	440.82
	1/3/07	465.32	15-30	21.80	443.52
	4/13/07	465.32	15-30	24.05	441.27
	7/16/07	465.32	15-30	Dry	NC
	10/29/07	465.32	15-30	Dry	NC
	2/1/08	465.32	15-30	Dry	NC
	4/18/08	465.32	15-30	28.16	437.16
	7/28/08	465.32	15-30	Dry	NC
	11/18/08	465.32	15-30	Dry	NC
	2/4/09	465.32	15-30	Dry	NC
	4/21/09	465.32	15-30	Dry	NC
	9/24/09	465.32	15-30	Dry	NC
	3/4/10	465.32	15-30	26.30	439.02
	7/19/10	465.32	15-30	24.78	440.54
	1/19/11	465.32	15-30	23.60	441.72
	4/6/11	465.32	15-30	19.35	445.97
	4/18/11	465.32	15-30	19.59	445.73
	5/9/11	465.32	15-30	21.15	444.17
	6/1/11	465.32	15-30	21.01	444.31
	6/15/11	465.32	15-30	21.45	443.87
	6/30/11	465.32	15-30	21.87	443.45
	9/19/11	465.32	15-30	23.96	441.36
	11/4/11	465.32	15-30	23.45	441.87
	2/1/12	465.32	15-30	Dry	NC
	6/13/12	465.32	15-30	27.93	437.39
	8/28/12	465.32	15-30	Dry	NC
	3/13/13	465.32	15-30	22.86	442.46
	6/21/13	465.32	15-30	25.09	440.23
	8/24/13	465.32	15-30	25.00	440.32
	12/5/13	465.32	15-30	24.26	441.06
	3/6/14	465.32	15-30	24.56	440.76
	6/4/14	465.32	15-30	Dry	NC
	<b>8/12/15</b>	<b>465.32</b>	<b>15-30</b>	<b>Dry</b>	<b>NC</b>

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-7B**	4/6/06	465.39	45-50	16.85	448.54
	7/27/06	465.39	45-50	23.72	441.67
	10/12/06	465.39	45-50	24.74	440.65
	1/3/07	465.39	45-50	22.18	443.21
	4/13/07	465.39	45-50	24.41	440.98
	7/16/07	465.39	45-50	36.40	428.99
	10/29/07	465.39	45-50	Dry	NC
	2/1/08	465.39	45-50	33.84	431.55
	4/18/08	465.39	45-50	28.52	436.87
	7/28/08	465.39	45-50	44.92	420.47
	11/18/08	465.39	45-50	Dry	NC
	2/4/09	465.39	45-50	46.65	418.74
	4/21/09	465.39	45-50	36.83	428.56
	9/24/09	465.39	45-50	39.26	426.13
	3/4/10	465.39	45-50	28.63	436.76
	7/19/10	465.39	45-50	25.05	440.34
	1/19/11	465.39	45-50	24.15	441.24
	4/6/11	465.39	45-50	21.78	443.61
	4/18/11	465.39	45-50	19.75	445.64
	5/9/11	465.39	45-50	20.40	444.99
	6/1/11	465.39	45-50	21.25	444.14
	6/15/11	465.39	45-50	21.45	443.94
	6/30/11	465.39	45-50	21.65	443.74
	9/19/11	465.39	45-50	24.10	441.29
	11/4/11	465.39	45-50	24.10	441.29
	2/2/12	465.39	45-50	33.91	431.48
	6/13/12	465.39	45-50	28.14	437.25
	8/28/12	465.39	45-50	30.67	434.72
	3/13/13	465.39	45-50	23.05	442.34
	6/21/13	465.39	45-50	25.70	439.69
	8/24/13	465.39	45-50	26.26	439.13
	12/5/13	465.39	45-50	24.51	440.88
	3/6/14	465.39	45-50	24.65	440.74
	6/4/14	465.39	45-50	34.68	430.71
	<b>8/12/15</b>	<b>465.39</b>	<b>45-50</b>	<b>Dry</b>	<b>NC</b>
MW-7C**	4/6/06	465.39	65-70	17.18	448.21
	7/27/06	465.39	65-70	24.15	441.24
	10/12/06	465.39	65-70	24.74	440.65
	1/3/07	465.39	65-70	22.53	442.86
	4/13/07	465.39	65-70	24.73	440.66
	7/16/07	465.39	65-70	36.70	428.69
	10/29/07	465.39	65-70	48.25	417.14
	2/1/08	465.39	65-70	34.00	431.39
	4/18/08	465.39	65-70	28.75	436.64
	7/28/08	465.39	65-70	45.00	420.39
	11/18/08	465.39	65-70	49.62	415.77
	2/4/09	465.39	65-70	47.89	417.50
	4/21/09	465.39	65-70	36.98	428.41
	9/24/09	465.39	65-70	39.49	425.90
	3/4/10	465.39	65-70	26.66	438.73
	7/19/10	465.39	65-70	25.38	440.01
	1/19/11	465.39	65-70	24.50	440.89
	4/6/11	465.39	65-70	19.88	445.51
	9/19/11	465.39	65-70	23.50	441.89
	11/4/11	465.39	65-70	24.40	440.99
	2/2/12	465.39	65-70	34.14	431.25
	6/13/12	465.39	65-70	28.54	436.85
	8/28/12	465.39	65-70	31.07	434.32

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-7C**	3/13/13	465.39	65-70	23.34	442.05
	6/21/13	465.39	65-70	26.00	439.39
	8/24/13	465.39	65-70	26.64	438.75
	12/5/13	465.39	65-70	24.91	440.48
	3/6/14	465.39	65-70	25.04	440.35
	6/4/14	465.39	65-70	34.96	430.43
	<b>8/12/15</b>	<b>465.39</b>	<b>65-70</b>	<b>52.31</b>	<b>413.08</b>
MW-8A	7/28/08	NC	16-36	Dry	NC
	11/18/08	NC	16-36	35.40	NC
	2/4/09	NC	16-36	Dry	NC
	4/21/09	NC	16-36	Dry	NC
	9/24/09	NC	16-36	Dry	NC
	3/4/10	NC	16-36	26.33	NC
	7/20/10	NC	16-36	25.00	NC
	1/19/11	NC	16-36	24.30	NC
	4/6/11	NC	16-36	19.22	NC
	9/19/11	NC	16-36	24.05	NC
	11/4/11	NC	16-36	24.10	NC
	2/2/12	NC	16-36	33.99	NC
	6/12/12	NC	16-36	28.01	NC
	8/28/12	NC	16-36	30.53	NC
	3/13/13	NC	16-36	23.09	NC
	6/21/13	NC	16-36	25.60	NC
	8/24/13	NC	16-36	26.13	NC
	12/5/13	NC	16-36	24.45	NC
	3/6/14	NC	16-36	24.60	NC
	6/4/14	NC	16-36	34.71	NC
	<b>9/7/15</b>	<b>NC</b>	<b>16-36</b>	<b>Dry</b>	<b>NC</b>
MW-8B	7/28/08	NC	46-51	44.90	NC
	11/18/08	NC	46-51	49.85	NC
	2/4/09	NC	46-51	47.95	NC
	4/21/09	NC	46-51	38.75	NC
	9/24/09	NC	46-51	38.47	NC
	3/4/10	NC	46-51	28.24	NC
	7/20/10	NC	46-51	24.70	NC
	1/19/11	NC	46-51	24.05	NC
	4/6/11	NC	46-51	19.42	NC
	9/19/11	NC	46-51	23.80	NC
	11/4/11	NC	46-51	23.50	NC
	2/2/12	NC	46-51	33.73	NC
	6/13/12	NC	46-51	27.75	NC
	8/28/12	NC	46-51	30.28	NC
	3/13/13	NC	46-51	22.82	NC
	6/21/13	NC	46-51	25.36	NC
	8/24/13	NC	46-51	25.91	NC
	12/5/13	NC	46-51	24.24	NC
	3/6/14	NC	46-51	24.37	NC
	6/4/14	NC	46-51	34.52	NC
	<b>9/7/15</b>	<b>NC</b>	<b>46-51</b>	<b>Dry</b>	<b>NC</b>

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-9A	7/28/08	NC	14-36	Dry	NC
	11/18/08	NC	14-36	48.97	NC
	2/4/09	NC	14-36	Dry	NC
	4/21/09	NC	14-36	Dry	NC
	9/24/09	NC	14-36	Dry	NC
	3/4/10	NC	14-36	27.86	NC
	7/20/10	NC	14-36	24.15	NC
	1/19/11	NC	14-36	23.40	NC
	4/6/11	NC	14-36	21.50	NC
	9/19/11	NC	14-36	23.25	NC
	11/4/11	NC	14-36	23.50	NC
	2/1/12	NC	14-36	33.10	NC
	6/12/12	NC	14-36	27.30	NC
	8/28/12	NC	14-36	29.72	NC
	3/13/13	NC	14-36	22.20	NC
	6/21/13	NC	14-36	24.79	NC
	8/24/13	NC	14-36	25.35	NC
	12/5/13	NC	14-36	24.68	NC
	3/6/14	NC	14-36	23.79	NC
	6/4/14	NC	14-36	33.76	NC
	9/7/15	NC	<b>14-36</b>	<b>Dry</b>	<b>NC</b>
MW-9B	7/28/08	NC	47-52	44.05	NC
	11/18/08	NC	47-52	38.28	NC
	2/4/09	NC	47-52	47.03	NC
	4/21/09	NC	47-52	35.94	NC
	9/24/09	NC	47-52	37.93	NC
	3/4/10	NC	47-52	27.68	NC
	7/20/10	NC	47-52	24.30	NC
	1/19/11	NC	47-52	23.55	NC
	4/6/11	NC	47-52	21.21	NC
	9/19/11	NC	47-52	23.12	NC
	11/4/11	NC	47-52	23.35	NC
	2/1/12	NC	47-52	33.13	NC
	6/12/12	NC	47-52	27.19	NC
	8/28/12	NC	47-52	29.82	NC
	3/13/13	NC	47-52	22.29	NC
	6/21/13	NC	47-52	24.86	NC
	8/24/13	NC	47-52	25.42	NC
	12/5/13	NC	47-52	23.77	NC
	3/6/14	NC	47-52	23.90	NC
	6/4/14	NC	47-52	33.88	NC
	9/7/15	NC	<b>47-52</b>	<b>39.15</b>	<b>NC</b>
EX-1**	11/14/01	465.30	30-55	33.41	431.89
	5/7/02	465.30	30-55	27.58	437.72
	9/11/02	465.30	30-55	NM	NC
	12/11/02	465.30	30-55	27.98	437.32
	3/14/03	465.30	30-55	23.02	442.28
	6/25/03	465.30	30-55	22.41	442.89
	9/16/03	465.30	30-55	24.65	440.65
	3/10/04	465.30	30-55	17.99	447.31
	6/15/04	465.30	30-55	22.48	442.82
	9/17/04	465.30	30-55	25.91	439.39
	12/10/04	465.30	30-55	NM	NC
	3/2/05	465.30	30-55	NM	NC
	5/27/05	465.30	30-55	18.68	446.62
	7/21/05	465.30	30-55	21.55	443.75
	10/10/05	465.30	30-55	22.73	442.57
	1/9/06	465.30	30-55	18.05	447.25

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
EW-1***	4/6/06	465.45	15-40	15.99	449.46
	7/27/06	465.45	15-40	23.85	441.60
	10/12/06	465.45	15-40	23.51	441.94
	1/3/07	465.45	15-40	21.45	444.00
	4/13/07	465.45	15-40	23.69	441.76
	10/29/07	465.45	15-40	NM	NC
	2/1/08	465.45	15-40	NM	NC
	4/18/08	465.45	15-40	27.83	437.62
	7/28/08	465.45	15-40	NM	NC
	11/18/08	465.45	15-40	Dry	NC
	2/4/09	465.45	15-40	Dry	NC
	4/21/09	465.45	15-40	Dry	NC
	9/24/09	465.45	15-40	Dry	NC
	3/4/10	465.45	15-40	27.87	NC
	7/20/10	465.45	15-40	24.35	441.10
	1/19/11	465.45	15-40	23.58	441.87
	4/6/11	465.45	15-40	18.85	446.60
	4/18/11	465.45	15-40	19.70	445.75
	5/9/11	465.45	15-40	19.69	445.76
	6/1/11	465.45	15-40	20.52	444.93
	6/15/11	465.45	15-40	21.11	444.34
	6/30/11	465.45	15-40	21.41	444.04
	9/19/11	465.45	15-40	22.35	443.10
	11/4/11	465.45	15-40	23.35	442.10
	2/2/12	465.45	15-40	33.38	432.07
	6/13/12	465.45	15-40	27.38	438.07
	8/28/12	465.45	15-40	29.90	435.55
	3/13/13	465.45	15-40	22.38	443.07
	6/21/13	465.45	15-40	24.95	440.50
	8/24/13	465.45	15-40	25.52	439.93
	12/5/13	465.45	15-40	23.75	441.70
	3/6/14	465.45	15-40	23.98	441.47
	6/4/14	465.45	15-40	34.12	431.33
	<b>8/12/15</b>	<b>465.45</b>	<b>15-40</b>	<b>Dry</b>	<b>NC</b>
EW-2***	4/6/06	465.99	15-40	16.20	449.79
	7/27/06	465.99	15-40	23.10	442.89
	10/12/06	465.99	15-40	21.48	444.51
	1/3/07	465.99	15-40	21.66	444.33
	4/13/07	465.99	15-40	23.93	442.06
	10/29/07	465.99	15-40	Dry	NC
	2/1/08	465.99	15-40	NM	NC
	4/18/08	465.99	15-40	28.04	437.95
	7/28/08	465.99	15-40	NM	NC
	11/18/08	465.99	15-40	Dry	NC
	2/4/09	465.99	15-40	Dry	NC
	4/21/09	465.99	15-40	Dry	NC
	9/24/09	465.99	15-40	Dry	NC
	3/4/10	465.99	15-40	25.89	NC
	7/20/10	465.99	15-40	24.45	441.54
	1/19/11	465.99	15-40	23.72	442.27
	4/6/11	465.99	15-40	19.00	446.99
	4/18/11	465.99	15-40	19.19	446.80
	5/9/11	465.99	15-40	19.67	446.32
	6/1/11	465.99	15-40	20.71	445.28
	6/15/11	465.99	15-40	21.00	444.99
	6/30/11	465.99	15-40	21.31	444.68
	9/19/11	465.99	15-40	23.55	442.44
	11/4/11	465.99	15-40	23.60	442.39

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
EW-2*** cont.	2/2/12	465.99	15-40	33.66	432.33
	6/13/12	465.99	15-40	27.64	438.35
	8/28/12	465.99	15-40	NM	NC
	3/13/13	465.99	15-40	22.58	443.41
	6/21/13	465.99	15-40	26.14	439.85
	8/24/13	465.99	15-40	NM	NC
	12/5/13	465.99	15-40	NM	NC
	3/6/14	465.99	15-40	24.00	NC
	6/4/14	465.99	15-40	NM	NC
	<b>8/12/15</b>	<b>465.99</b>	<b>15-40</b>	<b>Dry</b>	<b>NC</b>
EW-3 <sup>(a)</sup>	11/18/08	NC	25-30	Dry	NC
	2/4/09	NC	25-30	33.80	NC
	4/21/09	NC	25-30	Dry	NC
	9/24/09	NC	25-30	Dry	NC
	3/4/10	NC	25-30	28.02	NC
	7/20/10	NC	25-30	NM	NC
	1/19/11	NC	25-30	23.50	NC
	4/6/11	NC	25-30	18.30	NC
	4/18/11	NC	25-30	19.40	NC
	5/9/11	NC	25-30	19.67	NC
	6/1/11	NC	25-30	20.72	NC
	6/15/11	NC	25-30	20.92	NC
	6/30/11	NC	25-30	21.11	NC
	9/19/11	NC	25-30	23.25	NC
	11/4/11	NC	25-30	23.30	NC
	2/2/12	NC	25-30	28.76	NC
	6/13/12	NC	25-30	27.31	NC
	8/28/12	NC	25-30	28.87	NC
	3/13/13	NC	25-30	22.32	NC
	6/21/13	NC	25-30	23.35	NC
	8/24/13	NC	25-30	24.96	NC
	12/5/13	NC	25-30	23.70	NC
	3/6/14	NC	25-30	23.32	NC
	6/4/14	NC	25-30	28.65	NC
	6/4/14	NC	25-30	Dry	NC
	<b>8/12/15</b>	<b>NC</b>	<b>25-30</b>	<b>Dry</b>	<b>NC</b>
EW-3B <sup>(b)</sup>	3/13/13	NC	24-39	21.73	NC
	6/21/13	NC	24-39	24.12	NC
	8/24/13	NC	24-39	24.99	NC
	12/5/13	NC	24-39	23.71	NC
	3/6/14	NC	24-39	23.00	NC
	6/4/14	NC	24-39	Dry	NC
	<b>8/12/15</b>	<b>NC</b>	<b>24-39</b>	<b>Dry</b>	<b>NC</b>

Notes:

msl = mean sea level

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

bgs = below ground surface

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

NC = elevation not calculated

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

NM = well not measured

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

(b) = Well EW-3B installed 3/5/13 with screen interval from 24 to 39 feet bgs.

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )						Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA
MW-1A*	8/11/00	NC	170,000	57,000	6,400	7,600	4,200	9,700	320,000	--	--	--	--	--	--	--	--	--
	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	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/01	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/7/02	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/11/02	438.87	130,000	--	7,700	1,100	--	1,500	<5000	--	--	--	--	--	--	--	--	--
	12/1/02	437.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/14/03	442.40	180,000	3,800	7,100	3,200	4,300	6,000	220,000	--	--	--	--	--	--	--	--	--
	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	--	4,300	5,300	5,400	14,000	300,000	--	--	--	--	--	--	--	--	--
	10/10/05	442.54	58,000	--	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	<1,7000	<1,700	<1,700	110,000	<170,000	<1,700,000	<1,700	<1,700
	4/13/07	441.79	28,000	3,000	1,600	74	3,700	1,800	190,000	<5,000	<50,000	<5,000	<5,000	200,000	<500,000	<5,000,000	<5,000	<5,000
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/18/08	437.69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	430.03	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	436.98	1,300	--	140	<5.0	26	6.0	16,000	--	--	--	--	--	--	--	--	--
	7/19/10	441.18	400	--	1.2	1.3	<0.5	0.76	880	--	--	--	--	--	--	--	--	--
	1/20/11	441.91	150	130	1.4	0.6	<0.5	1.4	300	<250	40,000	<250	<250	330	--	--	<250	<250
	4/8/11	442.37	200	180	2.0	1.9	<0.5	4.4	1,300	<120	24,000	<120	<120	2,300	--	--	<120	<120
	4/18/11	446.33	140	130	0.56	<0.5	<0.5	4.2	1,500	<50	11,000	<50	<50	1,200	--	--	<0.5	<50
																		<10

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-1A*	5/9/11	445.77	<50	<50	<0.5	<0.5	<0.5	<0.5	880	<50	12,000	<50	<50	1,000	--	--	<50	<50	5.6
cont.	6/1/11	444.93	<50	52	<0.5	<0.5	<0.5	<0.5	350	<50	12,000	<50	<50	480	--	--	<50	<50	1.3
	6/15/11	444.59	<50	70	<0.5	<0.5	<0.5	<0.5	310	<100	9,000	<100	<100	330	--	--	<100	<100	0.66
	6/30/11	444.30	<50	54	<0.5	<0.5	<0.5	<0.5	150	<50	6,200	<50	<50	170	--	--	<50	<50	0.54
	9/20/11	442.12	96	200	<0.5	0.6	<0.5	0.55	140	<120	19,000	<120	<120	150	--	--	<120	<120	--
	11/8/11	442.03	100	150	1.3	0.99	<0.5	1.1	110	<100	21,000	<100	<100	150	--	--	<100	<100	--
	2/1/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/13/12	438.13	65	300	0.96	0.70	<0.5	<0.5	5.5	<50	10,000	<50	<50	<50	--	--	<0.5	<0.5	--
	8/28/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/14/13	443.09	<50	<50	1.1	<0.5	<0.5	<0.5	<5.0	<50	5,100	<50	<50	<50	<50	<50	<50	<50	<0.2
	6/25/13	439.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<100	6,800	<100	<100	<100	--	--	<100	<100	1.2
	7/22/13	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<100	17,000	<100	<100	<100	--	--	<100	<100	<2.0
	8/28/13	439.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<100	19,000	<100	<100	<100	--	--	<100	<100	<0.2
	12/6/13	441.72	<50	<50	<0.5	<0.5	<0.5	<0.5	5.2	<120	24,000	<120	<120	<120	--	--	<120	<120	<0.2
	3/7/14	441.54	71	100	1.1	<0.5	<0.5	<0.5	<5.0	<50	6,800	<50	<50	<50	--	--	<50	<50	<0.2
	6/4/14	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/12/15	NC	NS	NS	not sampled - well dry					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	<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	<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	<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	<50	--	--	--	--	--
	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	<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	<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	<50	<500	<0.5	<0.5	--	--
	7/29/08	420.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<50	<500	<0.5	<0.5	--	--
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
	2/4/09	418.19	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/21/09	427.92	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/24/09	427.26	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	3/4/10	437.61	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/19/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/20/11	441.92	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	4/8/11	446.62	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	2.5
	4/18/11	446.42	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	2.4
	5/9/11	445.91	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	2.4
	6/1/11	444.92	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.4
	6/15/11	444.58	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.8
	6/30/11	444.28	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	2.1
	9/20/11	442.10	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	11/8/11	442.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	2/2/12	432.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	6/13/12	438.03	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	8/28/12	435.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.6

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-1B cont.	3/14/13	443.06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.6
	6/21/13	441.47	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.9
	7/22/13	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	6.8	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.7
	8/24/13	439.91	<50	110	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.7
	12/6/13	441.67	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	3/7/14	441.49	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	1.6
	6/4/14	431.28	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	8/12/15	413.96	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
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	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/01	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/7/02	438.24	400	86	5.4	<0.5	1.9	2.3	230	--	--	--	--	--	--	--	--	--	--
	9/11/02	438.98	260	--	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	--	8.6	2.5	17	2.5	1,500	--	--	--	--	--	--	--	--	--	--
	10/10/05	442.64	<50	--	<.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	<1,000	<10,000	<10	<10	--
	4/7/06	449.47	110	160	0.61	0.8	4.1	<0.5	270	<5.0	660	<5.0	<5.0	240	<500	<5,000	<5.0	<5.0	--
	7/27/06	442.67	<50	120	<0.5	0.84	<0.5	<0.5	87	<5.0	870	<5.0	<5.0	110	--	--	--	--	--
	10/12/06	441.59	<50	70	<0.5	<0.5	<0.5	<0.5	29	<5.0	480	<5.0	<5.0	30	<500	<5,000	--	--	--
	1/3/07	444.04	55	60	0.57	<0.5	<0.5	<0.5	8.5	<2.5	590	<2.5	<2.5	7.8	<250	<2,500	<2.5	<2.5	--
	4/13/07	441.78	86	130	<0.5	0.6	<0.5	<0.5	16	<5.0	740	<5.0	<5.0	16	<500	<5,000	<5.0	<5.0	--
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/18/08	437.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	439.82	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/20/10	439.09	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW- 2A*	1/21/11	439.64	<50	<50	<0.5	<0.5	<0.5	<0.5	2.8	<5.0	<5.0	<5.0	<5.0	2.8	--	--	<5.0	<5.0	--
cont.	4/8/11	446.64	<50	<50	<0.5	0.77	<0.5	6.2	<5.0	<0.5	15	<0.5	<0.5	3.3	--	--	<0.5	<0.5	<0.2
	4/18/11	NC	<50	<50	<0.5	<0.5	<0.5	2.6	<5.0	24	24	<0.5	<0.5	2.7	--	--	<0.5	<0.5	<0.2
	5/9/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	26	<0.5	<0.5	3.7	--	--	<0.5	<0.5	<0.2
	6/1/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	13	<0.5	<0.5	2.8	--	--	<0.5	<0.5	<0.2
	6/15/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	19	<0.5	<0.5	2.8	--	--	<0.5	<0.5	<0.2
	6/30/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	13	<0.5	<0.5	3.0	--	--	<0.5	<0.5	<0.2
	9/20/11	442.49	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	7.9	<0.5	<0.5	2.8	--	--	<0.5	<0.5	--
	11/8/11	442.17	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.3	--	--	<0.5	<0.5	--
	2/1/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/12	438.15	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.4	<0.5	<0.5	1.1	--	--	<0.5	<0.5	--
	8/30/12	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/13/13	443.13	<50	--	<0.5	<0.5	<0.5	0.70	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	--	--	--
	6/25/13	440.61	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/24/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/5/13	441.78	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/8/14	441.55	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/4/14	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/12/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW- 3A*	8/11/00	NC	59	260	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	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	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/14/01	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/7/02	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/11/02	439.23	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	12/1/02	437.66	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	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	--	--	--	--	--	--	--	--	--	--
	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	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	10/10/05	442.90	<50	--	<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	<50	<500	<0.5	<0.5	--
	4/7/06	449.82	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<5.0	<0.5	<50	<500	<0.5	<0.5	--
	7/27/06	442.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<5.0	<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	<5.0	<0.5	<50	<500	--	--	--
	1/3/07	444.32	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<5.0	<0.5	<50	<500	<0.5	<0.5	--
	4/13/07	442.06	<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	--

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 160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )	
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA
MW-3A cont.	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/18/08	437.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	437.89	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	7/19/20	439.29	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	1/20/11	442.21	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	4/8/11	446.94	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	9/20/11	442.45	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	11/8/11	442.25	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	2/1/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/12/12	438.38	<50	NS	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	8/28/12	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/13/13	443.38	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	6/25/13	440.86	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/24/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/5/13	442.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/7/14	441.84	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	6/4/14	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/12/15	NC	NS	NS	not sampled - well dry					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	--	<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	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--
	10/10/05	442.30	<50	--	<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

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
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	--
	4/16/07	441.18	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.51	<50	<500	<0.5	<0.5	--
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/18/08	437.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/4/10	439.30	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	7/20/10	440.71	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	1/20/11	441.32	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	4/7/11	436.16	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/19/11	441.53	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	11/7/11	441.56	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	2/1/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/12/12	437.69	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	8/28/12	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/13/13	442.58	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/25/13	440.08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/24/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/5/13	441.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/8/14	440.96	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/4/14	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/7/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-5**	11/14/01	429.71	<50	<66	<0.5	<0.5	<0.5	<0.5	8.2	--	--	--	--	--	--	--	--	--	
	5/7/02	436.75	140	<50	<0.5	<0.5	<0.5	<0.5	110	--	--	--	--	--	--	--	--	--	
	9/11/02	436.66	<50	--	<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	3.50	<0.5	2.6	1,500	--	--	--	--	--	--	--	--	--	
	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	1,100	--	--	--	--	--	--	--	--	--	
	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	--	--	--	--	--	--	--	--	--	

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-5** cont.	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	--	<0.5	<0.5	<0.5	<0.5	97	--	--	--	--	--	--	--	--	--	
	10/10/05	441.30	<50	--	<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	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	430.61	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.3	<50	<500	<0.5	<0.5	--
	4/18/08	436.51	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	464.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/4/10	435.87	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	7/20/10	440.07	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	1/19/11	440.12	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	4/7/11	436.16	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/19/11	440.02	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	11/7/11	440.14	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	2/1/12	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/12/12	436.25	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	--	--	
	8/29/12	433.54	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	--	--	
	3/13/13	441.26	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/25/13	438.49	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/24/13	431.34	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	12/5/13	435.82	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	3/8/14	439.51	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/4/14	430.78	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/7/15	NC	NS	NS	not sampled - well dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-5B	3/13/06	444.46	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.69	<50	<500	<0.5	<0.5	--
	4/7/06	447.15	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	0.98	<50	<500	<0.5	<0.5	--
	7/28/06	440.50	<50	<50	<0.5	<0.5	<0.5	<0.5	6.8	<0.5	6.3	<0.5	<0.5	0.61	--	--	--	--	--
	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	--	--	--	--	--
	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	419.83	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	11/18/08	412.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.2	<50	<500	<0.5	<0.5	--
	2/4/09	416.96	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/22/09	427.59	<50	--	<0.5	<0.5	<0.5	<0.5	48	--	--	--	--	--	--	--	--	--	--
	9/24/09	424.86	<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	--
	3/4/10	435.62	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/19/10	439.19	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/19/11	440.07	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/6/11	444.66	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/19/11	440.09	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	11/7/11	440.19	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	2/1/12	430.63	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/12/12	435.94	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	8/29/12	433.37	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	3/13/13	441.17	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/25/13	438.38	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/26/13	445.48	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	12/5/13	440.82	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	3/8/14	439.43	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/5/14	429.76	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/7/15	430.79	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-6	11/14/01	430.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	5/7/02	437.12	<50	<67	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/11/02	437.10	<50	--	<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	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	10/10/05	441.92	<50	--	<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	<5.0	<0.5	<5.0	--	--	--	--
	10/13/06	439.77	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<5.0	<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	<5.0	<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	<5.0	<0.5	<50	<500	<0.5	<0.5	--
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	431.08	<50	<50	<0.5	<0.5	<0.5	0.91	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	4/18/08	435.93	<50	<50	<0.5	<0.5	<0.5	0.91	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/22/09	425.42	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/24/09	425.87	<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	--
	3/4/10	438.11	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	7/19/20	439.48	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	1/19/11	440.13	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	4/6/11	442.37	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/19/11	440.37	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	11/7/11	441.13	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	2/1/12	430.70	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/12/12	436.51	<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	--
	8/29/12	433.96	<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	--

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-6 cont.	3/13/13	441.41	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/25/13	438.83	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/26/13	438.27	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	12/6/13	439.92	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	3/8/14	439.82	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/5/14	429.94	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/7/15	NC	NS	NS	not sampled - well dry					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	4,400	<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	<1,700	<17,000	--	--	--
	11/21/06	NC	1,400	--	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	73	<500	<5,000	<5.0	<5.0	<5.0	--
	4/16/07	441.27	520	470	17	5.6	2.6	0.88	140	<12	2,500	<12	<12	170	<1,200	<12,000	<12	<12	--
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/18/08	437.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/4/10	439.02	83	--	<0.5	0.81	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	7/19/10	440.54	680	--	<0.5	10	4.9	4.5	<5.0	--	--	--	--	--	--	--	--	--	
	1/20/11	441.72	580	310	<0.5	7.3	7.2	1.5	<5.0	<2.5	490	<2.5	<2.5	5.8	--	--	<2.5	<2.5	--
	4/11/11	445.97	140	<50	<0.5	1.7	<0.5	<0.5	<5.0	<2.5	540	<2.5	<2.5	5.8	--	--	<2.5	<2.5	<0.2
	4/18/11	445.73	91	90	<0.5	0.94	<0.5	<0.5	8.5	400	400	<2.5	<2.5	5.8	--	--	<2.5	<2.5	<0.2
	5/9/11	444.17	<50	69	<0.5	<0.5	<0.5	<0.5	<5.0	<1.7	350	<1.7	<1.7	5.9	--	--	<1.7	<1.7	<0.2
	6/1/11	444.31	58	77	<0.5	0.76	0.79	0.97	5.2	<1.7	250	<1.7	<1.7	5.5	--	--	<1.7	<1.7	<0.2
	6/15/11	443.87	<50	80	<0.5	<0.5	<0.5	<0.5	<5.0	<1.0	190	<1.0	<1.0	3.8	--	--	<1.0	<1.0	<0.2
	6/30/11	443.45	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	81	<0.5	<0.5	2.5	--	--	<0.5	<0.5	<0.2
	9/19/11	441.36	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	4.4	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	11/7/11	441.87	<50	<50	<0.5	0.64	<0.5	<0.5	<5.0	<0.5	3.3	<0.5	<0.5	0.67	--	--	<0.5	<0.5	--
	2/1/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/13/12	437.39	390	1,200	<0.5	9.9	<0.5	<0.5	<5.0	<0.5	4.6	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	8/29/12	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/14/13	442.46	79	130	<0.5	1.3	<0.5	<0.5	<5.0	<0.5	130	<0.5	<0.5	0.97	--	--	<0.5	<0.5	--
	6/25/13	440.23	200	72	<0.5	7.2	<0.5	<0.5	0.66	<0.5	25	<0.5	<0.5	0.97	--	--	<0.5	<0.5	<0.2
	7/22/13	NC	<50	<50	<0.5	0.96	<0.5	<0.5	<5.0	<0.5	7.9	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.2
	8/26/13	440.32	270	100	<0.5	5.5	3.8	<0.5	<5.0	<0.5	32	<0.5	<0.5	1.1	--	--	<0.5	<0.5	<0.2
	12/6/13	441.06	<50	68	<0.5	1.4	<0.5	<0.5	<5.0	<0.5	160	<0.5	<0.5	0.66	--	--	<0.5	<0.5	<0.2
	3/8/14	440.76	63	51	<0.5	1.4	<0.5	<0.5	<5.0	<0.5	54	<0.5	<0.5	0.62	--	--	<0.5	<0.5	<0.2
	6/4/14	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/12/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )						Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )	
			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	7,300	<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	NC	61	--	<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	<5,000	<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	<5,000	<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	NC	NS	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	4,000	<25	<25	49	<2,500	<25,000	<25	<25	--
	4/18/08	436.87	650	100	3.4	15	8.3	<0.5	150	<25	3,800	<25	<25	140	<2,500	<25,000	<25	<25	--
	7/28/08	420.47	<50	<50	<0.5	0.56	<0.5	<0.5	17	<5.0	760	<5.0	<5.0	22	<500	<5,000	<5.0	<5.0	--
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	418.74	620	--	<0.5	23	<0.5	2.7	<5.0	--	--	--	--	--	--	--	--	--	--
	4/21/09	428.56	170	--	2.1	5.8	<0.5	0.78	190	--	--	--	--	--	--	--	--	--	--
	9/24/09	426.13	<50	--	<0.5	1.8	<0.5	<0.5	210	<5.0	470	<5.0	<5.0	220	<500	<5,000	<5.0	<5.0	--
	3/4/10	436.76	140	--	<0.5	2.1	<0.5	<0.5	25	--	--	--	--	--	--	--	--	--	--
	7/19/10	440.34	74	--	<0.5	1.3	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/20/11	441.24	190	69	<0.5	4.1	<0.5	<0.5	<5.0	<25.0	4,400	<25.0	<25.0	<25.0	--	--	<25.0	<25.0	--
	4/11/11	443.61	110	<50	<0.5	2.7	<0.5	<0.5	<5.0	<17	2,900	<17	<17	<17	--	--	<17	<17	<0.2
	4/18/11	445.64	160	<50	<0.5	4.3	<0.5	0.6	<5.0	<17	3,300	<17	<17	<17	--	--	<17	<17	<0.2
	5/9/11	444.99	79	<50	<0.5	2.0	<0.5	<0.5	<5.0	<17	3,000	<17	<17	<17	--	--	<17	<17	<0.2
	6/1/11	444.14	72	<50	<0.5	1.9	<0.5	<0.5	<5.0	<50	3,100	<50	<50	<50	--	--	<50	<50	<0.2
	6/15/11	443.94	100	<50	<0.5	2.2	<0.5	<0.5	<5.0	<50	2,700	<50	<50	<50	--	--	<50	<50	<0.2
	6/30/11	443.74	100	<50	<0.5	2.4	<0.5	<0.5	<5.0	<25	2,900	<25	<25	<25	--	--	<25	<25	<0.2
	9/19/11	441.29	<50	56	<0.5	1.1	<0.5	<0.5	<5.0	<17	3,300	<17	<17	<17	--	--	<17	<17	--
	11/8/11	465.39	98	<50	<0.5	2.6	<0.5	<0.5	<5.0	<12	1,600	<12	<12	<12	--	--	<12	<12	--
	2/2/12	431.48	74	<50	<0.5	1.8	<0.5	<0.5	<5.0	<12	1,800	<12	<12	<12	--	--	<12	<12	--
	6/13/12	437.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<12	2,400	<12	<12	<12	--	--	<12	<12	--
	8/29/12	434.72	<50	<50	<0.5	0.73	<0.5	<0.5	<5.0	<12	2,000	<12	<12	<12	--	--	<12	<12	<0.2
	3/14/13	442.34	<50	<50	<0.5	1.60	<0.5	<0.5	<5.0	<17	1,700	<17	<17	<17	--	--	<17	<17	--
	6/25/13	439.69	<50	<50	<0.5	1.3	<0.5	<0.5	<5.0	<17	2,200	<17	<17	<17	--	--	<17	<17	<0.2
	7/22/13	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	740	<5.0	<5.0	<5.0	--	--	<5.0	<5.0	<0.2
	8/26/13	439.13	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<10	1,700	<10	<10	<10	--	--	<10	<10	<0.2
	12/6/13	440.88	<50	<50	<0.5	1.1	<0.5	<0.5	<5.0	<12	1,700	<12	<12	<12	--	--	<12	<12	<0.2
	3/8/14	440.74	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<10	1,600	<10	<10	<10	--	--	<10	<10	<0.2
	6/4/14	430.71	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<10	1,300	<10	<10	<10	--	--	<10	<10	--
	8/12/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
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	NC	<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	--
	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	420.39	<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	--
	11/18/08	415.77	97	<50	<0.5	<0.5	<0.5	<0.5	<90	<1.0	<4.0	<1.0	<1.0	<1.0	<100	<1,000	<1.0	<1.0	--
	2/4/09	417.50	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/22/09	428.41	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/24/09	425.90	<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	--
	3/4/10	438.73	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/19/10	440.01	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/20/11	440.89	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/7/11	445.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/20/11	441.89	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	11/8/11	440.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	2/2/12	431.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	6/13/12	436.85	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	8/30/12	434.32	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	--	--	--
	3/14/13	442.05	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/25/13	439.39	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/24/13	438.75	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	12/6/13	440.48	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	3/8/14	440.35	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/5/14	430.43	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	8/12/15	413.08	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
MW-8A	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	67	<50	<0.5	2.6	<0.5	1.6	<5.0	<0.5	<2.0	<0.5	<0.5	4.9	<50	<500	<0.5	<0.5	--
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/20/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/20/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/7/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/19/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	5.3	--	--	--	--	--	--	--	--	--	--
	11/7/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	2/2/12	NC	<50	--	<0.5	<0.5	<0.5	<0.5	9.7	--	--	--	--	--	--	--	--	--	--
	6/12/12	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	8/29/12	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	3.0	--	--	--	--	--
	3/14/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-8A cont.	6/25/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/26/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	12/5/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	3/8/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	6/4/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	
	9/7/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-8B	7/28/08	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.5	<50	<500	<0.5	<0.5	--
	11/18/08	NC	<50	120	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	5.1	<50	<500	<0.5	<0.5	--
	2/4/09	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/22/09	NC	50	--	<0.5	<0.5	<0.5	<0.5	1300	--	--	--	--	--	--	--	--	--	--
	9/24/09	NC	<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	--
	3/4/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/20/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/20/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/7/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/19/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	11/7/11	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	2/2/12	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/13/12	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	--	--	--
	8/30/12	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	--	--	--
	3/14/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/25/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9A	8/26/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	12/5/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	3/8/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/4/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/7/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9A	3/4/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/20/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/20/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	74	<0.5	<0.5	1.1	<50	<500	<0.5	<0.5	--
	4/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	65	<0.5	<0.5	0.74	--	--	<0.5	<0.5	--
	9/19/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	120	<0.5	<0.5	1.6	--	--	<0.5	<0.5	--
	11/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	2.9	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	2/1/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<1.0	200	<1.0	<1.0	1.2	--	--	<1.0	<1.0	--
	6/12/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	8/30/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
	3/13/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/25/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )							Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-9A cont.	8/26/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	12/6/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	3/6/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/4/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/7/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9B	7/29/08	NC	<50	63	<0.5	<0.5	<0.5	<0.5	100	<10	2,800	<10	<10	160	<1,000	<10,000	<10	<10	--
	11/18/08	NC	<50	1,000	<0.5	<0.5	<0.5	<0.5	7.0	<0.5	4.6	<0.5	<0.5	7.5	<50	<500	<0.5	<0.5	--
	2/4/09	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	4/22/09	NC	<50	--	<0.5	<0.5	<0.5	<0.5	470	--	--	--	--	--	--	--	--	--	--
	9/24/09	NC	<50	--	<0.5	<0.5	<0.5	<0.5	5.4	<0.5	<2.0	<0.5	<0.5	7.2	<50	<500	<0.5	<0.5	--
	3/4/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/20/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/20/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	8.9	<0.5	<0.5	0.65	<50	<500	<0.5	<0.5	--
	4/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	22	<0.5	<0.5	1.2	--	--	<0.5	<0.5	--
	9/19/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.2	--	--	<0.5	<0.5	--
	11/7/11	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.7	--	--	<0.5	<0.5	--
	2/1/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	89	<0.5	<0.5	3.3	--	--	<0.5	<0.5	--
	6/12/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.6	--	--	<0.5	<0.5	--
	8/30/12	NC	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	0.55	--	--	<0.5	<0.5	--
	3/13/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/25/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/26/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	12/6/13	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	3/8/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/4/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	9/7/15	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	--	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	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/15/04	442.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/17/04	439.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/10/04	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/2/05	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/27/05	446.62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/21/05	443.75	<50	--	<0.5	<0.5	<0.5	<0.5	610	--	--	--	--	--	--	--	--	--	--
	10/10/05	442.57	<50	--	<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	--

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )						Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )	
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
EW-1	3/13/06	446.47	210	120	5.0	4.10	7.5	12	3,400	<50	<100	<50	<50	2,300	<5,000	<50,000	<50	<50	--
	4/7/06	449.46	1,900	190	66	170	110	380	7,900	<100	<1000	<100	<100	6,400	<10,000	<100,000	<100	<100	--
	7/27/06	441.60	280	100	7.4	5.5	12	28	8,400	<500	<5,000	<500	<500	12,000	--	--	--	--	--
	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	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/18/08	437.62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/4/10	NC	4,400	--	460	<25	380	<25	31,000	--	--	--	--	--	--	--	--	--	
	7/20/10	441.10	400	--	4.4	6.6	1.8	4.4	590	--	--	--	--	--	--	--	--	--	
	1/20/11	441.87	570	190	21	6.4	14	57	3,500	<50	15,000	<50	<50	3,300	--	--	<50	<50	--
	4/8/11	446.60	410	220	11	4.2	3.1	43	2,400	<50	8,200	<50	<50	3,300	--	--	<50	<50	<0.2
	4/18/11	445.75	200	130	<0.5	1.7	1.1	3.0	4,400	<50	14,000	<50	<50	3,600	--	--	<50	<50	6.1
	5/9/11	445.76	62	<50	1.2	1.4	<0.5	<0.5	520	<25	4,800	<25	<25	390	--	--	<25	<25	<50
	6/2/11	444.93	83	<50	1.3	2.1	<0.5	0.6	180	<100	9,600	<100	<100	240	--	--	<100	<100	<0.2
	6/15/11	444.34	60	<50	<0.5	1.8	<0.5	<0.5	97	<100	6,300	<100	<100	100	--	--	<100	<100	<0.2
	6/30/11	444.04	74	<50	<0.5	2.0	<0.5	<0.5	200	<50	5,700	<50	<50	200	--	--	<50	<50	--
	9/20/11	443.10	63	52	<0.5	2.1	<0.5	<0.5	210	<50	11,000	<50	<50	190	--	--	<50	<50	--
	11/8/11	442.10	78	<50	<0.5	1.8	<0.5	<0.5	76	<50	7,600	<50	<50	97	--	--	<50	<50	--
	2/2/12	432.07	59	57	<0.5	1.1	<0.5	<0.5	270	<500	50,000	<500	<500	<500	--	--	<500	<500	--
	6/13/12	438.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<50	13,000	<50	<50	<50	--	--	<50	<50	--
	8/29/12	435.55	<50	<50	<0.5	0.62	<0.5	<0.5	<5.0	<50	8,100	<50	<50	<50	--	--	<50	<50	<0.2
	3/14/13	443.07	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<25	2,500	<25	<25	<25	--	--	<25	<25	<0.2
	6/25/13	440.50	<50	160	<0.5	<0.5	<0.5	<0.5	25	<50	4,400	<50	<50	<50	--	--	<50	<50	19
	7/22/13	NC	<50	55	<0.5	<0.5	<0.5	<0.5	33	<5.0	530	<5.0	<5.0	29	--	--	<5.0	<5.0	6.7
	8/24/13	439.93	<50	72	<0.5	<0.5	<0.5	<0.5	43	<50	4,500	<50	<50	35	--	--	<50	<50	1.6
	12/6/13	441.70	<50	<50	<0.5	<0.5	<0.5	<0.5	17	<50	6,200	<50	<50	<50	--	--	<50	<50	<0.4
	3/7/14	441.47	<50	<50	<0.5	<0.5	<0.5	<0.5	10	<25	2,700	<25	<25	<25	--	--	<25	<25	<0.2
	6/4/14	431.33	76	100	<0.5	0.90	<0.5	<0.5	490	<250	29,000	<250	<250	440	--	--	<250	<250	--
	8/12/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )						Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )	
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
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	<1,200	<12,000	--	--	--
	1/4/07	444.33	<500	<50	5.3	<5.0	16	7.1	4,500	<50	<500	<50	<50	4,200	<5,000	<50,000	<50	<50	--
	4/13/07	442.06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/29/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/18/08	437.95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	7/20/10	441.54	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	1/21/11	442.27	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	2.8	<0.5	<0.5	2.1	--	--	<0.5	<0.5	--
	4/11/11	446.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	2.1	<0.5	<0.5	0.65	--	--	<0.5	<0.5	0.65
	4/18/11	446.80	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	0.7	--	--	<0.5	<0.5	0.51
	5/9/11	446.32	<50	<50	<0.5	<0.5	<0.5	<0.5	15	<0.5	2.8	<0.5	<0.5	12	--	--	<0.5	<0.5	0.7
	6/2/11	445.28	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	12	<0.5	<0.5	6.2	--	--	<0.5	<0.5	14
	6/15/11	444.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.3	--	--	<0.5	<0.5	5.4
	6/30/11	444.68	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	2.4	--	--	<0.5	<0.5	2.3
	9/20/11	441.44	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.3	--	--	<0.5	<0.5	--
	11/8/11	442.39	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	1.0	--	--	<0.5	<0.5	--
	2/2/12	432.33	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	490	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0	--
	6/13/12	438.35	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<5.0	<2.0	<5.0	<5.0	0.89	--	--	<5.0	<5.0	--
	8/28/12	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/14/13	443.41	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/25/13	439.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/24/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/5/13	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/7/14	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	6/4/14	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/12/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )					Oxygenated Volatile Organics ( $\mu\text{g/L}$ )					Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
EW-3 <sup>(a)</sup>	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/4/09	NC	<10,000	--	<100	<100	<100	<100	420,000	--	--	--	--	--	--	--	--	--	
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/4/10	NC	140,000	--	240	900	320	28,000	340,000	--	--	--	--	--	--	--	--	--	
	7/20/10	NC	23,000	--	240	940	760	3,100	150,000	--	--	--	--	--	--	--	--	--	
	1/21/11	NC	15,000	5,200	230	93	1,100	1,900	150,000	<2,500	72,000	<2,500	<2,500	150,000	--	--	<2,500	<2,500	--
	4/11/11	NC	8,400	590	110	37	690	820	68,000	<2,500	67,000	<2,500	<2,500	79,000	--	--	<2,500	<2,500	<0.2
	4/18/11	NC	7,300	1,300	81	100	350	870	85,000	<1,700	50,000	<1,700	<1,700	72,000	--	--	<1,700	<1,700	0.35
	5/9/11	NC	5,400	2,200	56	<50	160	350	79,000	<1,000	40,000	<1,000	<1,000	62,000	--	--	<1,000	<1,000	7.0
	6/1/11	NC	4,800	3,700	53	<25	170	300	50,000	<1,000	43,000	<1,000	<1,000	76,000	--	--	<1,000	<1,000	160
	6/15/11	NC	8,200	2,200	66	<50	270	360	93,000	<2,500	47,000	<2,500	<2,500	85,000	--	--	<2,500	<2,500	180
	6/30/11	NC	8,000	1,900	64	<50	260	260	100,000	<2,500	51,000	<2,500	<2,500	100,000	--	--	<2,500	<2,500	110
	9/20/11	NC	<5,000"	1,700	<50"	64	74	100	80,000	<2,500	91,000	<2,500	<2,500	78,000	--	--	<2,500	<2,500	--
	11/8/11	NC	<6,000"	860	<50"	<50	60	130	82,000	<2,500	49,000	<2,500	<2,500	67,000	--	--	<2,500	<2,500	--
	2/2/12	NC	1,600	510	<5.0"	13	10	35	24,000	<500	62,000	<500	<500	26,000	--	--	<500	<500	--
	6/13/12	NC	490	870	<0.5	2.3	3.0	7.9	8,600	<250	66,000	<250	<250	9,300	--	--	<250	<250	--
	8/30/12	NC	430	580	<1.7	<1.7	5.7	20	3,900	<500	82,000	<500	<500	3,900	--	--	<500	<500	--
	3/14/13	NC	<1000	500	<10	<10	<10	<10	6,300	<500	130,000	<500	<500	6,200	--	--	<500	<500	<0.2
	6/25/13	NC	140	1,600	<0.5	0.8	2.6	4.4	<10	<1.0	130	<1.0	<1.0	9.0	--	--	<1.0	<1.0	44
	7/22/13	NC	410	480	1.0	0.68	<0.5	14	1,500	<50	7,100	<50	<50	1,400	--	--	<50	<50	24
	8/24/13	NC	510	370	2.0	1.1	1.6	15	4,100	<100	16,000	<100	<100	4,300	--	--	<100	<100	18
	12/6/13	NC	760	460	<5.0	<5.0	<5.0	13	5,100	<125	25,000	<125	<125	5,900	--	--	<125	<125	<4.0
	3/7/14	NC	820	480	4.6	4.6	3.0	19	8,800	<250	37,000	<250	<250	8,900	--	--	<250	<250	<1.0
	6/4/14	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/12/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
EW-3B <sup>(b)</sup>	3/14/13	NC	58	110	<0.5	0.64	<0.5	<0.5	13	<50	14,000	<50	<50	<50	--	--	<50	<50	<0.2
	6/25/13	NC	120	180	<0.5	1.1	<0.5	<0.5	<30	<250	27,000	<250	<250	<250	--	--	<250	<250	21
	7/22/13	NC	80	140	0.59	0.54	0.88	1.0	24	<100	15,000	<100	<100	<100	--	--	<100	<100	25
	8/24/13	NC	84	110	0.87	0.69	0.66	1.8	22	<100	16,000	<100	<100	<100	--	--	<100	<100	19
	12/6/13	NC	180	250	1.6	1.3	2.3	3.5	23	<250	38,000	<250	<250	<250	--	--	<250	<250	<4.0
	3/7/14	NC	140	210	1.5	1.2	1.5	4.4	16	<250	36,000	<250	<250	<250	--	--	<250	<250	<1.0
	6/4/14	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/12/15	NC	NS	NS	not sampled - well dry					NS	NS	NS	NS	NS	NS	NS	NS	NS	

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

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons ( $\mu\text{g/L}$ )		Aromatic Volatile Organic Compounds ( $\mu\text{g/L}$ )				Oxygenated Volatile Organics ( $\mu\text{g/L}$ )						Lead Scavengers ( $\mu\text{g/L}$ )		Hexavalent Chromium ( $\mu\text{g/L}$ )		
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
HP-1-W	8/14/15	--	NS	NS	not sampled - borehole dry				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
HP-2-W	8/12/15	--	<50	74	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	63	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--
HP-3-W	8/14/15	--	1,800	190	<1.7	<1.7	63	330	21	<2.5	34	<2.5	<2.5	20	--	--	--	--	--

Notes:

$\mu\text{g/L}$  = micrograms per liter

NC = Not Calculated

NS = Not Sampled

-- = Not Analyzed

EDB = 1,2-Dibromoether

1,2-DCA = 1,2-Dichloroethane

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl Ether

ETBE = Ethyl tert-Butyl Ether

TAME - tert-Amyl Methyl Ether

TBA = tert-Butanol

" = High concentrations of MTBE resulted in high reporting limits, both TPHg and benzene were estimated just below listed reporting limits by laboratory.

\* = Well MW-1 renamed MW-1A, well MW-2 renamed MW-2A, Well MW-3 renamed MW-3A in February 2006.

\*\* = Well destroyed in February 2006.

\*\*\* = Anomalous data observed in MW-7C on October 12, 2006. Therefore, MW-7A/B/C were resampled on November 21, 2006.

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

(b) = Well EW-3B is 39 feet deep with a screen interval from 24 to 39 feet bgs.

Samples analyzed for TPHg and TPHd by EPA Method 8015Bm, BTEX by EPA Method 8021B, MTBE by EPA Method 8021B and/or 8260B, fuel oxygenates and lead scavengers by EPA Method 8260B, and hexavalent chromium by EPA Method E200.8.

**Table 3**  
**Soil Analytical Results**  
 160 Holmes Street, Livermore, California

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

**Table 3**  
**Soil Analytical Results**  
 160 Holmes Street, Livermore, California

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

**Table 3**  
**Soil Analytical Results**  
160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates					Lead Scavengers		Naphthalene
										TAME	TBA	DIPE	ETBE	MTBE	EDB	1,2-DCA	
GP-9	8	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-9	12	1/10/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-9	24	1/10/07	110	--	0.27	1.2	1.6	9.5	22	--	--	--	--	--	--	--	--
GP-10	21	1/10/07	35	--	0.033	0.35	0.56	3.6	1.5	--	--	--	--	--	--	--	--
GP-10	24	1/10/07	2.2	--	0.0081	0.011	0.023	0.12	3.9	--	--	--	--	--	--	--	--
GP-11	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-11	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-11	28	1/11/07	3.7	--	<0.005	<0.005	<0.005	<0.005	0.057	--	--	--	--	--	--	--	--
GP-12	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.072	--	--	--	--	--	--	--	--
GP-12	24	1/11/07	15	--	<0.005	<0.005	0.13	0.14	0.092	--	--	--	--	--	--	--	--
GP-12	28	1/11/07	11	--	0.0061	<0.005	0.47	0.014	0.36	--	--	--	--	--	--	--	--
GP-13	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-13	24	1/11/07	9.1	--	<0.005	<0.005	<0.005	0.014	<0.05	--	--	--	--	--	--	--	--
GP-13	28	1/11/07	100	--	0.17	0.39	2.6	6.7	8.9	--	--	--	--	--	--	--	--
GP-14	8	1/11/07	6.4	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-14	12	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-14	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-14	24	1/11/07	320	--	0.43	14	7.0	40	50	--	--	--	--	--	--	--	--
GP-14	28	1/11/07	120	--	0.47	3.3	2.0	11	140	--	--	--	--	--	--	--	--
GP-15	12	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.078	--	--	--	--	--	--	--	--
GP-15	19	1/11/07	1.5	--	<0.005	0.012	0.026	0.054	0.49	--	--	--	--	--	--	--	--
GP-15	24	1/11/07	1.6	--	<0.005	0.0077	0.015	0.11	0.40	--	--	--	--	--	--	--	--
GP-15	28	1/11/07	6.7	--	0.047	0.24	0.13	0.72	9.5	--	--	--	--	--	--	--	--
GP-16	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.061	--	--	--	--	--	--	--	--
GP-16	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.10	--	--	--	--	--	--	--	--
GP-16	28	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-17	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-17	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-17	28	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-18	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-18	16	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	0.070	--	--	--	--	--	--	--	--
GP-18	24	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-18	28	1/11/07	110	--	<0.010	0.16	0.37	1.3	0.20	--	--	--	--	--	--	--	--

**Table 3**  
**Soil Analytical Results**  
 160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates					Lead Scavengers		Naphthalene
										TAME	TBA	DIPE	ETBE	MTBE	EDB	1,2-DCA	
GP-19	8	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-19	21	1/11/07	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
GP-19	24	1/11/07	5.8	--	<0.005	0.0072	0.12	0.23	0.074	--	--	--	--	--	--	--	--
GP-21	32	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.050	4.6	<0.050	<0.050	<0.050	--	--	--
GP-21	36	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	1.1	<0.010	<0.010	<0.010	--	--	--
GP-21	40	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	0.72	<0.010	<0.010	<0.010	--	--	--
GP-21	44	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-21	48	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-21	52	7/9/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-22	32	7/8/08	1.2	--	<0.005	<0.005	0.0059	<0.005	<0.05	<0.025	2.9	<0.025	<0.025	0.051	--	--	--
GP-22	36	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.050	3.6	<0.050	<0.050	<0.050	--	--	--
GP-22	40	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	1.3	<0.010	<0.010	<0.010	--	--	--
GP-22	44	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-22	47	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-23	32	7/7/08	56	--	0.093	0.089	0.73	0.61	7.0	<0.33	<3.3	<0.33	<0.33	8.5	--	--	--
GP-23	36	7/7/08	<1.0	--	<0.005	<0.005	0.010	0.0067	0.081	<0.050	3.0	<0.050	<0.050	0.063	--	--	--
GP-23	40	7/7/08	<1.0	--	<0.005	<0.005	0.0087	<0.005	<0.05	<0.005	0.34	<0.005	<0.005	0.010	--	--	--
GP-23	44	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.010	--	--	--
GP-23	50	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-24	32	7/7/08	<1.0	--	<0.005	<0.005	0.015	<0.005	0.12	<0.010	1.2	<0.010	<0.010	0.23	--	--	--
GP-24	36	7/7/08	<1.0	--	<0.005	<0.005	0.016	<0.005	<0.05	<0.025	1.7	<0.025	<0.025	<0.025	--	--	--
GP-24	40	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	0.91	<0.010	<0.010	0.088	--	--	--
GP-24	44	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-24	48	7/7/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
GP-25	32	7/8/08	4.5	--	0.18	0.015	0.18	<0.005	3.3	<0.25	<2.5	<0.25	<0.25	2.8	--	--	--
GP-25	36	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.010	0.85	<0.010	<0.010	0.85	--	--	--
GP-25	40	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.014	--	--	--
GP-25	44	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.012	--	--	--
GP-25	50	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.015	--	--	--
GP-26	32	7/8/08	3.1	--	0.0074	0.015	0.082	0.012	4.6	<0.33	<3.3	<0.33	<0.33	5.1	--	--	--
GP-26	36	7/8/08	3.4	--	0.023	0.0087	0.053	0.010	1.7	<0.33	<3.3	<0.33	<0.33	2.0	--	--	--
GP-26	40	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.013	--	--	--
GP-26	44	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.0061	--	--	--
GP-26	48	7/8/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	0.010	--	--	--
MW-8B	28	7/16/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--
MW-8B	32	7/16/08	<1.0	--	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--	--

**Table 3**  
**Soil Analytical Results**  
 160 Holmes Street, Livermore, California

Sample ID	Sample Depth	Sample Date	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Fuel Oxygenates					Lead Scavengers		Naphthalene
										TAME	TBA	DIPE	ETBE	MTBE	EDB	1,2-DCA	
EW-3B	20	3/5/13	<1.0	6.2	<0.005	<0.005	<0.005	0.0076	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
EW-3B	25	3/5/13	8.3	<1.0	<0.005	0.0057	<0.005	<0.005	<0.05	<0.20	15	<0.20	<0.20	<0.20	--	--	--
EW-3B	30	3/5/13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.10	13	<0.10	<0.10	<0.10	--	--	--
EW-3B	35	3/5/13	1.8	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.050	7.0	<0.050	<0.050	<0.050	--	--	--
EW-3B	40	3/5/13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	--	--	--
CB-1	2.5	8/8/13	<1.0	10	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-1	5	8/8/13	<1.0	2.2	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-1	7.5	8/8/13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-1	10	8/8/13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-1	15	8/8/13	<1.0	1.7	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	--
CB-1	20	8/8/13	<1.0	1.8	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	--
CB-1	25	8/8/13	3,200	1,200	<0.50	4.9	29	290	<10	<1.0	<10	<1.0	<1.0	2.7	<0.80	<0.80	--
CB-1	30	8/8/13	100	38	<0.10	0.21	1.6	2.8	<15	<0.50	5.0	<0.50	<0.50	7.6	<0.40	<0.40	--
CB-1	35	8/8/13	<1.0	1.5	<0.005	<0.005	<0.005	<0.005	<0.05	<0.10	5.4	<0.10	<0.10	<0.10	<0.080	<0.080	--
CB-2	2.5	8/8/13	<1.0	3.5	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-2	5	8/8/13	<1.0	3.4	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-2	7.5	8/8/13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-2	10	8/8/13	<1.0	1.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-2	15	8/8/13	<1.0	1.2	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	--
CB-2	20	8/8/13	<1.0	2.5	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	--
CB-2	25	8/8/13	4.1	6.8	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	0.095	<0.005	<0.005	0.019	<0.004	<0.004	--
CB-2	30	8/8/13	9.6	3.1	0.0061	0.012	0.25	0.023	9.9	<0.33	<3.3	<0.33	<0.33	6.6	<0.27	<0.27	--
CB-2	35	8/8/13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.50	27	<0.50	<0.50	<0.50	<0.40	<0.40	--
CB-3	2.5	8/8/13	<1.0	7.9	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-3	5	8/8/13	<1.0	35	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-3	7.5	8/8/13	<1.0	2.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-4	5	8/8/13	<1.0	5.9	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-4	7.5	8/8/13	<1.0	14	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-4	10	8/8/13	<1.0	1.3	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	<0.005
CB-4	15	8/8/13	<1.0	1.1	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	--
CB-4	20	8/8/13	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	--
CB-4	25	8/8/13	<1.0	2.8	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.005	<0.005	<0.004	<0.004	--
CB-4	30	8/8/13	3.5	3.6	<0.005	0.013	<0.005	<0.005	<0.05	<0.20	12	<0.20	<0.20	<0.20	<0.16	<0.16	--
CB-4	35	8/8/13	5.6	1.3	<0.005	0.015	<0.005	<0.005	<0.05	<0.25	13	<0.25	<0.25	<0.25	<0.20	<0.20	--

Notes:

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

-- = not analyzed

NA = not available

TPHg = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary butyl ether

TAME = tert-amyl methyl ether

TBA = tert-butyl alcohol

DIPE = di-isopropyl ether

ETBE = ethyl tert-butyl ether

EDB = 1,2-dibromoethane

1,2-DCA = 1,2-dichloroethane

TPHg was analyzed by EPA Method 8015CM.

BTEX and MTBE were analyzed by EPA Method 8021B.

TAME, TBA, DIPE, ETBE, MTBE, EDB, 1,2-DCA, and naphthalene were analyzed by EPA Method 8260B.

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

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

**APPENDIX A**  
**Allterra's Site Investigation Field Protocol**

## APPENDIX A

### Allterra's Site Investigation Field Protocol

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

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

**Soil Gas Sampling:** Using a Geoprobe drill rig, a two-inch diameter vapor probe will be driven to depths of five and fifteen feet bgs by advancing two separate boreholes. A Post Run Tubing System (PRT) will be used allowing to the collection of soil vapor samples at the desired sampling depth without the time-consuming complications associated with rod leakage and contamination. O-ring connections will enable the PRT system to deliver a vacuum-tight seal that prevented sample contamination from up hole, and will assure that the sample is taken from the desired depth at the bottom of the hole. The sample is drawn through the point holder, through the adapter, and into the sample tubing. The tubing is initially purged using a designated purge canister; subsequently, the purge canister is closed and the vapors are collected in the sample canister. The internal surfaces of the stainless steel canisters will be passivated using the "Summa" process and are therefore referred to as Summa Canisters.

URS uses 5-micron (or a 7-micron, depending) particulate filters to prevent particulate matter from entering the canisters and to increase canister fill times. A vacuum gage will be used to measure the initial vacuum of the canister before sampling and the final vacuum upon completion. The gages typically have ranges from 0 to 30 inches of mercury (in. Hg). The canisters vacuums are used to draw the sample, which is referred to as passive sampling (instead of using pumps). After confirming an initial pressure of -30 in. Hg, the canister is left open until the pressure increases to approximately -5 in. Hg. The filled canister is sealed with a brass cap, placed into the original shipping container, and shipped to a state-certified analytical laboratory, using Chain-of-Custody procedures.

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

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

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

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

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

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

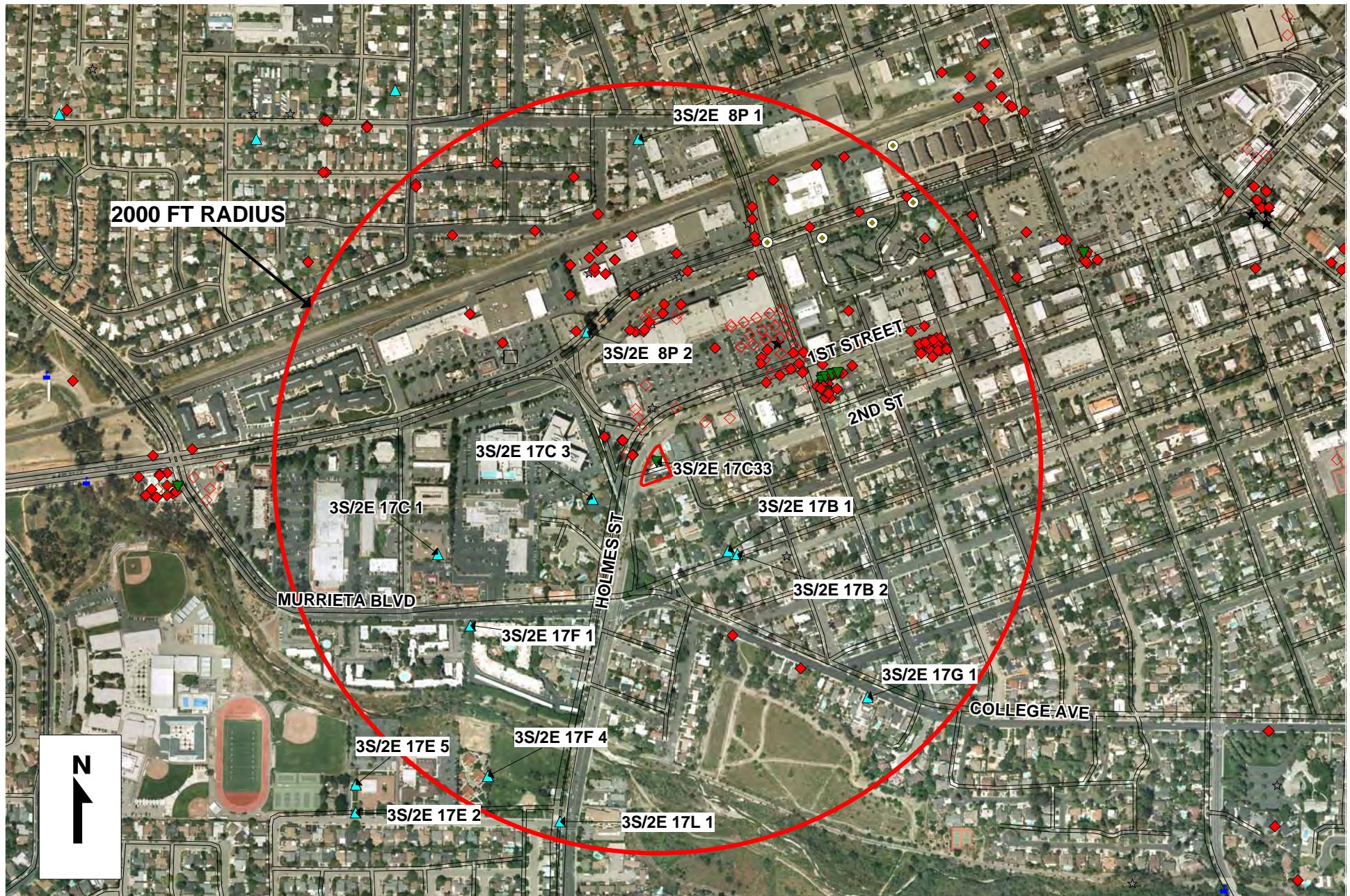
**Sample Identification and Chain-Of-Custody Procedures:** Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, sampling methodology, name(s) of on-site personnel, and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

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

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

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

**APPENDIX B**  
**Water Well Survey**



**ZONE 7 WATER AGENCY**  
100 NORTH CANYONS PARKWAY  
LIVERMORE, CA 94551

**WELL LOCATION MAP**

SCALE: 1" = 700 ft

DATE: 7/24/12

160 HOLMES ST

WELL	USE	ADDRESS	CITY	LOCATION	OWNER	DRILLER	DEPTH (FT)	DIA (IN)	UPPER PERF (FT)	LOWER PERF (FT)	DESTROYED	STATUS	REMARK
3S/2E 8P 1	muni	1493 OLIVINA AVE	LIVERMORE		CAL WATER SERVICE		273	10	122	263			
3S/2E 8P 2	muni	RAILROAD AVE & N. "P" ST	LIVERMORE		CAL WATER SERVICE	J. M. OUGH	415	16	280	412	9/28/01	destroyed	
3S/2E 17B 1	muni	4TH ST & COLLEGE AVE	LIVERMORE		CAL WATER SERVICE	ROSCOE MOSS	760	14	145	705		abandoned	
3S/2E 17B2	supply	1416 - 4TH ST	LIVERMORE		GEOFFREY DAVIES	HAWTHORNE	442	10	221	427			
3S/2E 17C 1	irrigation	FENTON AVE	LIVERMORE	FENTON AVE & MURRIETA BI	VALLEY CARE HEALTH	WESTERN WELL	412	10	62	410		abandoned well TAG says c2/1	
3S/2E 17C 3	supply	117 S. "S" ST	LIVERMORE		LYONS RESTAURANT							destroyed	
3S/2E 17E 2	supply	930 MOCHO ST	LIVERMORE	MOCHO ST & HOLMES ST	JOHN & BARBARA STEIGER		94	6					
3S/2E 17E 5	irrigation	MOCHO ST	LIVERMORE	MOCHO ST & WAGONER DR	GRANADA HIGH	CALWATER	235	8	80	235			
3S/2E 17F 1	domestic	MURRIETA BLVD & 4TH ST	LIVERMORE		U.S. VETERAN'S HOSPITA	WESTERN WELL	470				destroyed	destroyed by apt. complex	
3S/2E 17F 4	supply	1140 MOCHO ST	LIVERMORE		ARROYO COMMONS		133	8			2/14/97	destroyed	
3S/2E 17 G 1	irrigation	1531 COLLEGE AVE	LIVERMORE	COLLEGE & "P" ST	DON BENTON	ACME DRILLING	220	10					
3S/2E 17 L 1	irrigation	MOCHO ST	LIVERMORE		BILL WAGONER	HAWTHORNE						unlocatable	

**APPENDIX C**  
**Certified Analytical Reports and Chains-of-Custody**



# McCampbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1508517

**Report Created for:** Allterra Environmental

849 Almar Ave, Ste. C #281  
Santa Cruz, CA 95060

**Project Contact:** Joe Mangine

**Project P.O.:**

**Project Name:** 160; 160 Holmes Street

**Project Received:** 08/14/2015

Analytical Report reviewed & approved for release on 08/21/2015 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory.  
The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Allterra Environmental  
**Project:** 160; 160 Holmes Street  
**WorkOrder:** 1508517

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Analytical Qualifiers

b1	aqueous sample that contains greater than ~1 vol. % sediment
e2	diesel range compounds are significant; no recognizable pattern

### Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
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## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/14/15 10:00  
**Date Prepared:** 8/19/15  
**Project:** 160; 160 Holmes Street

**WorkOrder:** 1508517  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7C	1508517-001C	Water	08/12/2015 12:15	GC28	109224

Analyses	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	08/19/2015 20:06
t-Butyl alcohol (TBA)	ND	2.0	1	08/19/2015 20:06
1,2-Dibromoethane (EDB)	ND	0.50	1	08/19/2015 20:06
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/19/2015 20:06
Diisopropyl ether (DIPE)	ND	0.50	1	08/19/2015 20:06
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	08/19/2015 20:06
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/19/2015 20:06
Surrogates	REC (%)	Limits		
Dibromofluoromethane	100	70-130		08/19/2015 20:06
Toluene-d8	97	70-130		08/19/2015 20:06

Analyst(s): KBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1B	1508517-002C	Water	08/12/2015 12:45	GC28	109224

Analyses	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	08/19/2015 20:44
t-Butyl alcohol (TBA)	ND	2.0	1	08/19/2015 20:44
1,2-Dibromoethane (EDB)	ND	0.50	1	08/19/2015 20:44
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/19/2015 20:44
Diisopropyl ether (DIPE)	ND	0.50	1	08/19/2015 20:44
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	08/19/2015 20:44
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/19/2015 20:44
Surrogates	REC (%)	Limits		
Dibromofluoromethane	101	70-130		08/19/2015 20:44
Toluene-d8	98	70-130		08/19/2015 20:44

Analyst(s): KBO

Analytical Comments: b1

(Cont.)



## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/14/15 10:00  
**Date Prepared:** 8/19/15  
**Project:** 160; 160 Holmes Street

**WorkOrder:** 1508517  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
HP-2-W	1508517-003C	Water	08/12/2015 15:00	GC28	109224
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
tert-Amyl methyl ether (TAME)	ND		0.50	1	08/19/2015 21:21
t-Butyl alcohol (TBA)	63		2.0	1	08/19/2015 21:21
1,2-Dibromoethane (EDB)	ND		0.50	1	08/19/2015 21:21
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	08/19/2015 21:21
Diisopropyl ether (DIPE)	ND		0.50	1	08/19/2015 21:21
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	08/19/2015 21:21
Methyl-t-butyl ether (MTBE)	ND		0.50	1	08/19/2015 21:21
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	101		70-130		08/19/2015 21:21
Toluene-d8	99		70-130		08/19/2015 21:21

Analyst(s): KBO

Analytical Comments: b1



## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/14/15 10:00  
**Date Prepared:** 8/19/15  
**Project:** 160; 160 Holmes Street

**WorkOrder:** 1508517  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7C	1508517-001A	Water	08/12/2015 12:15	GC3	109171

Analyses	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	08/19/2015 06:21
MTBE	ND	5.0	1	08/19/2015 06:21
Benzene	ND	0.50	1	08/19/2015 06:21
Toluene	ND	0.50	1	08/19/2015 06:21
Ethylbenzene	ND	0.50	1	08/19/2015 06:21
Xylenes	ND	0.50	1	08/19/2015 06:21

Surrogates	REC (%)	Limits	
aaa-TFT	108	70-130	08/19/2015 06:21

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1B	1508517-002A	Water	08/12/2015 12:45	GC3	109171

Analyses	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	08/19/2015 07:51
MTBE	ND	5.0	1	08/19/2015 07:51
Benzene	ND	0.50	1	08/19/2015 07:51
Toluene	ND	0.50	1	08/19/2015 07:51
Ethylbenzene	ND	0.50	1	08/19/2015 07:51
Xylenes	ND	0.50	1	08/19/2015 07:51

Surrogates	REC (%)	Limits	
aaa-TFT	112	70-130	08/19/2015 07:51

Analytical Comments: b1

Analyst(s): IA

(Cont.)



## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/14/15 10:00  
**Date Prepared:** 8/19/15  
**Project:** 160; 160 Holmes Street

**WorkOrder:** 1508517  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
HP-2-W	1508517-003A	Water	08/12/2015 15:00	GC3	109255
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	08/19/2015 22:38
MTBE	ND		5.0	1	08/19/2015 22:38
Benzene	ND		0.50	1	08/19/2015 22:38
Toluene	ND		0.50	1	08/19/2015 22:38
Ethylbenzene	ND		0.50	1	08/19/2015 22:38
Xylenes	ND		0.50	1	08/19/2015 22:38
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	106		70-130		08/19/2015 22:38
<u>Analyst(s):</u>	IA		<u>Analytical Comments:</u>	b1	



## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/14/15 10:00  
**Date Prepared:** 8/17/15  
**Project:** 160; 160 Holmes Street

**WorkOrder:** 1508517  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L

### Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7C	1508517-001B	Water	08/12/2015 12:15	GC11A	109014

Analyses	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	08/18/2015 04:10

Surrogates	REC (%)	Limits	
C9	94	70-130	08/18/2015 04:10

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1B	1508517-002B	Water	08/12/2015 12:45	GC11A	109014

Analyses	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	08/18/2015 05:18

Surrogates	REC (%)	Limits	
C9	94	70-130	08/18/2015 05:18

Analyst(s): TK

Analytical Comments: b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
HP-2-W	1508517-003B	Water	08/12/2015 15:00	GC11A	109014

Analyses	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	74	50	1	08/18/2015 06:27

Surrogates	REC (%)	Limits	
C9	94	70-130	08/18/2015 06:27

Analyst(s): TK

Analytical Comments: e2,b1



## Quality Control Report

**Client:** Allterra Environmental  
**Date Prepared:** 8/19/15  
**Date Analyzed:** 8/19/15  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** 160; 160 Holmes Street

**WorkOrder:** 1508517  
**BatchID:** 109224  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-109224  
1508517-001CMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	9.96	0.50	10	-	100	54-140
Benzene	ND	-	0.50	-	-	-	-
Bromobenzene	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	40.9	2.0	40	-	102	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	-	0.50	-	-	-	-
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	9.34	0.50	10	-	93	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	9.88	0.50	10	-	99	66-125
1,1-Dichloroethylene	ND	-	0.50	-	-	-	-
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

 QA/QC Officer



## Quality Control Report

**Client:** Allterra Environmental  
**Date Prepared:** 8/19/15  
**Date Analyzed:** 8/19/15  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** 160; 160 Holmes Street

**WorkOrder:** 1508517  
**BatchID:** 109224  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-109224  
1508517-001CMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	9.57	0.50	10	-	96	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.66	0.50	10	-	97	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	9.63	0.50	10	-	96	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	-	0.50	-	-	-	-
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	-	0.50	-	-	-	-
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

 QA/QC Officer



## Quality Control Report

<b>Client:</b>	Allterra Environmental	<b>WorkOrder:</b>	1508517
<b>Date Prepared:</b>	8/19/15	<b>BatchID:</b>	109224
<b>Date Analyzed:</b>	8/19/15	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC28	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	160; 160 Holmes Street	<b>Sample ID:</b>	MB/LCS-109224 1508517-001CMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits		
<b>Surrogate Recovery</b>									
Dibromofluoromethane	24.9	24.0		25	99	96	70-130		
Toluene-d8	25.0	24.7		25	100	99	70-130		
4-BFB	2.73	-		2.5	109	-	-		
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	11.1	11.5	10	ND	111	115	69-139	3.12	20
t-Butyl alcohol (TBA)	49.7	53.2	40	ND	124	133	41-152	6.80	20
1,2-Dibromoethane (EDB)	11.0	11.1	10	ND	110	111	76-135	1.49	20
1,2-Dichloroethane (1,2-DCA)	10.5	10.8	10	ND	105	108	73-139	3.01	20
Diisopropyl ether (DIPE)	10.1	10.2	10	ND	101	102	72-140	1.46	20
Ethyl tert-butyl ether (ETBE)	10.3	10.7	10	ND	103	107	71-140	3.41	20
Methyl-t-butyl ether (MTBE)	10.7	11.2	10	ND	107	112	73-139	4.48	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	24.9	25.0	25		100	100	70-130	0	20
Toluene-d8	24.5	24.0	25		98	96	70-130	2.30	20



## Quality Control Report

<b>Client:</b>	Allterra Environmental	<b>WorkOrder:</b>	1508517
<b>Date Prepared:</b>	8/18/15	<b>BatchID:</b>	109171
<b>Date Analyzed:</b>	8/18/15	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC3	<b>Analytical Method:</b>	SW8021B/8015Bm
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	160; 160 Holmes Street	<b>Sample ID:</b>	MB/LCS-109171 1508479-003AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	65.3	40	60	-	109	70-130
MTBE	ND	10.8	5.0	10	-	103	70-130
Benzene	ND	11.4	0.50	10	-	114	70-130
Toluene	ND	11.3	0.50	10	-	113	70-130
Ethylbenzene	ND	11.4	0.50	10	-	114	70-130
Xylenes	ND	34.5	0.50	30	-	115	70-130

**Surrogate Recovery**

aaa-TFT	10.0	9.82	10	100	98	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	47.6	48.0	60	ND	79	80	70-130	0.919	20
MTBE	11.7	8.38	10	ND	117	84	70-130	33.3,F1	20
Benzene	10.8	9.37	10	ND	108	94	70-130	14.3	20
Toluene	10.9	9.54	10	ND	109	95	70-130	13.1	20
Ethylbenzene	10.5	8.23	10	ND	105	82	70-130	24.5,F1	20
Xylenes	31.5	29.5	30	ND	104	97	70-130	6.74	20

**Surrogate Recovery**

aaa-TFT	11.3	9.89	10	113	99	70-130	13.6	20
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(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP



QA/QC Officer



## Quality Control Report

<b>Client:</b>	Allterra Environmental	<b>WorkOrder:</b>	1508517
<b>Date Prepared:</b>	8/19/15	<b>BatchID:</b>	109255
<b>Date Analyzed:</b>	8/19/15	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC3	<b>Analytical Method:</b>	SW8021B/8015Bm
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	160; 160 Holmes Street	<b>Sample ID:</b>	MB/LCS-109255 1508517-003AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	66.7	40	60	-	111	70-130
MTBE	ND	11.4	5.0	10	-	115	70-130
Benzene	ND	11.9	0.50	10	-	119	70-130
Toluene	ND	11.9	0.50	10	-	119	70-130
Ethylbenzene	ND	11.8	0.50	10	-	118	70-130
Xylenes	ND	35.9	0.50	30	-	120	70-130

**Surrogate Recovery**

aaa-TFT	10.3	10.0	10	103	100	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	50.3	54.9	60	ND	84	92	70-130	8.86	20
MTBE	11.0	9.42	10	ND	110	94	70-130	15.3	20
Benzene	9.82	9.61	10	ND	97	95	70-130	2.21	20
Toluene	10.1	9.98	10	ND	101	100	70-130	1.04	20
Ethylbenzene	9.95	10.0	10	ND	100	100	70-130	0	20
Xylenes	30.0	30.7	30	ND	100	102	70-130	2.07	20

**Surrogate Recovery**

aaa-TFT	10.5	10.0	10	105	100	70-130	4.67	20
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## Quality Control Report

**Client:** Allterra Environmental      **WorkOrder:** 1508517  
**Date Prepared:** 8/17/15      **BatchID:** 109014  
**Date Analyzed:** 8/17/15      **Extraction Method:** SW3510C  
**Instrument:** GC2B, GC9a      **Analytical Method:** SW8015B  
**Matrix:** Water      **Unit:** µg/L  
**Project:** 160; 160 Holmes Street      **Sample ID:** MB/LCS-109014

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### QC Report for SW8015B w/out SG Clean-Up

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Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1200	50	1000	-	121	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
<b>Surrogate Recovery</b>							
C9	642	740		625	103	118	65-122

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# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1508517

ClientCode: ATRS

WaterTrax     WriteOn     EDF     Excel     EQuIS     Email     HardCopy     ThirdParty     J-flag

## Report to:

Joe Mangine  
Allterra Environmental  
849 Almar Ave, Ste. C #281  
Santa Cruz, CA 95060  
831-425-2608    FAX: 831-425-2609

Email: joe@allterraenv.com; micah@allterraenv.c  
cc/3rd Party:  
PO:  
ProjectNo: 160; 160 Holmes Street

## Bill to:

Accounts Payable  
Allterra Environmental  
849 Almar Ave, Ste. C #281  
Santa Cruz, CA 95060  
mica@allterraenv.com; allegra@allterra

Requested TAT: 5 days;

Date Received: 08/14/2015  
Date Printed: 08/21/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1508517-001	MW-7C	Water	8/12/2015 12:15	<input type="checkbox"/>	C	A	A	B								
1508517-002	MW-1B	Water	8/12/2015 12:45	<input type="checkbox"/>	C	A		B								
1508517-003	HP-2-W	Water	8/12/2015 15:00	<input type="checkbox"/>	C	A		B								

Test Legend:

1	8260B_5OXYPBSCV_W
6	
11	

2	G-MBTEX_W
7	
12	

3	PREDF REPORT
8	

4	TPH(D)_W
9	

5	
10	

Prepared by: Maria Venegas

## Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** ALLTERRA ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1508517

**Project:** 160; 160 Holmes Street

**Client Contact:** Joe Magine

**Date Received:** 8/14/2015

**Comments:**

**Contact's Email:** joe@allterraenv.com; micah@allterraenv.com;  
jesse@allterraenv.com

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508517-001A	MW-7C	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 12:15	5 days	Present	<input type="checkbox"/>	
1508517-001B	MW-7C	Water	SW8015B (Diesel)	2	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 12:15	5 days	Present	<input type="checkbox"/>	
1508517-001C	MW-7C	Water	SW8260B (5 Oxys+Lead Scav.)	3	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 12:15	5 days	Present	<input type="checkbox"/>	
1508517-002A	MW-1B	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 12:45	5 days	1%+	<input type="checkbox"/>	
1508517-002B	MW-1B	Water	SW8015B (Diesel)	2	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 12:45	5 days	1%+	<input type="checkbox"/>	
1508517-002C	MW-1B	Water	SW8260B (5 Oxys+Lead Scav.)	3	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 12:45	5 days	1%+	<input type="checkbox"/>	
1508517-003A	HP-2-W	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 15:00	5 days	10%+	<input type="checkbox"/>	
1508517-003B	HP-2-W	Water	SW8015B (Diesel)	2	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 15:00	5 days	10%+	<input type="checkbox"/>	
1508517-003C	HP-2-W	Water	SW8260B (5 Oxys+Lead Scav.)	3	VOA w/ HCl	<input type="checkbox"/>	8/12/2015 15:00	5 days	10%+	<input type="checkbox"/>	

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.





## Sample Receipt Checklist

Client Name: **Allterra Environmental**

Date and Time Received: **8/14/2015 10:00:00 AM**

Project Name: **160; 160 Holmes Street**

LogIn Reviewed by: **Maria Venegas**

WorkOrder No: **1508517**

Matrix: **Water**

Carrier: **OnTrac**

### Chain of Custody (COC) Information

- |   |   |                             |
|---|---|-----------------------------|
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Sample IDs noted by Client on COC?                      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Date and Time of collection noted by Client on COC?     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Sampler's name noted on COC?                            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |

### Sample Receipt Information

- |  |   |                             |  |
|--|---|-----------------------------|--|
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Shipping container/cooler in good condition?       | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Samples in proper containers/bottles?              | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sample containers intact?                          | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sufficient sample volume for indicated test?       | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |

### Sample Preservation and Hold Time (HT) Information

- |   |   |                             |  |
|---|---|-----------------------------|--|
| All samples received within holding time?                   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sample/Temp Blank temperature                               | Temp: 10°C                              |                             | NA <input type="checkbox"/>            |
| Water - VOA vials have zero headspace / no bubbles?         | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>            |
| Sample labels checked for correct preservation?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Samples Received on Ice?                                    | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |

(Ice Type: **WET ICE**)

### UCMR3 Samples:

- |  |                              |                             |  |
|--|------------------------------|-----------------------------|--|
| Total Chlorine tested and acceptable upon receipt for EPA 522?                   | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
| Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |

\* NOTE: If the "No" box is checked, see comments below.

Comments:



# McCampbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1508596

**Report Created for:** Allterra Environmental

849 Almar Ave, Ste. C #281  
Santa Cruz, CA 95060

**Project Contact:** Aaron Powers

**Project P.O.:**

**Project Name:** 160 Holmes, Livermore, CA

**Project Received:** 08/18/2015

Analytical Report reviewed & approved for release on 08/24/2015 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory.  
The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Allterra Environmental  
**Project:** 160 Holmes, Livermore, CA  
**WorkOrder:** 1508596

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Analytical Qualifiers

d2	heavier gasoline range compounds are significant (aged gasoline?)
e2	diesel range compounds are significant; no recognizable pattern

### Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.
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## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/18/15 14:17  
**Date Prepared:** 8/21/15  
**Project:** 160 Holmes, Livermore, CA

**WorkOrder:** 1508596  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Oxygenated Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
HP-3-W	1508596-001B	Water	08/14/2015 11:30	GC28	109340
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
tert-Amyl methyl ether (TAME)	ND		2.5	5	08/21/2015 22:47
t-Butyl alcohol (TBA)	<b>34</b>		10	5	08/21/2015 22:47
Diisopropyl ether (DIPE)	ND		2.5	5	08/21/2015 22:47
Ethyl tert-butyl ether (ETBE)	ND		2.5	5	08/21/2015 22:47
Methyl-t-butyl ether (MTBE)	<b>20</b>		2.5	5	08/21/2015 22:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	101		70-130		08/21/2015 22:47
<u>Analyst(s):</u>	KF				



## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/18/15 14:17  
**Date Prepared:** 8/23/15  
**Project:** 160 Holmes, Livermore, CA

**WorkOrder:** 1508596  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
HP-3-W	1508596-001A	Water	08/14/2015 11:30	GC3	109337
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	1800		170	3.3	08/23/2015 00:46
MTBE	21		17	3.3	08/23/2015 00:46
Benzene	ND		1.7	3.3	08/23/2015 00:46
Toluene	ND		1.7	3.3	08/23/2015 00:46
Ethylbenzene	63		1.7	3.3	08/23/2015 00:46
Xylenes	330		1.7	3.3	08/23/2015 00:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	105		70-130		08/23/2015 00:46
<u>Analyst(s):</u>	IA		<u>Analytical Comments:</u>	d2	



## Analytical Report

**Client:** Allterra Environmental  
**Date Received:** 8/18/15 14:17  
**Date Prepared:** 8/18/15  
**Project:** 160 Holmes, Livermore, CA

**WorkOrder:** 1508596  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L

### Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
HP-3-W	1508596-001C	Water	08/14/2015 11:30	GC2A	109088
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	190		50	1	08/19/2015 03:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	97		70-130		08/19/2015 03:46
<u>Analyst(s):</u>	TK		<u>Analytical Comments:</u>	e2	



## Quality Control Report

**Client:** Allterra Environmental  
**Date Prepared:** 8/21/15  
**Date Analyzed:** 8/21/15  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** 160 Holmes, Livermore, CA

**WorkOrder:** 1508596  
**BatchID:** 109340  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-109340  
1508596-001BMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	9.85	0.50	10	-	99	54-140
Benzene	ND	-	0.50	-	-	-	-
Bromobenzene	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	39.0	2.0	40	-	98	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	-	0.50	-	-	-	-
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	-	0.50	-	-	-	-
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	-	0.50	-	-	-	-
1,1-Dichloroethylene	ND	-	0.50	-	-	-	-
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

 QA/QC Officer



## Quality Control Report

**Client:** Allterra Environmental  
**Date Prepared:** 8/21/15  
**Date Analyzed:** 8/21/15  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** 160 Holmes, Livermore, CA

**WorkOrder:** 1508596  
**BatchID:** 109340  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-109340  
1508596-001BMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	9.47	0.50	10	-	95	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.46	0.50	10	-	95	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	9.39	0.50	10	-	94	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	-	0.50	-	-	-	-
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	-	0.50	-	-	-	-
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
<b>Surrogate Recovery</b>							
Dibromofluoromethane	24.7	24.8		25	99	99	70-130
Toluene-d8	25.0	-		25	100	-	-
4-BFB	2.68	-		2.5	107	-	-

(Cont.)

CDPH ELAP 1644 ♦ NELAP 4033ORELAP

 QA/QC Officer



## Quality Control Report

**Client:** Allterra Environmental      **WorkOrder:** 1508596  
**Date Prepared:** 8/21/15      **BatchID:** 109340  
**Date Analyzed:** 8/21/15      **Extraction Method:** SW5030B  
**Instrument:** GC28      **Analytical Method:** SW8260B  
**Matrix:** Water      **Unit:** µg/L  
**Project:** 160 Holmes, Livermore, CA      **Sample ID:** MB/LCS-109340  
1508596-001BMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	12.5	12.9	10	ND<2.5	125	129	69-139	2.80	20
t-Butyl alcohol (TBA)	97.9	103	40	34.15	159,F1	172,F1	41-152	5.05	20
Diisopropyl ether (DIPE)	10.5	10.8	10	ND<2.5	105	108	72-140	3.07	20
Ethyl tert-butyl ether (ETBE)	10.9	11.3	10	ND<2.5	109	113	71-140	3.46	20
Methyl-t-butyl ether (MTBE)	38.3	38.6	10	19.79	186,F1	188,F1	73-139	0.662	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	25.5	25.7	25		102	103	70-130	0.766	20



## Quality Control Report

<b>Client:</b>	Allterra Environmental	<b>WorkOrder:</b>	1508596
<b>Date Prepared:</b>	8/22/15	<b>BatchID:</b>	109337
<b>Date Analyzed:</b>	8/22/15	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC3	<b>Analytical Method:</b>	SW8021B/8015Bm
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	160 Holmes, Livermore, CA	<b>Sample ID:</b>	MB/LCS-109337 1508731-002AMS/MSD

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### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	57.3	40	60	-	95	70-130
MTBE	ND	9.37	5.0	10	-	90	70-130
Benzene	ND	10.0	0.50	10	-	100	70-130
Toluene	ND	10.2	0.50	10	-	102	70-130
Ethylbenzene	ND	10.3	0.50	10	-	103	70-130
Xylenes	ND	31.0	0.50	30	-	104	70-130

**Surrogate Recovery**

aaa-TFT	10.1	10.2	10	101	102	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	56.0	60.4	60	ND	93	101	70-130	7.46	20
MTBE	9.36	10.4	10	ND	94	104	70-130	10.6	20
Benzene	8.93	9.75	10	ND	89	97	70-130	8.69	20
Toluene	9.38	10.2	10	ND	94	102	70-130	8.04	20
Ethylbenzene	9.46	10.3	10	ND	95	103	70-130	8.40	20
Xylenes	28.9	31.4	30	ND	96	105	70-130	8.08	20

**Surrogate Recovery**

aaa-TFT	9.77	9.81	10	98	98	70-130	0	20
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## Quality Control Report

**Client:** Allterra Environmental      **WorkOrder:** 1508596  
**Date Prepared:** 8/18/15      **BatchID:** 109088  
**Date Analyzed:** 8/18/15      **Extraction Method:** SW3510C  
**Instrument:** GC11B, GC9b      **Analytical Method:** SW8015B  
**Matrix:** Water      **Unit:** µg/L  
**Project:** 160 Holmes, Livermore, CA      **Sample ID:** MB/LCS-109088

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### QC Report for SW8015B w/out SG Clean-Up

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Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1060	50	1000	-	106	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
<b>Surrogate Recovery</b>							
C9	642	649		625	103	104	65-122

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# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1508596

ClientCode: ATRS

WaterTrax  WriteOn  EDF  Excel  EQuIS  Email  HardCopy  ThirdParty  J-flag

## Report to:

Aaron Powers  
Allterra Environmental  
849 Almar Ave, Ste. C #281  
Santa Cruz, CA 95060  
831-425-2608 FAX: 831-425-2609

Email: aaron@allterraenv.com; allterraenvironmentalcc/3rd Party:  
PO:  
ProjectNo: 160 Holmes, Livermore, CA

## Bill to:

Accounts Payable  
Allterra Environmental  
849 Almar Ave, Ste. C #281  
Santa Cruz, CA 95060  
mica@allterraenv.com; allegra@allterra

Requested TAT: 5 days;

Date Received: 08/18/2015  
Date Printed: 08/24/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1508596-001	HP-3-W	Water	8/14/2015 11:30	<input type="checkbox"/>	B	A	A	C								

Test Legend:

1	8260B_5OXY_W
6	
5	

2	G-MBTEX_W
7	
10	

3	PREDF REPORT
8	
11	

4	TPH(D)_W
9	
12	

Prepared by: Briana Cutino

## Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** ALLTERRA ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1508596

**Project:** 160 Holmes, Livermore, CA

**Client Contact:** Aaron Powers

**Date Received:** 8/18/2015

**Comments:**

**Contact's Email:** aaron@allterraenv.com;  
allterraenvironmental@yahoo.com;

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508596-001A	HP-3-W	Water	SW8021B/8015Bm (G/MBTEX)	3	VOA w/ HCl	<input type="checkbox"/>	8/14/2015 11:30	5 days	Present	<input type="checkbox"/>	
1508596-001B	HP-3-W	Water	SW8260B (5 Oxygenates)	2	VOA w/ HCl	<input type="checkbox"/>	8/14/2015 11:30	5 days	Present	<input type="checkbox"/>	
1508596-001C	HP-3-W	Water	SW8015B (Diesel)	2	VOA	<input type="checkbox"/>	8/14/2015 11:30	5 days	Present	<input type="checkbox"/>	

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

**ALLTERRA** Compliance • Remediation • Geology

849 Almar Avenue, Suite C-281

Santa Cruz, California 95060

Website: [www.allterraenv.com](http://www.allterraenv.com)

Phone: (831) 425-2608 Facsimile: (831) 425-2609

## Chain of Custody Record

Turn Around Time (circle one) RUSH 24HR 48HR 72HR 5 Day

Report and Bill to: Allterra Environmental, Inc.

Project Number: 160

Project Location: 160 Holmes, Livermore, CA

**Project Name:**

Sampler Signature:

Sample ID	Sample Collection		Sample Containers		Matrix		Preservation		TPHg/BTEX/MT	TPHd (EPA 8015)	TPHmo (EPA 80	5-fuel oxy's (EPA	Ethanol and Methanol	Lead Scavengers	Total HVOCs (EPA 6010)	CAM-17 Metals	LUFT 5 Metals (EPA 6010)	PAHs/ PNAs (EPA 6010)	Lead (EPA 6010/	EDF required
	Date	Time	Number of Containers	Container Type	Air	Water	Soil	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other							
HP-3-W	8.14.15	11:30AM	7	VOA	X					X	X			X	X					X

Relinquished By:

Renounced By:  
Aaron Powers 

Date:

Date: 8-17-1

Time

THREE

Received By

Received By

### Comments

**Relinquished By:**

THEORY AND PRACTICE

Date:

1

Time

1

Received By

1



## Sample Receipt Checklist

Client Name: **Allterra Environmental** Date and Time Received: **8/18/2015 2:17:03 PM**  
Project Name: **160 Holmes, Livermore, CA** LogIn Reviewed by: **Briana Cutino**  
WorkOrder No: **1508596** Matrix: Water Carrier: OnTrac

### Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

### Sample Receipt Information

Custody seals intact on shipping container/coolier?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/coolier in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

### Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample/Temp Blank temperature	Temp: 2.3°C		NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE )

### UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

\* NOTE: If the "No" box is checked, see comments below.

Comments:

**APPENDIX D**  
**Low-Threat Case Closure Evaluation**

## **APPENDIX D – Low-Threat Case Closure Evaluation**

### **1.0 INTRODUCTION**

This appendix presents the findings of a Low-Threat Case Closure Evaluation completed for Fuel Leak Case No. RO0000324, Livermore Gas & Mini Mart, located at 160 Holmes Street in Livermore, California (Site). This evaluation consisted of a review of historical investigative and corrective action work completed at the Site, a review of current environmental conditions, and a low-threat screening using criteria established in the State Water Resources Control Board (SWRCB) *Low-Threat Underground Storage Tank Case Closure Policy*, which became effective on August 17, 2012. Conclusions and recommendations based on our findings are also presented in this appendix.

The purpose of this evaluation was to determine if the Site could be categorized as “low-threat” and qualify for case closure. If this fuel leak case can be closed, it would end a long history that began in 1998 when the case was opened by the Alameda County Environmental Health (ACEH), Local Oversight Program.

Corrective action at the Site began in April 1999 when four underground storage tanks (USTs) were removed from the Site. During UST removal activities, petroleum hydrocarbon-impacted soil was identified. Subsequent investigations revealed impacts to shallow groundwater beneath and immediately down-gradient (north-northwest) of the former USTs. Contaminant migration and seasonal groundwater fluctuations also resulted in impacts to smear zone soils at depths of approximately 24 to 34 feet below ground surface (bgs) beneath the Site. The maximum lateral and vertical extent of the groundwater plume was characterized through several investigations performed from 1999 to 2015. Interim vapor and groundwater was conducted at the Site to the greatest extent practicable from 2006 to 2010. Additionally, in-situ soil and shallow groundwater treatment was implemented at the Site in 2011 and 2013. The quarterly groundwater monitoring program has continued to monitor post-remedial contaminant levels.

### **2.0 SWRCB LOW-THREAT CLOSURE POLICY**

When evaluating this case for potential low-threat closure, Allterra used the criteria established under the SWRCB’s *Low-Threat Underground Storage Tank Case Closure Policy*, which became effective August 17, 2012. The purpose of this policy was to establish statewide case closure criteria for low-threat petroleum UST sites, establish a judicious application of available resources, and maximize the benefits to the people of the state of California. The policy aims to increase the existing UST cleanup process efficiency with the goal of preserving the limited resources for mitigation of petroleum releases that pose a greater threat to the environment and human health. This policy applies to all petroleum UST sites subject to *Chapter 6.7 of Division 20 of the Health and Safety Code and Chapter 16 of Division 3 of title 23 of the California Code of regulations*. A discussion of how current Site conditions compare with the 2012 low-threat closure criteria is presented below.

## 2.1 Low-Threat Screening Criteria

The general criteria that must be satisfied for low-threat closure are as follows:

- 1) The unauthorized release is located within the service area of a public water system.
  - The Livermore Municipal Water utility currently supplies municipal water to nearby residents and commercial businesses in the Site vicinity; therefore, this low-threat criterion is satisfied. Additionally, there are no active water supply wells within 1,000 feet of the Site.
- 2) The unauthorized release consists only of petroleum.
  - Based on historic land use and the identified sources of contaminants at the Site (gasoline and diesel USTs), the unauthorized release consisted solely of petroleum-related constituents; therefore, this low-threat criterion is satisfied.
- 3) The unauthorized (“primary”) release from the UST system has been stopped.
  - The petroleum release at the Site was stopped when the former USTs and associated piping were removed in 1999; therefore, this low-threat criterion is satisfied.
- 4) Free product has been removed to the maximum extent practicable.
  - Historically, no free product has been observed in any of the wells or excavations at the Site; therefore, this low-threat criterion is satisfied.
- 5) A conceptual site model that assesses the nature, extent, and mobility of the release has been developed.
  - An updated conceptual site model (CSM) was prepared in 2015; therefore, this low-threat criterion is satisfied. Refer to the Additional Groundwater Sampling Report and Case Closure Request dated October 8, 2015 for further discussion.
- 6) Secondary source has been removed to the extent practicable.
  - Extensive remedial efforts performed at the Site have removed and treated petroleum-impacted soil, soil vapor, and groundwater to the greatest extent practicable; therefore, this low-threat criterion is satisfied. Ongoing sources at the Site were removed by 1) over-excavation of impacted soils during UST removal activities; 2) operation of interim groundwater extraction (GWE) and soil vapor extraction (SVE) systems from 2006 to 2010; and 3) in-situ remedial efforts that aggressively treated remaining petroleum constituents in smear zone soils and shallow groundwater beneath the Site in 2011 and 2013. Refer to the Additional Groundwater Sampling Report and Case Closure Request dated October 8, 2015 for further discussion.

- 7) Soil and groundwater has been tested for MTBE and results reported in accordance with Heath and Safety Code section 25296.15
  - This low-threat criterion is satisfied. Refer to Tables 2 and 3 of the Additional Groundwater Sampling Report and Case Closure Request dated October 8, 2015 for historical groundwater and soil analytical results (including MTBE). Currently, only low to trace levels of MTBE remain in first-encountered groundwater beneath and down-gradient of the Site.
- 8) Nuisance as defined by Water Code section 13050 does not exist at the site.
  - This low-threat criterion is satisfied. The low levels of residual contaminants currently present beneath the Site are not injurious to health, or indecent or offensive to the senses, or an obstruction to the free use of the property. The residual contaminants do not affect the neighborhood or community, nor do they affect a considerable number of persons. No nuisance is created during, or as a result of, the treatment or disposal of wastes (petroleum release).

## 2.2 Media-Specific Criteria

The Low-Threat policy indicates the most common drivers of impacted media health risks are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. These exposure pathways through impacted media have been simplified into three media-specific criteria discussed separately below.

### 2.2.1 *Groundwater*

For groundwater beneath the Site to meet this media-specific criteria, the existing contaminate plume that exceeds water quality objectives must be stable or decreasing in aerial extent and meet all the characteristics of one of the five classes of sites listed below:

#### Site Class 1

- The contaminate plume that exceeds water quality objectives is less than 100 feet in length.
- There is no free product.
- The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume.

#### Site Class 2

- The contaminate plume that exceeds water quality objectives is less than 250 feet in length.
- There is no free product.
- The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
- The dissolved concentration of benzene is less than 3,000 µg/L and the dissolved concentration of MTBE is less than 1,000 µg/L.

### Site Class 3

- The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
- Free product has been removed to maximum extent practicable, may still be present below the site where the release originated, but does not extend off-site.
- The plume has been stable or decreasing for a minimum of five years.
- The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
- The property owner is willing to accept land-use restrictions if the regulatory agency requires a land use restriction as a condition of closure.

### Site Class 4

- The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length.
- There is no free product.
- The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
- The dissolved concentration of benzene is less than 1,000 µg/L and the dissolved concentration of MTBE is less than 1,000 µg/L.

### Site Class 5

- The regulatory agency determines, based on an analysis of site specific conditions that under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.

Currently, this Site satisfies all of the criteria for Site Class 2 as described below:

- 1) Currently, no free product is present in any monitoring wells located on- or off-site. Historically, no free product has been observed in any of the wells or excavations at the Site.
- 2) The current lateral extent of the benzene contaminant plume that exceeds water quality standards beneath the Site is approximately 150 feet in length (conservative estimate) and is decreasing in aerial extent.
- 3) The nearest active water supply well is located approximately 1,700 feet north of the Site and likely extracts water from deeper aquifers than the shallow water-bearing zone impacted beneath the Site.
- 4) The nearest surface water body is Arroyo Mocho, located approximately 1,500 feet south (up-gradient) of the Site.
- 5) The highest dissolved concentrations of benzene and MTBE in groundwater beneath the Site are currently below 3,000 and 1,000 µg/L, respectively. During recent groundwater sampling activities performed in August 2015, the highest

dissolved concentrations of benzene and MTBE were detected in sample HP-3-W at concentrations of 190 µg/L and 21 µg/L, respectively.

- 6) In March 2014 (the last time "A" zone wells were sampled), only one well contained MTBE at a concentration above 1,000 µg/L (EW-3 at 8,800 µg/L). However, as previously stated, we believe that EW-3 data represented a very thin layer of contamination within the capillary fringe and the results should not be used when evaluating contaminant levels for the entire shallow water-bearing zone (A-zone). This conclusion is partially based on the total depth of the well (only 30 feet bgs), the historic data from nearby "A" zone wells (MW-1A and EW-1), and the understanding that samples collected from the top of the water table tend to show higher levels of contaminants than wells screened through an adequate length of the targeted water column.

#### 2.2.2 Petroleum Vapor Intrusion to Indoor Air

Petroleum volatilizing from soil and groundwater and migrating to indoor air can pose unacceptable human health risks. The Low-Threat policy describes site conditions that must exist to satisfy this media-specific criterion. If the source of petroleum vapors is at a sufficient depth below ground surface and subsurface conditions are favorable, petroleum vapors are typically mitigated by biodegradation processes. The Low-Threat policy refers to the zones located between the petroleum vapor source and the ground surface (or building foundation footing) as "bioattenuation zones". Petroleum vapor intrusion to indoor air can be considered low-threat if:

- Site conditions meet all characteristics and criteria in one of the five scenarios described in the Low-Threat policy; or
- A site-specific risk assessment for the vapor intrusion pathway is conducted and demonstrates that human health is protected to the satisfaction of the regulatory oversight agency; or
- As a result of controlling exposures through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory oversight agency determines that petroleum vapors migrating from soil or groundwater will have no significant risk to human health.

Allterra contends that this Site does not pose an unacceptable human health risk with regards to petroleum vapor intrusion to indoor air based on benzene levels detected in groundwater since 2010 and the existence of an adequate bioattenuation zone. Benzene levels in all on- and off-site monitoring wells have remained significantly below 1,000 µg/L since remedial activities were completed in 2011 and 2013. This Site satisfies the conditions and criteria of Scenarios 1 through 3 described in the Low-Threat policy as summarized below:

- 1) Currently, the highest concentration of dissolved benzene detected beneath the Site is 190 µg/L (HP-3).

- 2) The bioattenuation zone is a continuous zone that provides a separation of at least 10 vertical feet from the foundation of any existing building or potential buildings and the dissolved phase benzene. Historically groundwater has fluctuated between approximately 22 and 51 bgs, and clean soil exists above the groundwater table.
- 3) The bioattenuation zone contains total TPH (TPHg and TPHd combined) less than 100 mg/kg throughout the entire bioattenuation zone.
  - The significant amount of impacted soil was removed during UST removal and over-excavation activities.
  - Residual soil impacts are likely confined to the smear zone, which has historically fluctuated between 24 and 34 feet bgs.
  - Residual soil impacts were likely reduced to insignificant levels following SVE and in-situ remedial activities.
  - Confirmatory soil borings (CB-1 through CB-4) were advanced in the source area in 2013 following in-situ remedial activities. The recent soil sampling results indicate shallow soil impacts are below 100 mg/kg from ground surface to a depth of approximately 20 feet bgs in the vicinity of the existing commercial building at the Site (Table 3).

#### *2.2.3 Direct Contact and Outdoor Air Exposure*

Direct contact with contaminated soil and/or inhalation of petroleum volatized to outdoor air may pose unacceptable risks to human health. For commercial/industrial sites to be considered low-threat with regards to direct dermal contact and outdoor air exposure they must meet one of the following criteria:

- Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in the table below; or
- Maximum concentrations of petroleum constituents in soil are less than levels that a site-specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or
- As a result of controlled exposure through the use of mitigation measures or institutional and/or engineering controls, the regulatory oversight agency determines the concentrations of petroleum constituents in soil have no significant risk of adversely affecting human health.

*Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health:*

Chemical	Residential (mg/kg)		Commercial/Industrial (mg/kg)		Utility Worker (mg/kg)
	0 to 5 feet bgs	Volatilization to outdoor air (5 to 10 feet bgs)	0 to 5 feet bgs	Volatilization to outdoor air (5 to 10 feet bgs)	
Benzene	1.9	2.8	8.2	12	14
Ethylbenzene	21	32	89	134	314
Naphthalene	9.7	9.7	45	45	219
PAH*	0.063	NA	0.68	NA	4.5

\* = Based on the seven carcinogenic poly-aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent [BaPe]. Sampling and analysis for PAH is only necessary where soil is affected by either waste oil or Bunker C fuel.

The Site satisfies the media-specific criteria listed in the first bullet above. Analytical results reported during the 2103 confirmatory soil investigation (most recent onsite soil data) indicated all petroleum constituents detected in and adjacent to the source area were below the maximum concentrations listed in the table above.

### 3.0 CONCLUSIONS

Based on the results of this low-threat case closure evaluation, Allterra concludes the following:

- All of the general and media-specific screening criteria for low-threat closure identified in the SWRQB's *Low-Threat Underground Storage Tank Case Closure Policy* are satisfied for this Site.