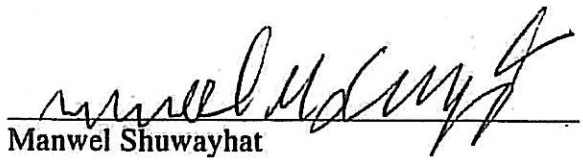
Allterra Environmental, Inc.
849 Almar Avenue, Suite C
No. 281
Santa Cruz, California 95060

Client:	Manwel Shuwayhat
Project Location:	160 Holmes Street, Livermore, California
Subject:	Additional Remedial Action and Confirmatory Sampling Report
Report Date:	August 30, 2013

To Whom It May Concern:

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

Sincerely,



Manwel Shuwayhat

Additional Remedial Action and Confirmatory Sampling Report
Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart
160 Holmes Street, Livermore, California

Date:
August 30, 2013

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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August 30, 2013

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

Subject: Additional Remedial Action and Confirmatory Sampling Report for Fuel Leak Case No. RO0000324, Livermore Gas and Mini-Mart, 160 Holmes Street, Livermore, California

Dear Mr. and Mrs. Shuwayhat:

On your behalf, Allterra Environmental, Inc. (Allterra) has prepared this *Additional Remedial Action and Confirmatory Sampling Report* for the property located at 160 Holmes Street in Livermore, California (Site). The primary purpose of the completed work scope was to further treat hydrocarbon-impacted soil and groundwater in the source area beneath the Site. The remedial implementation and confirmatory sampling work was conducted in accordance with Allterra's *Addendum to Work Plan for Additional Soil and Groundwater Remediation dated* October 18, 2012 and Allterra's *Work Plan for Additional Remedial Action and Confirmatory Sampling* dated May 8, 2013. All work was also performed in compliance with guidelines established by Alameda County Environmental Health (ACEH), Zone 7 Water Agency (Zone 7), and 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 1st and 2nd 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 historical soil borings, are presented on Figure 2.

Site Geology and Hydrogeology
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 eight (8) and fifteen (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 consisted 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 ranged from sandy to clayey gravel. This coarse-grained material graded 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 28 and 48 feet bgs. Static groundwater generally occurs between depths of approximately 15 and 30 feet bgs. 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 June 2013 monitoring event, shallow groundwater generally flowed to the northwest at an approximate gradient of 0.0071 ft/ft (Figure 5).

Site Background

Previous Site Investigations

Extensive soil and groundwater investigation work has been performed at the Site since 2000, including the advancement of more than 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 downgradient of the Site. The locations of previous soil borings and monitoring wells are presented on Figure 2, and associated soil and groundwater 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.

Pilot-Scale Remedial Activities in 2010

During the second and fourth quarters of 2010, Allterra completed pilot-scale soil vapor extraction (SVE) and groundwater extraction (GWE) from on-site extraction wells EW-1 and EW-3. Data collected during pilot-scale operations was used to evaluate remedial effectiveness and determine the best approach for completing remediation in this area of the Site. Pilot-scale remedial activities varied from more SVE focused to GWE focused as groundwater elevations beneath the Site changed and remedial performance data was gathered. Based on low observed extraction and contaminant recovery rates, pilot-scale remedial activities were discontinued in November 2010. 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-Situ Remedial Activities in 2011

After SVE and GWE remedial efforts at the Site were no longer effective, Allterra developed an in-situ remedial work scope designed to aggressively treat residual soil and groundwater impacts in the source area. During the second quarter of 2011, 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 injection events. A full description of these ISCO activities is presented in Allterra's *In-Situ Soil and Groundwater Remedial Implementation Report* dated August 19, 2011.

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. Although contaminate levels in groundwater in the vicinity of source area well EW-3 have decreased significantly, residual concentrations of MTBE (6,300 micrograms per liter (µg/L)) and TBA (130,000 µg/L) were detected in EW-3 during the first quarter of 2013.

Updated Water Well Survey

Pursuant to ACEH's request, Allterra performed an updated water well survey to identify nearby water supply wells with the potential to be impacted by Site-related contaminates. The recent survey 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). A well location map and associated table with well details are included as Appendix B. To further evaluate the potential for contaminates originating on-site to impact these wells, a formal request for well construction details was submitted on August 6, 2012 to Zone 7. 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. Additionally, 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.

Target Groundwater Cleanup Levels

The corrective action described in this report was focused on treating contaminant mass in soil and groundwater in the source area to minimize continued degradation of groundwater, minimize future offsite migration of contaminants, and reduce contaminant concentrations to levels at which natural processes will provide further attenuation of contaminants to the ultimate cleanup goals. The ultimate cleanup goals for groundwater quality at this Site are the San Francisco Bay Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs) when groundwater is a current or potential source of drinking water. These final screening levels generally use the most conservative published criterion and consider gross contamination, ecotoxicity, human health, vapor intrusion, and groundwater protection. The applicable groundwater ESLs for this Site are listed below:

TPHg	100 µg/L
TPHd	100 µg/L
Benzene	1.0 µg/L
Toluene	40 µg/L
Ethylbenzene	30 µg/L
Xylenes	20 µg/L
MTBE	5.0 µg/L
TBA	12 µg/L

To achieve the groundwater goals specified, active remedial efforts may cease once contaminant concentrations are reduced to levels at which at which natural attenuation will allow further reduction of concentrations to the ultimate cleanup levels within a reasonable timeframe.

Soil and Groundwater Remedial Evaluation

Based on the results of extensive investigation and monitoring work conducted at the Site, Allterra determined residual contaminants in soil and groundwater in the vicinity of well EW-3 (source area) required additional remediation to further reduce contaminant mass and ultimately attain the proposed groundwater cleanup goals for the Site. Allterra initially screened several potential remedial strategies and abatement technologies to address petroleum impacts in the source area. As a result of this screening, a remedial approach using the ISCO product RegenOx™ was selected as the preferred remedial alternative to effectively treat source area contaminants. Also, previous ISCO activities at the Site were performed successfully in 2011 and data indicated significant contaminant reduction and declining trends. RegenOx™ is an ISCO process using a solid oxidant complex (sodium percarbonate/catalytic formulation) and an activator complex (a composition of

ferrous salt embedded in a micro-scale catalyst gel). RegenOx™ is an aggressive, fast acting oxidative technology capable of treating a broad range of soil and groundwater contaminants.

Additional Remedial Activities - 2013

The following is a discussion of remedial activities implemented in 2013 to further reduce contaminant mass, stabilize and reduce the size of the contaminant plume, satisfy requirements for low-threat case closure, and ultimately attain proposed cleanup goals for the Site.

Permitting and Underground Utility Locating

Prior to drilling activities, well installation and soil boring permits were acquired from Zone 7 for the injection well (EW-3B) and confirmatory soil borings (Appendix C).

A private utility locating contractor, Cruz Brothers Locators Inc., was retained to identify underground utilities at each proposed drilling location. 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. 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.

Injection Well Drilling and Construction

On March 5, 2013, Allterra supervised Exploration Geoservices Inc. of San Jose, California during drilling and installation of one injection/monitoring well (EW-3B) at the Site. This well was installed approximately 10 feet west of existing well EW-3 (Figure 2) to facilitate further ISCO treatment and obtain representative groundwater samples from the "A" water-bearing zone in the source area. EW-3B was installed to a total depth of approximately 39 feet bgs using a hollow-stem auger (HSA) drill rig. The well was constructed using 4-inch diameter schedule 40 polyvinyl chloride (PVC) casing with 0.040-inch machine slotted screen from approximately 24 to 39 feet bgs. A filter pack consisting of coarse-grained sand was installed in the annular space around the well screen from the bottom of borehole to approximately one foot above the top of the screened interval. A one-foot bentonite transition seal was placed above the filter pack and the remaining annular space was sealed to surface grade using neat cement. The well was completed with a watertight, flush-mounted, traffic rated well vault set in concrete. As required, a representative from Zone 7 was notified prior to the emplacement of the annular seal.

During drilling, soil lithology was described and classified using the Unified Soil Classification System (USCS) and soil cores were field screened for volatile organic compounds (VOCs) using a photoionization detector (PID). Soil samples were collected at depths of approximately 20, 25, 30, 35, and 40 feet bgs for laboratory analysis. The boring log for EW-3B with well construction details is presented in Appendix D.

On March 8, 2013, newly installed well EW-3B was developed using a combined surging and purging technique to minimize turbidity and maximize well efficiency. The well was purged until groundwater parameters such as pH, temperature and conductivity stabilized. Allterra's well development field protocol is included in Appendix A and the well development field log is presented in Appendix E.

ISCO Treatment Activities

During April and May 2013, approximately 1,600 lbs of RegenOx™ was pressure injected into the source area using wells EW-1, EW-3, and EW-3B (Figure 2) to further treat residual contaminants in soil and groundwater beneath the Site. ISCO remedial solutions consisting of approximately 470, 340, and 790 lbs of RegenOx™ were injected into EW-1, EW-3, and EW-3B, respectively. Based on the lithology and hydrogeologic characteristics of native sediments beneath the Site, multiple injection events were implemented to facilitate the injection of the designed volume of RegenOx™ and to minimize potential adverse affects at the ground surface (i.e. surfacing, high back pressure). Injection events were spaced several days apart to collect data and record field observations prior to proceeding with subsequent injection events. ISCO remedial solutions were injected into source area wells using a stader driven positive displacement pump at pressures ranging from 80 to 150 pounds per square inch (psi) to ensure thorough distribution across heterogeneous soils. Injection rates ranged from approximately 1 to 5 gallons per minute (gpm) depending on well location and subsurface conditions (higher injection rates were applied at EW-1 while lower injection rates were used at EW-3). Applied pressures and injection rates were adjusted during field activities to prevent high back pressures and subsequent surfacing of the remedial solution. Detailed RegenOx™ application procedures using fixed wells are presented in Appendix F.

To facilitate effective application of the ISCO solutions and minimize potential adverse effects, Part B (activator) of the RegenOx™ product was pressure injected into the zone of contamination and moved out into the unsaturated zone and aquifer media prior to the injection of Part A (solid oxidant). The purpose of injecting each component of RegenOx™ into the subsurface separately was to ensure that the majority of the chemical reactions occurred within the sub-surface target zone. Given the applied pressures and injection rates, combining the components of RegenOx™ prior to injection could cause the remedial solution to lose potency before reaching the target area and could potentially clog the injection well screen and sand pack. Following Part B injection activities, clean water was pressure injected into the wells at a volume of approximately three times the total well volume for each injection well. This “flushing” was implemented to help distribute the Part B solution into the target area as well as clean out the well screens and sand packs prior to Part A application. Approximately one week following the clean water flushing, Part A was pressure injected into wells EW-1, EW-3, and EW-3B.

Remedial Data Collection and Monitoring

Beginning in March 2013, a data collection program was implemented to provide information that can be used to evaluate the effectiveness of recent ISCO remedial efforts. Data collected included the following:

- Groundwater samples collected during the first quarter 2013 groundwater monitoring event (March 2011) were used to establish baseline conditions for petroleum constituents prior to remedial action activities.
- Visual observations at select well locations (EW-1, EW-3, EW-3B, MW-1A, and MW-7A/B were recorded between each injection event to monitor potential adverse affects prior to proceeding with subsequent events.

- For the first three months following ISCO activities (June, July, and August 2013), monthly groundwater samples and field parameter measurements (see list of parameters below) were collected from select monitoring wells (EW-1, EW-3, EW-3B, MW-1A, and MW-7A/B).
- Following monthly sampling activities, the current quarterly groundwater monitoring program at the Site will evaluate groundwater quality under varying seasonal conditions and continue assess the efficiency of remedial efforts at the Site.
- A list of laboratory analytes tested for during baseline, monthly, and quarterly sampling activities is presented in the following section.
- Field parameters measured during remedial monitoring activities included dissolved oxygen, pH, temperature, specific conductivity, turbidity, and oxidation-reduction potential.

Confirmatory Sampling Activities

On August 8, 2013, Geoprobe® borings were advanced at four locations (CB-1 through CB-4) in the source area to evaluate current soil conditions beneath the Site and to satisfy requirements for low-threat case closure. CB-1 through CB-4 were advanced in the former source area near previous boring locations with elevated TPHg and MTBE in soil (GP-9, GP-14, and GP-15) to confirm that remedial efforts have removed the secondary source to the extent practicable and to evaluate residual contaminants in shallow soils with respect to potential direct contact and outdoor air exposure scenarios. The confirmatory borings were advanced to total depths of approximately 35 feet bgs using a truck-mounted Geoprobe® rig equipped with 2.5-inch diameter push core drilling equipment. CB-3 was terminated at approximately 22 feet bgs, where boring refusal was met. Consequently, CB-4 was advanced approximately 5 feet northeast of CB-3 to reach the desired total depth. Upon completion of drilling and sampling activities, the borings were backfilled to surface grade with neat cement containing 5% bentonite. The locations of the confirmatory borings are presented on Figure 2.

At each boring location, a percussion hammer driven Geoprobe® soil-coring system was used to collect continuous soil cores, at approximately four-foot intervals, for soil classification purposes. During drilling, soil from the borings was described and classified using the Unified Soil Classification System (USCS) and was field screened for petroleum constituents using a photo-ionization detector (PID). In borings CB-1 and CB-2, soil samples were collected for laboratory analysis at depths of approximately 2.5, 5.0, 7.5, 10, 15, 20, 25, 30, and 35 feet bgs. In boring CB-3, soil samples were collected at depths of approximately 2.5, 5.0, and 7.5 feet bgs. In boring CB-4, soil samples were collected at depths of approximately 5.0, 7.5, 10, 15, 20, 25, 30, and 35 feet bgs. No grab groundwater samples were collected from these borings since they were advanced adjacent to current wells EW-3 and EW-3B. Drilling and sampling procedures are described in further detail in Appendix A. The boring logs for boring CB-1 through CB-4 are presented in Appendix D.

Laboratory Analysis

Soil samples collected during drilling of EW-3B were analyzed for TPHg and total petroleum hydrocarbons as diesel (TPHd) by EPA method 8015C; benzene, toluene, ethylbenzene, xylenes (BTEX), and MTBE by EPA Method 8021B; and fuel oxygenates MTBE, ethyl tert-butyl ether

(ETBE), tert-amyl methyl ether (TAME), di-isopropyl ether (DIPE), and TBA by EPA Method 8260B.

Soil samples collected during confirmatory sampling activities were analyzed for TPHg and TPHd by EPA method 8015C; BTEX and MTBE by EPA Method 8021B; fuel oxygenates by EPA Method 8260B; and lead scavengers 1,2-dibromoethane (EDB) and 1,2-dichloroethane (1,2-DCA) by EPA Method 8260B. Select shallow soil samples were also analyzed for naphthalene by EPA Method 8260B.

Groundwater samples collected during baseline, monthly, and quarterly monitoring events were analyzed for TPHg and TPHd by EPA method 8015B; BTEX and MTBE by EPA Method 8021B; and fuel oxygenates and lead scavengers by EPA Method 8260B. Samples collected from select wells (EW-1, EW-3, EW-3B, MW-1A, and MW-7A/B) were also tested for hexavalent chromium by EPA Method E218.6.

All soil and groundwater samples were submitted under chain-of-custody documentation to McCampbell Analytical, Inc., of Pittsburg, California, a State of California certified laboratory (ELAP #1644). Copies of the chain-of-custody documentation and certified analytical reports, including quality assurance and quality control (QA/QC) data, are included in Appendix G.

Waste Disposal

Soil cuttings generated during well installation and confirmatory sampling activities were temporarily stored on-site in labeled, DOT-approved 55-gallon drums. Soil drums will be sampled, analyzed, and profiled for disposal under waste manifest at an appropriate disposal facility. Purge water generated during well development and groundwater sampling events was temporarily stored on-site in a 500-gallon holding tank pending permitted discharge to the sanitary sewer.

Remedial Action Results - 2013

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 moderate product odor was encountered in confirmatory boring CB-1 at depths between 25 and 28 feet bgs. Recent boring logs are presented in Appendix D.

Groundwater Gradient and Flow Direction

On June 21, 2013, Allterra personnel measured and recorded depths to groundwater from the tops of well casings (TOC) for each well. Recorded depths to groundwater ranged from 23.35 to 26.21 feet below TOC. The surveyed elevations of each well casing (measured in feet relative to mean sea level), depths to groundwater, and calculated groundwater elevations are presented in Table 1 and depicted on Figure 5 as groundwater elevation contours. For the June 2013 monitoring event, the general groundwater flow direction was to the northwest at a gradient of approximately 0.0071 feet per foot (ft/ft).

No significant changes in the overall direction of groundwater flow and horizontal gradient were observed during and following recent remedial efforts. During the March 2013 baseline event, the general groundwater flow direction was to the northwest at a gradient of approximately 0.0069 feet per foot (ft/ft), which is consistent with the June 2013 event.

Groundwater Analytical Results – Baseline Monitoring Event (March 2013)

Petroleum constituents were detected in nine of the eighteen wells sampled during this baseline sampling event. A summary of historical groundwater analytical results is presented in Table 3. Time-trend plots depicting contaminant concentrations in groundwater over time for select wells are presented in Appendix H. A discussion of groundwater analytical results for the baseline sampling event is presented below:

- TPHg was detected in two wells above laboratory reporting limits at concentrations of 58 µg/L in EW-3B and 79 µg/L in MW-7A.
- TPHd was detected in three wells at concentrations ranging from 110 µg/L in EW-3B to 500 µg/L in EW-3B.
- Benzene was detected in one well (MW-1A) at 1.1 µg/L.
- Toluene was detected in three wells at concentrations of 0.64 µg/L in EW-EB to 1.6 in MW-7B.
- Ethylbenzene was not detected at or above laboratory reporting limits in any wells sampled during this event.
- Xylenes were detected in one well (EW-3) at a concentration of 0.70 µg/L.
- MTBE was detected in four wells at concentrations ranging from 0.97 µg/L in MW-7A to 6,300 µg/L in EW-3.
- TBA was detected in six wells at concentrations ranging from 130 µg/L in MW-7A to 130,000 µg/L in EW-3.
- Hexavalent chromium was detected in one well (MW-1B) at 1.6 µg/L.

Groundwater Analytical Results – First Remedial Monitoring Event (June 2013)

Petroleum constituents were detected in six of the fifteen wells sampled during this monthly/quarterly sampling event. A summary of historical groundwater analytical results is presented in Table 3. Time-trend plots depicting contaminant concentrations in groundwater over time for select wells are presented in Appendix H. A discussion of groundwater analytical results for the first monthly sampling event following recent remedial activities is presented below:

- TPHg was detected in three wells at concentrations ranging from 120 µg/L in EW-3B to 200 µg/L in MW-7A.
- TPHd was detected in four wells at concentrations ranging from 72 µg/L in MW-7A to 1,600 µg/L in EW-3.
- Toluene was detected in four wells at concentrations ranging from 0.80 µg/L in EW-3 to 7.2 in MW-7A.
- Ethylbenzene was detected in one well (EW-3) at a concentration of 2.6 µg/L.
- Xylenes were detected in two wells at concentrations of 1.1 µg/L in EW-3B and 4.4 µg/L in EW-3.

- MTBE was detected in three wells at concentrations ranging from 0.66 µg/L in MW-7A to 25 µg/L in EW-1.
- TBA was detected in six wells at concentrations ranging from 25 µg/L in MW-7A to 27,000 µg/L in EW-3B.
- Hexavalent chromium was detected in five wells at concentrations ranging from 1.2 µg/L in MW-1A to 44 µg/L in EW-3.
- Benzene and lead scavengers were not detected in any wells sampled during this event.

Groundwater Analytical Results – Second Remedial Monitoring Event (July 2013)

Petroleum constituents were detected in seven of the seven wells sampled during this monthly sampling event. A summary of historical groundwater analytical results is presented in Table 3. Time-trend plots depicting contaminant concentrations in groundwater over time for select wells are presented in Appendix H. A discussion of groundwater analytical results for the second monthly sampling event following recent remedial activities is presented below:

- TPHg was detected in two wells at concentrations of 80 µg/L in EW-3B and 410 µg/L in EW-3.
- TPHd was detected in three wells at concentrations ranging from 55 µg/L in EW-1 to 480 µg/L in EW-3.
- Benzene was detected in two wells at concentrations of 0.59 µg/L in EW-3B and 1.0 µg/L in EW-3.
- Toluene was detected in three wells at concentrations ranging from 0.54 µg/L in EW-3B to 0.96 µg/L in MW-7A.
- Ethylbenzene was detected in one well (EW-3B) at a concentration of 0.88 µg/L.
- Xylenes were detected in two wells at concentrations of 1.0 µg/L in EW-3B and 14 µg/L in EW-3.
- MTBE was detected in three wells at concentrations ranging from 24 µg/L in EW-3B to 1,500 µg/L in EW-3.
- TBA was detected in seven wells at concentrations ranging from 6.8 µg/L in MW-1B to 17,000 µg/L in MW-1A.
- Hexavalent chromium was detected in four wells at concentrations ranging from 1.7 µg/L in MW-1B to 25 µg/L in EW-3B.

Soil Analytical Results – EW-3B Installation

Four of the five soil samples collected during drilling and installation of well EW-3B contained detectable levels of petroleum constituents. The highest concentration of TPHg (8.3 mg/kg) was detected at 25 feet bgs. TPHd was detected in one sample (at 20 feet bgs) at a concentration of 6.2 mg/kg. The highest concentration of TBA (15 mg/kg) was detected at 25 feet bgs. Benzene, MTBE, TAME, DIPE, and ETBE were not detected at or above laboratory reporting limits in any of the soil samples collected. Historic soil analytical results are presented in Table 2.

Soil Analytical Results – Confirmatory Sampling

Twenty-five (25) of the 29 soil samples collected during confirmatory sampling activities contained detectable levels of petroleum constituents. TPHg was detected in six samples at

concentrations ranging from 3.5 mg/kg in CB-4@30' to 3,200 mg/kg in CB-1@25'. TPHd was detected in 24 samples at concentrations ranging from 1.1 mg/kg in CB-2@10' and CB-4@15' to 1,200 mg/kg in CB-1@25'. Benzene was detected in one sample at a concentration of 0.0061 mg/kg in CB-2@30'. MTBE was detected in four samples at concentrations ranging from 0.019 mg/kg in CB-2@25' to 9.9 mg/kg in CB-2@30'. TBA was detected in six samples at concentrations ranging from 0.095 mg/kg in CB-2@25' to 27 mg/kg in CB-2@35'. TAME, DIPE, ETBE, EDB, 1,2-DCA, and naphthalene were not detected at or above laboratory reporting limits in any of the soil samples collected. Historic soil analytical results are presented in Table 2.

Discussion

Groundwater

Following recent ISCO remedial activities, it appears that petroleum constituents in the vicinity of EW-3 (within the former source area) have been significantly reduced and residual contaminates are expected to continue to biodegrade reaching long-term cleanup goals within a reasonable timeframe. During the first quarter 2013 monitoring event, MTBE and TBA concentrations in groundwater were detected in EW-3 at concentrations of 6,300 µg/L and 130,000 µg/L, respectively. Current analytical results (July 2013) following remedial activities indicate MTBE and TBA in EW-3 at concentrations of 1,500 µg/L and 7,100 µg/L, respectively. Remedial activities were very effective and reduced contaminants in groundwater by up to 99%. Overall percent reductions of petroleum constituents in key wells within and down-gradient of the source area 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)	**99.9**	<0.5 (7/22/13)	**99.9**	<5.0 (7/22/13)	**99.6**	17,000 (7/22/13)	**57.5**
MW-7A	6,500 (10/12/06)	--	140 (3/13/06)	--	6,900 (3/13/06)	--	540 (4/11/12)	--
	<50 (7/22/13)	**99.2**	<0.5 (7/22/13)	**99.6**	<5.0 (7/22/13)	**99.9**	7.9 (7/22/13)	**98.5**
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)	**98.9**	<0.5 (7/22/13)	**99.9**	33 (7/22/13)	**99.9**	530 (7/22/13)	**98.9**
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)	**99.7**	1.0 (7/22/13)	**99.6**	1,500 (7/22/13)	**99.6**	7,100 (7/22/13)	**94.5**

Although overall decreasing contaminant trends in groundwater have been observed (Appendix H), source area wells EW-1, EW-3, and EW-3 have exhibited slight increases in TBA and

MTBE during the most recent monthly sampling event (July 2013). This may be indicative of further desorption of contaminates from fine-grained soils in the source area as well as further chemical degradation of MTBE. Additionally, hexavalent chromium results following ISCO activities do not indicate any significant increases or adverse affects.

Soil

Low level, residual petroleum constituents were detected in soil within the former source area during recent confirmatory sampling activities. The majority of residual TPHg and MTBE in soil were detected in samples collected at depths of approximately 30 to 35 feet bgs, which corresponds to the average depth of the smear zone. It appears that source removal and extensive remedial efforts at the Site have effectively removed the secondary source to the greatest extent practical and current soil conditions meet the direct contact and outdoor air exposure criteria presented in the State Water Resource Control Board's (SWRCB) Low-Threat Underground Storage Tank Case Closure Policy (LTCP) (see table below).

Direct contact and outdoor air exposure requirements for petroleum constituents in soil:

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)	0 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 as affected by either waste oil or Bunker C fuel.

Based on recent soil data, it also appears a minimum of 20 feet of clean soil exists above first-encountered groundwater beneath the Site and the potential for vapor intrusion on- and off-site is insignificant. Further soil investigation or remediation is not recommended at this time.

To further evaluate the effectiveness of remedial efforts at the Site, Allterra also compared recent soil data with contaminate concentrations previously detected in the subsurface prior to remedial activities. Overall, significant contaminate reductions and declining trends have been observed and residual contaminates are expected to continue to biodegrade reaching long-term cleanup goals within a reasonable timeframe. Remedial activities performed at the Site were very effective and reduced contaminants in soil by up to 99% within the former source area. Please note that data point comparisons are located within five lateral feet and at depth intervals within two vertical feet. Data comparisons and contaminate percent reductions within the former source area at the Site are presented in the table below.

TPHg, Benzene, and MTBE percent (%) reductions in soil within former source area:

Sample ID	Date	TPHg (mg/kg)	% Reduction	Benzene (mg/kg)	% Reduction	MTBE (mg/kg)	% Reduction
GP-9@24'	1/10/07	110	--	0.27	--	22	--
CB-1@25'	7/22/13	3,200	--	<0.5	--	2.7	**87.7**
GP-15@12'	1/10/07	<1.0	--	<0.005	--	0.078	--
CB-2@10'	7/22/13	<1.0	--	<0.005	--	<0.005	**93.6**
GP-15@19'	1/10/07	1.5	--	<0.005	--	0.49	--
CB-2@20'	7/22/13	<1.0	**33.3**	<0.005	--	<0.005	**99.0**
GP-15@24'	1/10/07	1.6	--	<0.005	--	0.40	--
CB-2@25'	7/22/13	4.1	--	<0.005	--	0.019	**95.3**
GP-15@28'	1/10/07	6.7	--	<0.005	--	9.5	--
CB-2@30	7/22/13	9.6	--	0.0061	--	6.6	**30.5**
GP-14@24'	1/10/07	320	--	0.43	--	50	--
CB-4@25	7/22/13	<1.0	**99.7**	<0.005	**98.8**	<0.005	**99.9**
GP-14@28'	1/10/07	120	--	0.47	--	140	--
CB-4@30'	7/22/13	3.5	**97.1**	<0.005	**98.9**	<0.20	**99.9**

Conclusions

Based on the completion of additional remedial action and results of remedial monitoring and confirmatory sampling activities, Allterra concludes the following:

- Following the installation of injection well EW-3B, the designed volume of ISCO remedial solution consisting of approximately 1,600 lbs of RegenOx™ was successfully applied to the source area during several injection events using wells EW-1, EW-3, and EW-3B. No significant adverse affects were observed during injection activities.

- During the baseline sampling event in March 2013, the overall groundwater flow direction was to the northwest at a gradient of approximately 0.0069 ft/ft. The groundwater flow direction and gradient remained consistent during and following recent ISCO remedial activities, and the gradient was estimated at approximately 0.0071 ft/ft in June 2013.

- Since April 2011 (prior to initial ISCO efforts), petroleum constituents in groundwater have generally exhibited decreasing trends and substantial contaminant reduction has occurred in key wells MW-1A, EW-1, EW-3, and EW-3B located within the former source area. Remedial activities performed in 2011 and 2013 were very effective and reduced contaminants in groundwater by up to 99% throughout the treatment area. Residual contaminates are expected to continue to biodegrade reaching long-term cleanup goals within a reasonable timeframe.

- Low-level, residual petroleum constituents remain in subsurface soils in the former source area; however remedial activities were effective and reduced contaminants in soil by up to 99%. Remedial efforts at the Site have effectively removed the secondary source to the greatest extent practicable and current soil conditions meet the direct contact and outdoor air exposure criteria presented in the LTCP.

- Additional evaluation of the effectiveness of recent ISCO remedial efforts will continue during upcoming monthly and quarterly monitoring activities at the Site.

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

- No further investigation or remediation is recommended at this time.

- Continue with the current quarterly groundwater monitoring program at the Site to evaluate groundwater quality under varying seasonal conditions and further assess the efficiency of remedial efforts at the Site.

- Based on the success of recent remedial efforts, further evaluate the Site for potential low-threat case closure using criteria established in the State Water Resources Control Board's (SWRCB) *Low-Threat Underground Storage Tank Case Closure Policy*, which became effective August 17, 2012.

Limitations
Allterra prepared this report for the use of Manwel and Samira 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
Project Geologist

Joe Mangine, P.G. 8423
Senior Geologist

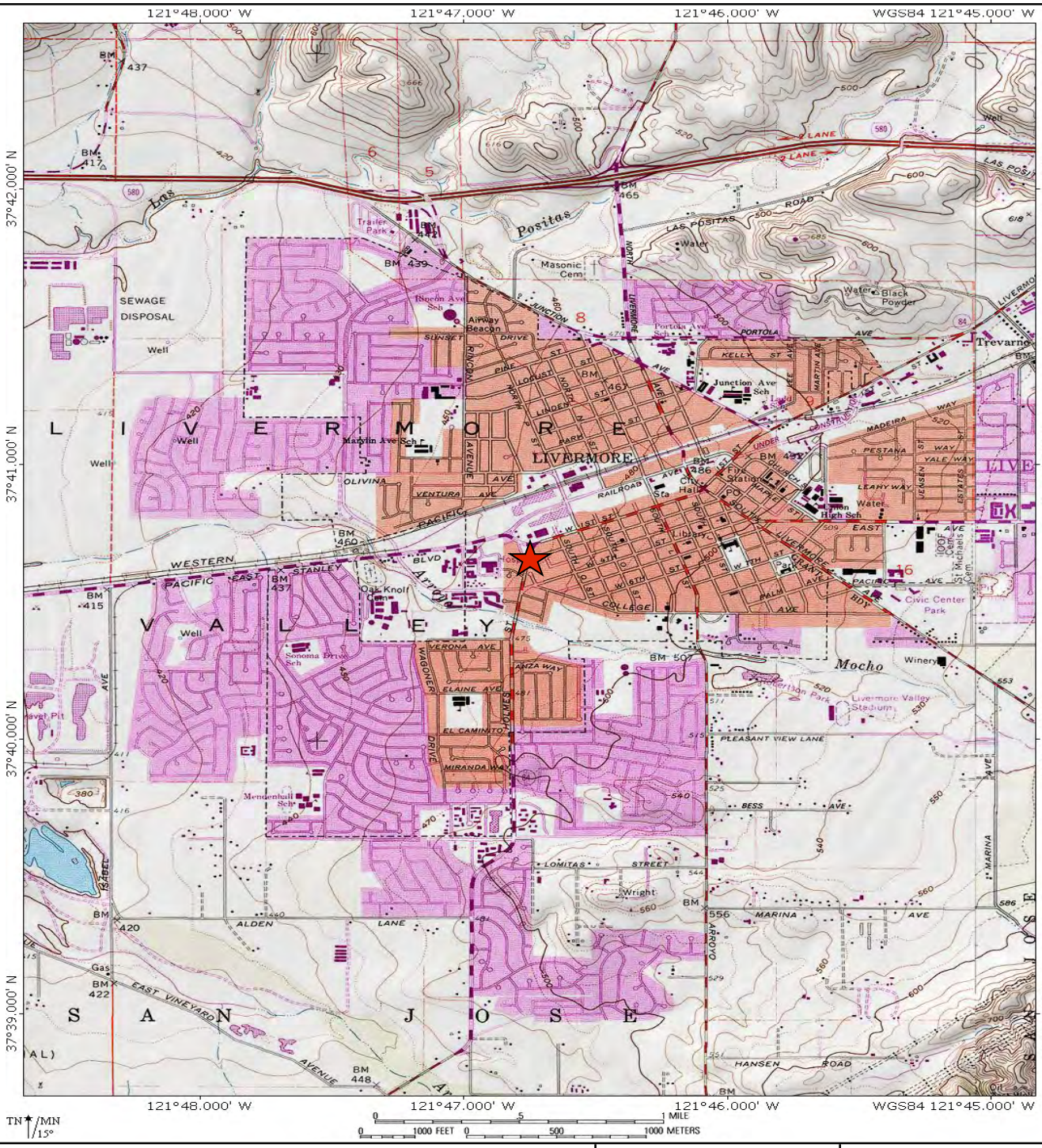
Attachments:
Figure 1, Site Vicinity Map
Figure 2, Site Plan With Treatment Area
Figure 3, Geologic Cross Section A-A'
Figure 4, Geologic Cross Section B-B'
Figure 5, Shallow Groundwater Potentiometric Map for 6-21-13
Figure 6, Concentrations of Petroleum Constituents in Groundwater – July 2013
Figure 7, TPHg Iso-Concentration Map – July 2013
Figure 8, MTBE Iso-Concentration Map – July 2013
Figure 9, TBA Iso-Concentration Map – July 2013

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

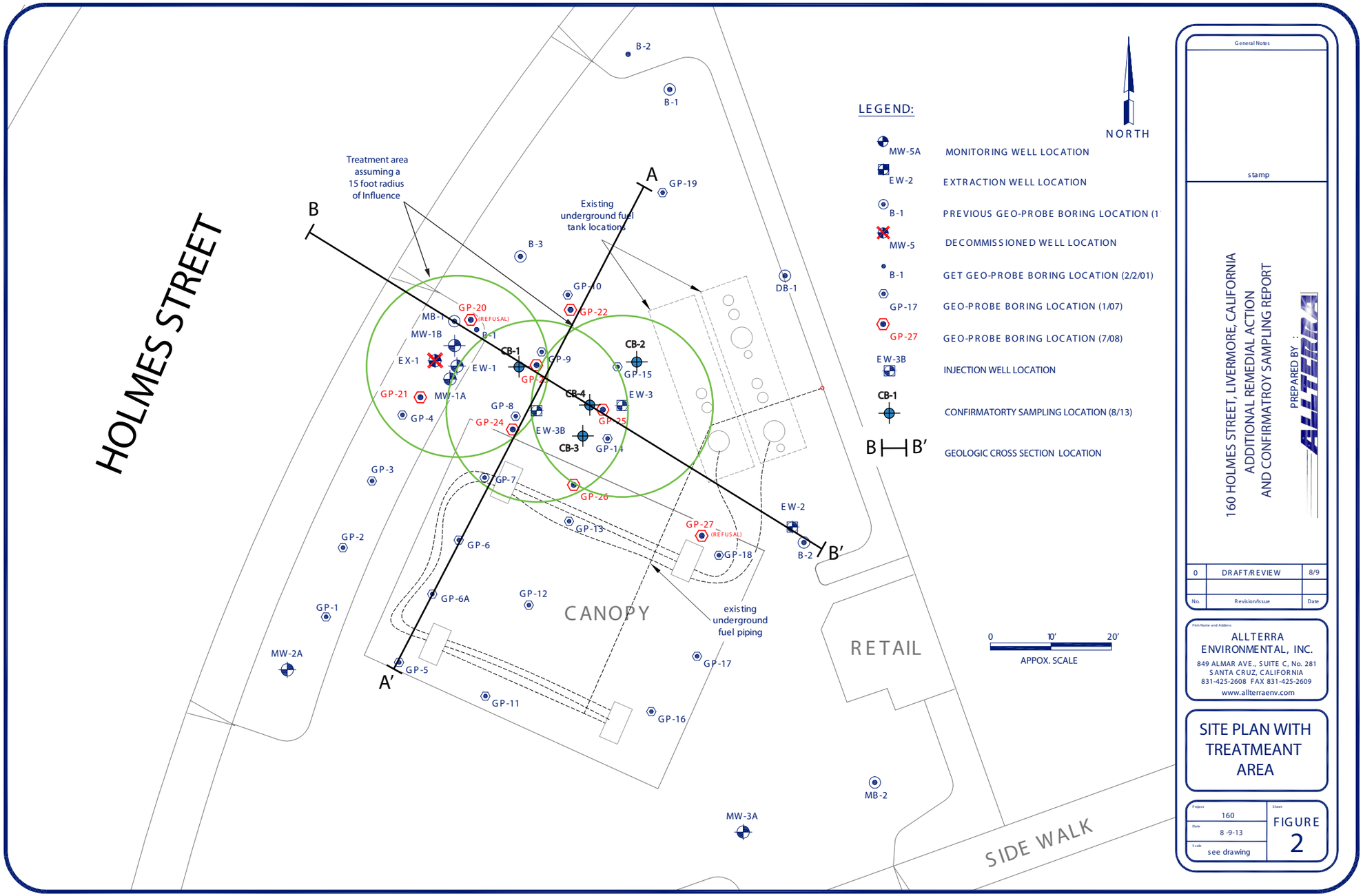
Appendix A: Allterra's Site Investigation Field Protocol
Appendix B: Water Well Survey
Appendix C: Drilling Permits
Appendix D: Boring Logs
Appendix E: Field Logs
Appendix F: RegenOx™ Application Procedures
Appendix G: Certified Analytical Reports and Chains-of Custody
Appendix H: Time-Trend Plots – Petroleum Constituents in Groundwater

cc: Mr. Jerry Wickham, ACEHS

FIGURES 1 - 9



Vicinity Map Livermore Gas and Minimart 160 Holmes Street Livermore, California	Figure 1	8/9/13
	ALLTERRA 849 Almar Avenue, Suite C, No. 281 Santa Cruz, California http://www.allterraenv.com	



General Notes

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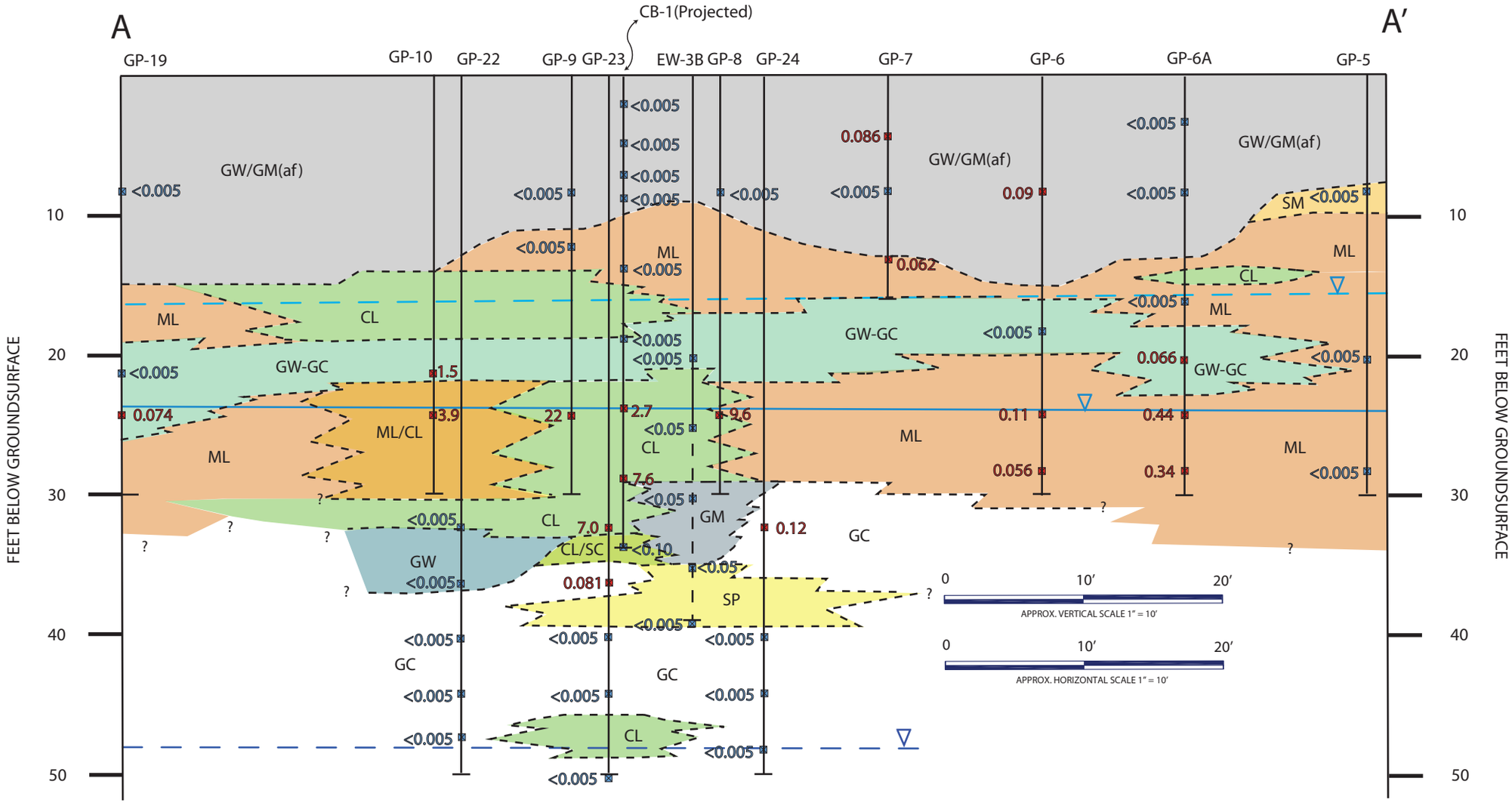
SITE PLAN WITH TREATMEANT AREA

Project	Sheet
160	FIGURE 2
Date: 8 -9-13	
Scale: see drawing	



EXPLANATION

GW/GM (af)	Well Graded Gravels/Silty Gravels (Artificial Fill)			GW	Well Graded Gravel	GM	Silty Gravel
GC	Clayey Gravel	CL	Silty Clay	ML/CL	Silty Clay/Clayey Silt	SP	Poorly Graded Sand
ML	Clayey Silt	SM	Silty Sand	GW-GC	Well Graded Gravels to Clayey Gravels	CL/SC	Sandy Clay

GEOLOGIC CONTACT, DASHED WHERE APPROXIMATE, QUERRIED WHERE UNCERTAIN

EW-3B

22

<0.005

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

SCREENED INTERVAL DENOTED BY DASHED LINE FOR WELLS

HIGHEST GROUNDWATER ELEVATION (APRIL 2006)

CURRENT GROUNDWATER ELEVATION (JUNE 2013)

LOWEST GROUNDWATER ELEVATION (NOVEMBER 2008)

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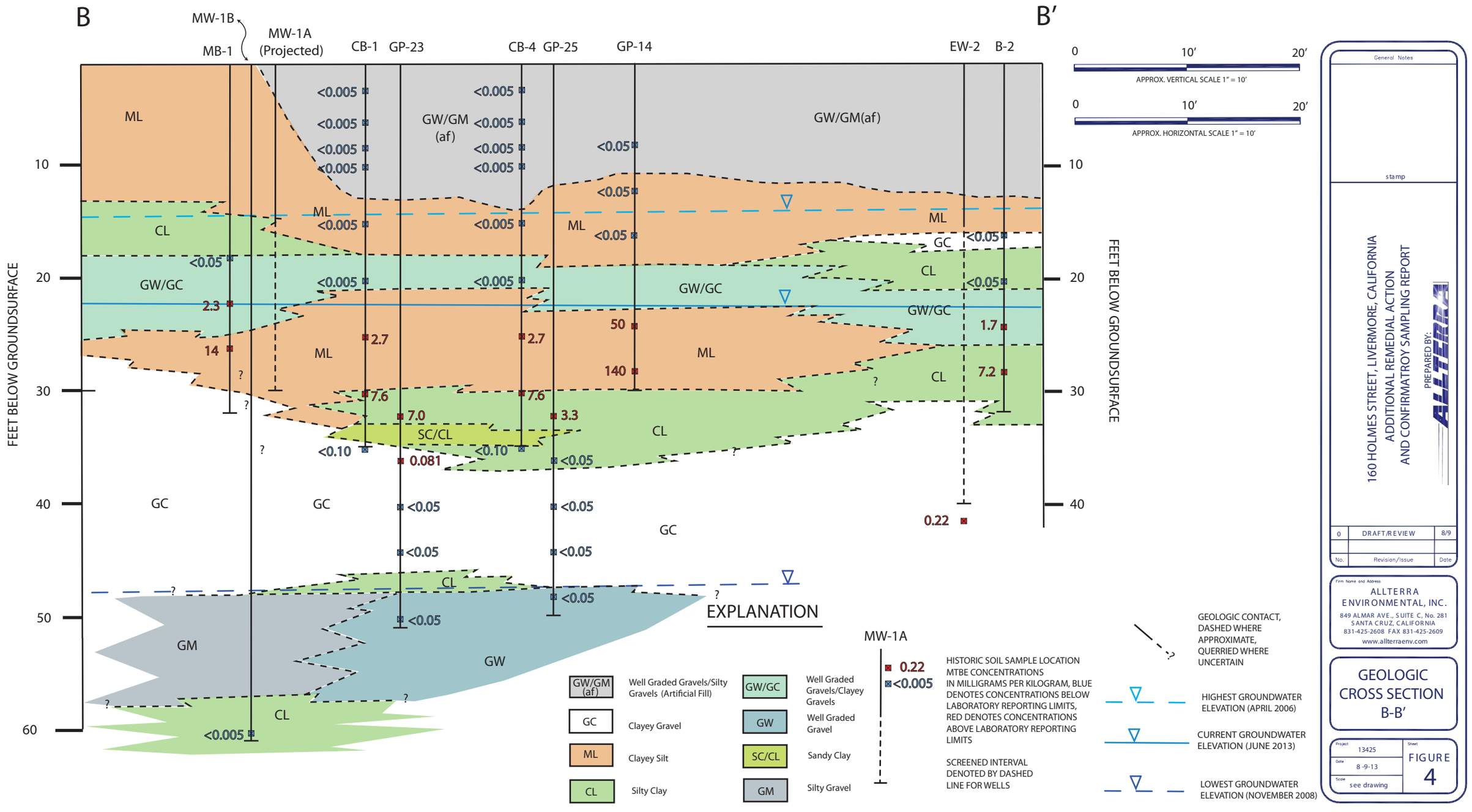
GEOLOGIC CROSS SECTION A-A'

Project	Sheet
13425	FIGURE 3
Date: 8-9-13	
Scale: see drawing	



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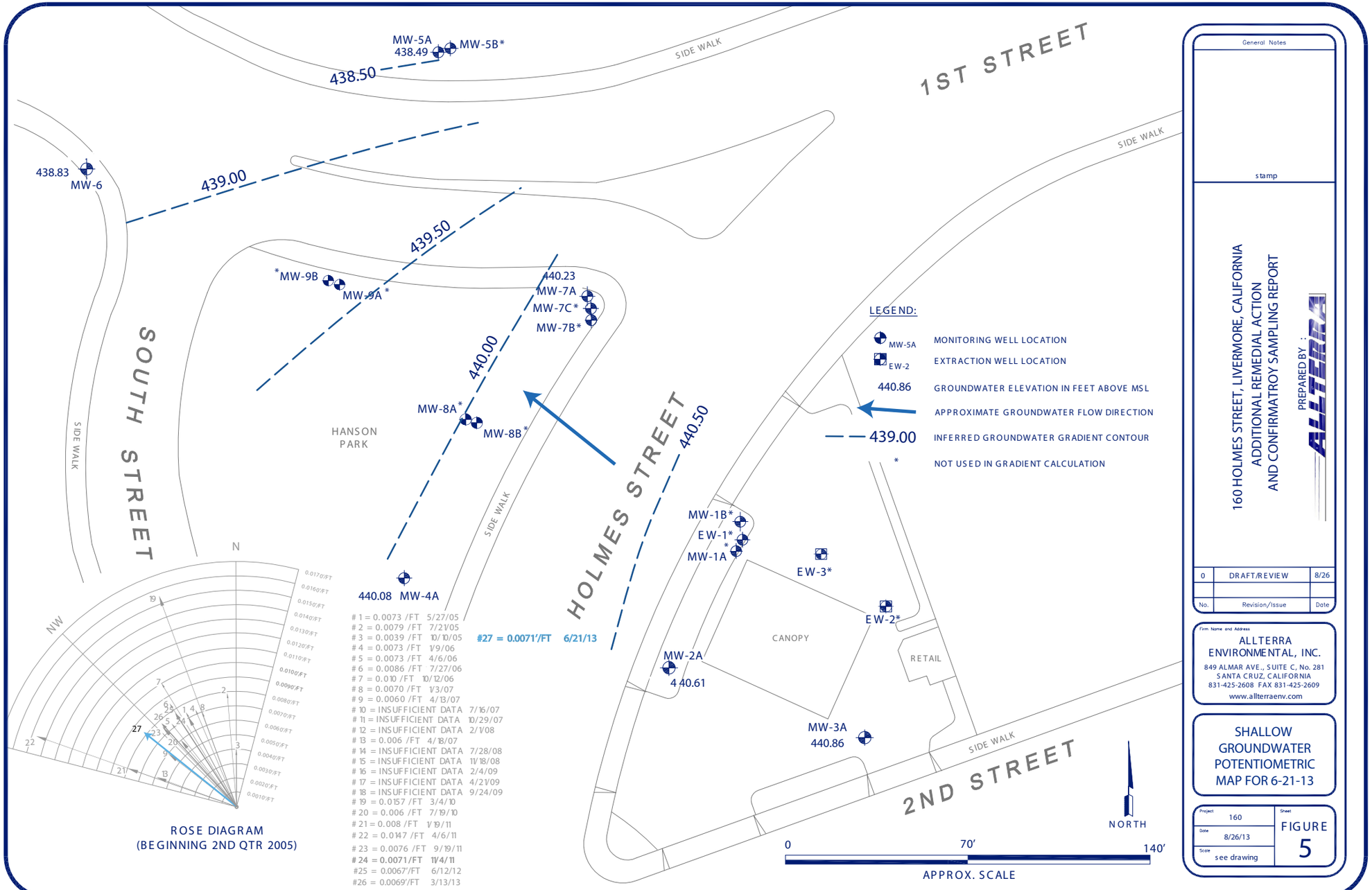
GEOLOGIC CROSS SECTION B-B′

Project	Sheet
13425	FIGURE 4
Date: 8 -9-13	
Scale: see drawing	


MW-5A
438.49
MW-5B*
438.50
SIDE WALK
1ST STREET
438.83
MW-6
439.00
439.50
*MW-9B
MW-9A*
440.23
MW-7A
MW-7C*
MW-7B*
440.00
SOUTH STREET
SIDE WALK
HANSON
PARK
MW-8A*
MW-8B*
HOLMES STREET
440.50
SIDE WALK
440.08 MW-4A
MW-1B*
EW-1*
MW-1A
EW-3*
EW-2*
CANOPY
RETAIL
MW-2A
440.61
MW-3A
440.86
SIDE WALK
2ND STREET
SIDE WALK
LEGEND:
MW-5A MONITORING WELL LOCATION
EW-2 EXTRACTION WELL LOCATION
440.86 GROUNDWATER ELEVATION IN FEET ABOVE MSL
APPROXIMATE GROUNDWATER FLOW DIRECTION
439.00 INFERRED GROUNDWATER GRADIENT CONTOUR
* NOT USED IN GRADIENT CALCULATION
NORTH
0
70'
140'
APPROX. SCALE
N
NW
0.0170'/FT
0.0160'/FT
0.0150'/FT
0.0140'/FT
0.0130'/FT
0.0120'/FT
0.0110'/FT
0.0100'/FT
0.0090'/FT
0.0080'/FT
0.0070'/FT
0.0060'/FT
0.0050'/FT
0.0040'/FT
0.0030'/FT
0.0020'/FT
0.0010'/FT
ROSE DIAGRAM
(BEGINNING 2ND QTR 2005)
1 = 0.0073 /FT 5/27/05
2 = 0.0079 /FT 7/21/05
3 = 0.0039 /FT 10/10/05
4 = 0.0073 /FT 1/9/06
5 = 0.0073 /FT 4/6/06
6 = 0.0086 /FT 7/27/06
7 = 0.010 /FT 10/12/06
8 = 0.0070 /FT 1/3/07
9 = 0.0060 /FT 4/13/07
10 = INSUFFICIENT DATA 7/16/07
11 = INSUFFICIENT DATA 10/29/07
12 = INSUFFICIENT DATA 2/1/08
13 = 0.006 /FT 4/18/07
14 = INSUFFICIENT DATA 7/28/08
15 = INSUFFICIENT DATA 11/18/08
16 = INSUFFICIENT DATA 2/4/09
17 = INSUFFICIENT DATA 4/21/09
18 = INSUFFICIENT DATA 9/24/09
19 = 0.0157 /FT 3/4/10
20 = 0.006 /FT 7/19/10
21 = 0.008 /FT 1/19/11
22 = 0.0147 /FT 4/6/11
23 = 0.0076 /FT 9/19/11
24 = 0.0071/FT 11/4/11
#25 = 0.0067'/FT 6/12/12
#26 = 0.0069'/FT 3/13/13
#27 = 0.0071'/FT 6/21/13
General Notes
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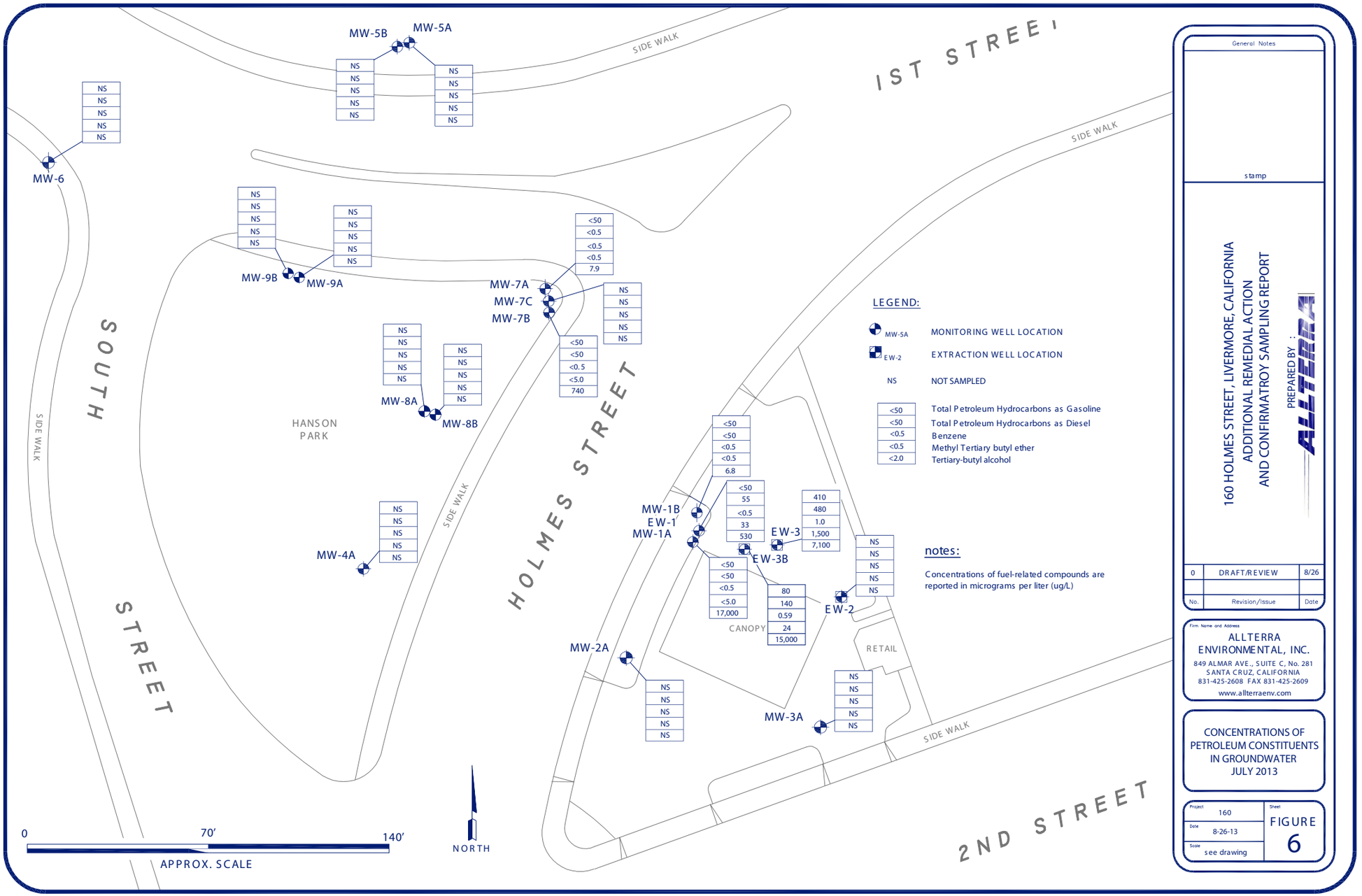
SHALLOW
GROUNDWATER
POTENTIOMETRIC
MAP FOR 6-21-13
Project 160
Date 8/26/13
Scale see drawing
Sheet FIGURE 5



LEGEND:

MW-5A	MONITORING WELL LOCATION
EW-2	EXTRACTION WELL LOCATION
NS	NOT SAMPLED
<50	Total Petroleum Hydrocarbons as Gasoline
<50	Total Petroleum Hydrocarbons as Diesel
<0.5	Benzene
<0.5	Methyl Tertiary butyl ether
<2.0	Tertiary-butyl alcohol

notes:

Concentrations of fuel-related compounds are reported in micrograms per liter (ug/L)

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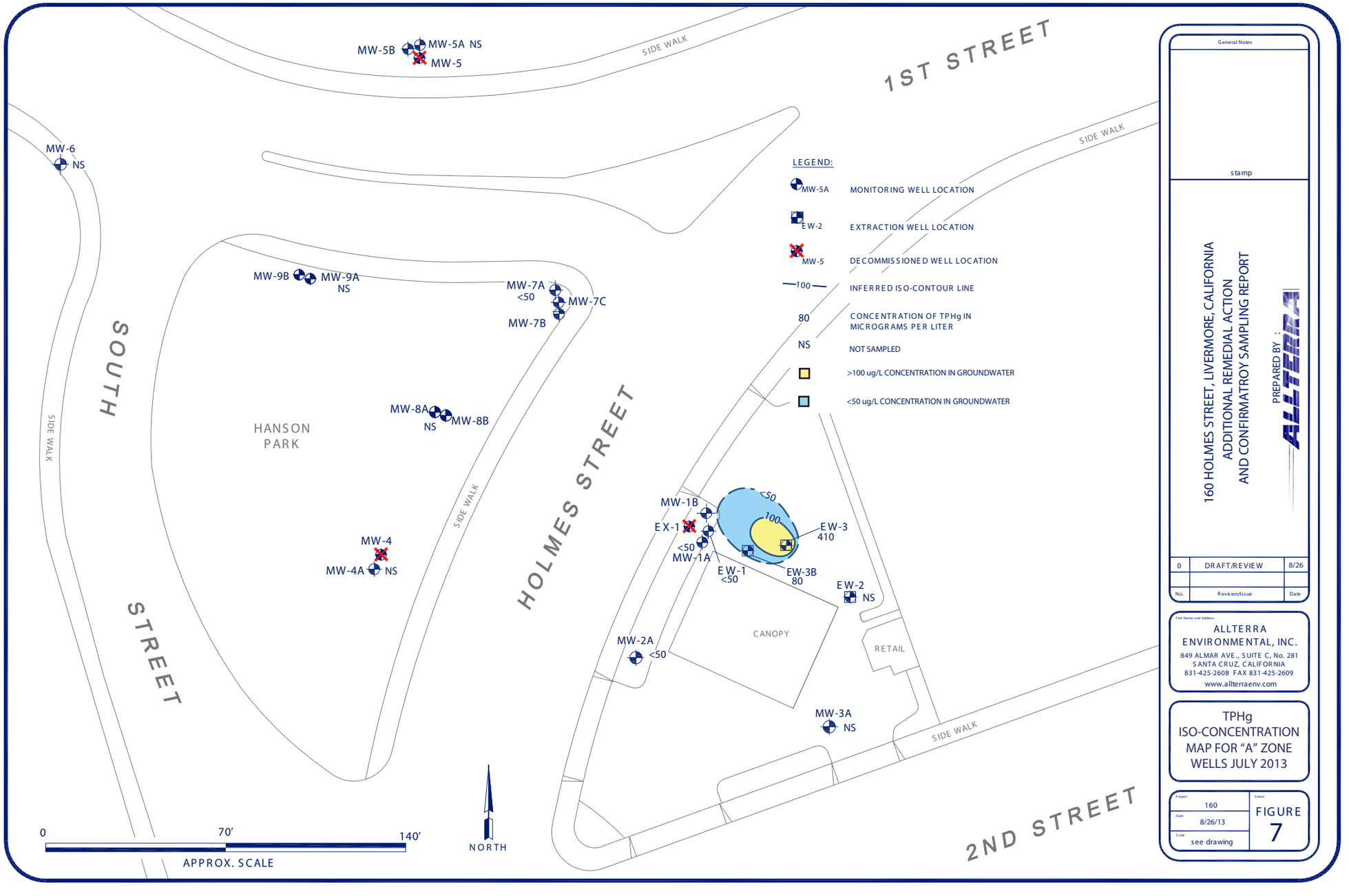
CONCENTRATIONS OF PETROLEUM CONSTITUENTS IN GROUNDWATER JULY 2013

Project	160
Date	8-26-13
Scale	see drawing
Sheet	FIGURE 6



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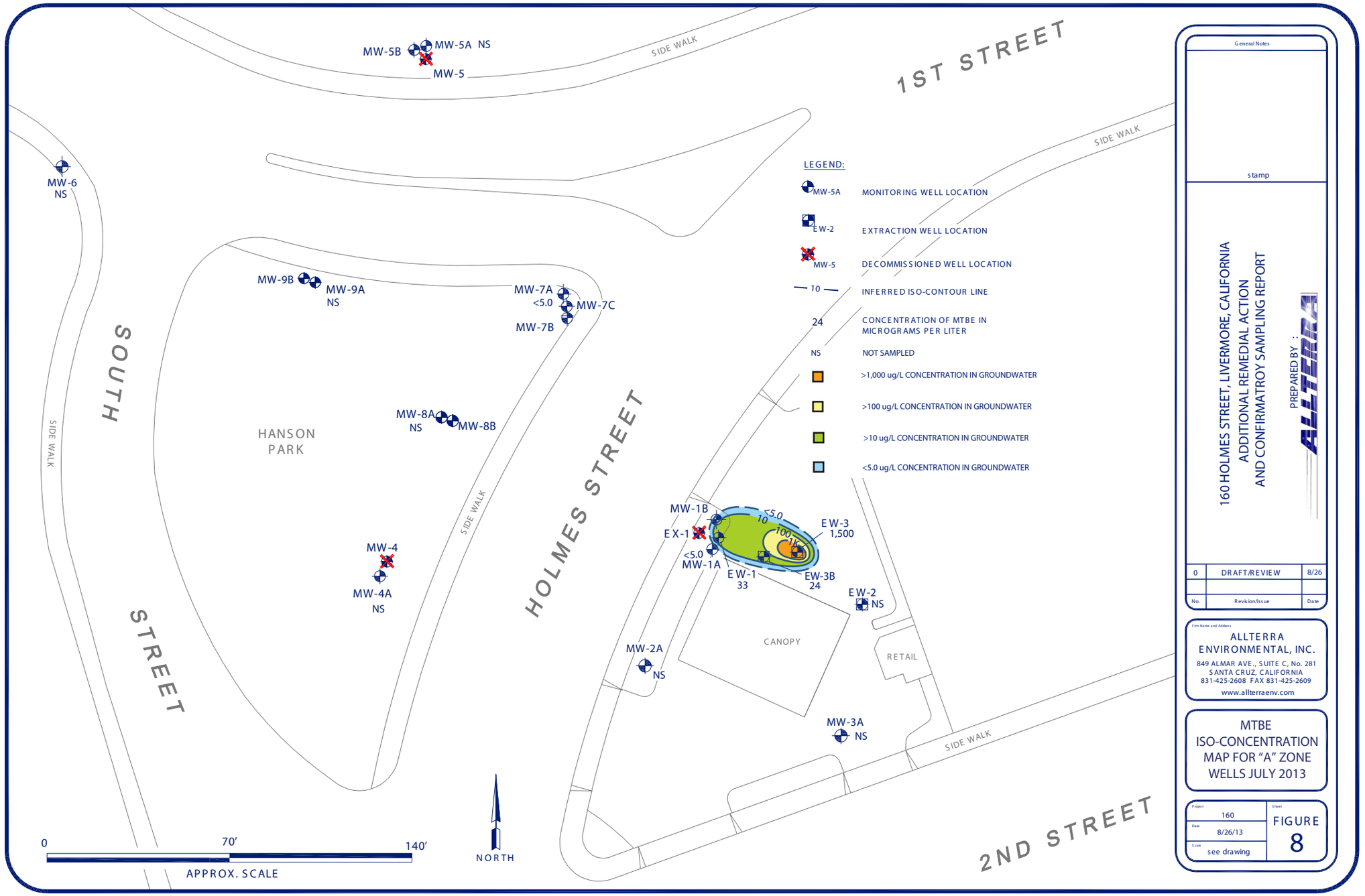
TPHg
ISO-CONCENTRATION
MAP FOR "A" ZONE
WELLS JULY 2013

Project	160	Sheet	FIGURE 7
Date	8/26/13		
Scale	see drawing		



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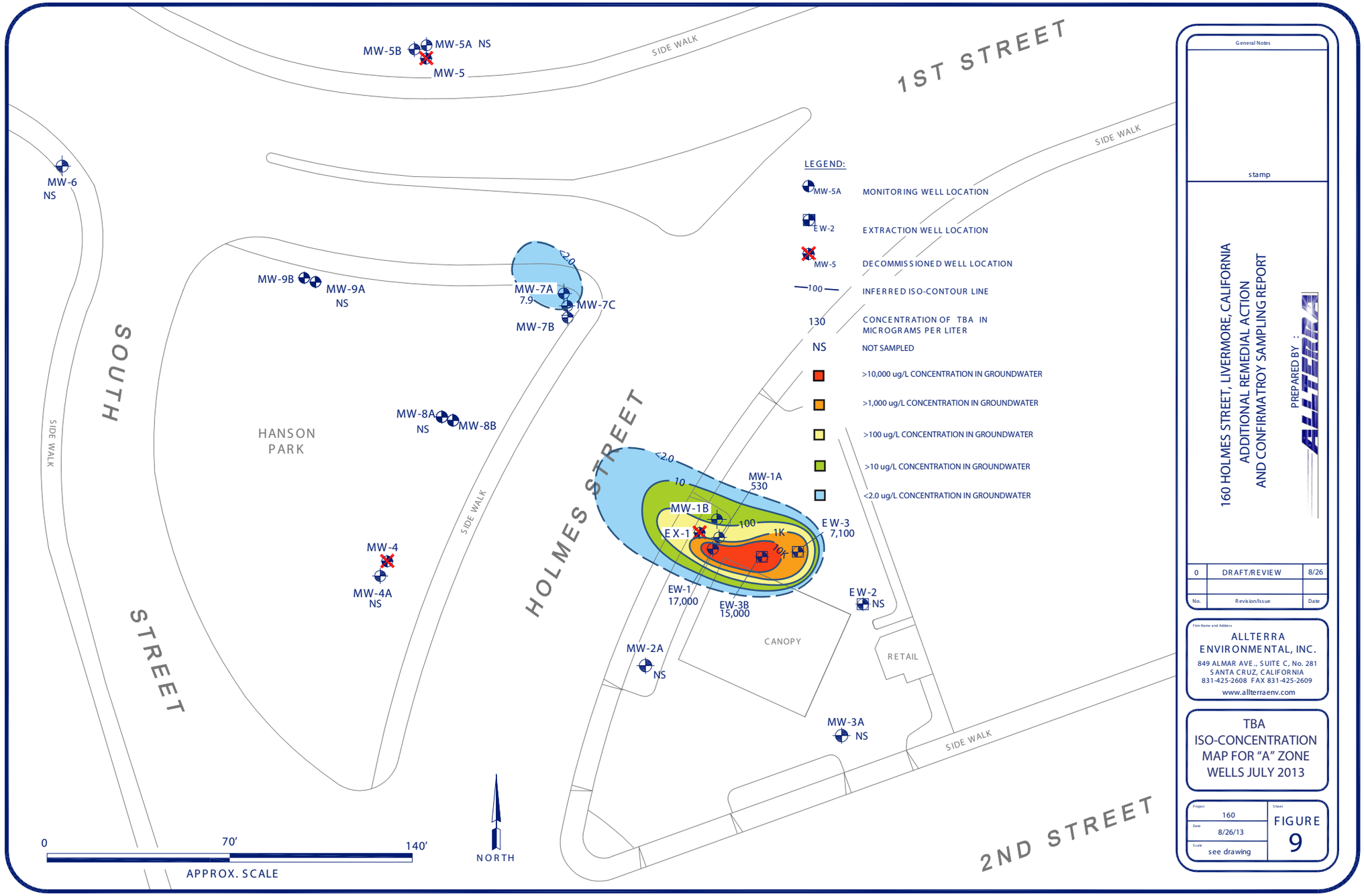
MTBE
ISO-CONCENTRATION
MAP FOR "A" ZONE
WELLS JULY 2013

Project	Sheet
160	FIGURE 8
Date: 8/26/13	
Scale: see drawing	



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TBA
ISO-CONCENTRATION
MAP FOR "A" ZONE
WELLS JULY 2013

Project	Sheet
160	FIGURE 9
Date: 8/26/13	
Scale: 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**

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	**466.02**	**50-56**	**24.55**	**441.47**
MW-2*	8/11/00	464.94	15-30	NM	NC
	10/19/00	464.94	15-30	21.80	443.14
	2/22/01	464.94	15-30	22.87	442.07
	5/30/01	464.94	15-30	Dry	NC
	11/14/01	464.94	15-30	Dry	NC
	5/7/02	464.94	15-30	26.70	438.24
	9/11/02	464.94	15-30	25.96	438.98
	12/11/02	464.94	15-30	27.56	437.38
	3/14/03	464.94	15-30	22.41	442.53
	6/25/03	464.94	15-30	21.97	442.97
	9/16/03	464.94	15-30	24.70	440.24
	12/22/03	464.94	15-30	21.58	443.36
	3/10/04	464.94	15-30	17.31	447.63
	6/15/04	464.94	15-30	22.18	442.76
	9/17/04	464.94	15-30	25.44	439.50
	12/10/04	464.94	15-30	22.00	442.94
	3/2/05	464.94	15-30	16.75	448.19
	5/27/05	464.94	15-30	18.29	446.65
	7/21/05	464.94	15-30	20.46	444.48
	10/10/05	464.94	15-30	22.30	442.64
	1/9/06	464.94	15-30	17.67	447.27

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

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

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-3A*	4/6/06	465.84	15-30	16.02	449.82
	7/27/06	465.84	15-30	22.90	442.94
	10/12/06	465.84	15-30	23.99	441.85
	1/3/07	465.84	15-30	21.52	444.32
	4/13/07	465.84	15-30	23.78	442.06
	7/16/07	465.84	15-30	Dry	NC
	10/29/07	465.84	15-30	Dry	NC
	2/1/08	465.84	15-30	Dry	NC
	4/18/08	465.84	15-30	27.86	437.98
	7/28/08	465.84	15-30	Dry	NC
	11/18/08	465.84	15-30	Dry	NC
	2/4/09	465.84	15-30	Dry	NC
	4/21/09	465.84	15-30	Dry	NC
	9/24/09	465.84	15-30	Dry	NC
	3/4/10	465.84	15-30	27.95	437.89
	7/19/10	465.84	15-30	26.55	439.29
	1/19/11	465.84	15-30	23.63	442.21
	4/6/11	465.84	15-30	18.90	446.94
	9/19/11	465.85	15-30	23.40	442.45
	11/4/11	465.85	15-30	23.60	442.25
	2/1/12	465.85	15-30	Dry	NC
	6/12/12	465.85	15-30	27.47	438.38
	8/28/12	465.85	15-30	NM	NC
	3/13/13	465.85	15-30	22.47	443.38
	6/21/13	**465.85**	**15-30**	**24.99**	**440.86**
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

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**	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
	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**
MW-5***	11/14/01	464.65	20-50	34.94	429.71
	5/7/02	464.65	20-50	27.90	436.75
	9/11/02	464.65	20-50	27.99	436.66
	12/11/02	464.65	20-50	29.50	435.15
	3/14/03	464.65	20-50	24.26	440.39
	6/25/03	464.65	20-50	24.01	440.64
	9/16/03	464.65	20-50	26.83	437.82
	12/22/03	464.65	20-50	23.68	440.97
	3/10/04	464.65	20-50	19.22	445.43
	6/15/04	464.65	20-50	24.20	440.45
	9/17/04	464.65	20-50	27.68	436.97
	12/10/04	464.65	20-50	23.93	440.72
	3/2/05	464.65	20-50	18.56	446.09
	5/27/05	464.65	20-50	20.15	444.50
	7/21/05	464.65	20-50	22.55	442.10
	10/10/05	464.65	20-50	23.35	441.30
	1/9/06	464.65	20-50	19.53	445.12

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-5A**	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
	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**
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**

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	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
	4/21/09	464.13	20-50	38.71	425.42
	9/24/09	464.13	20-50	38.26	425.87
	3/4/10	464.13	20-50	26.02	438.11
	7/19/10	464.13	20-50	24.65	439.48
	1/19/11	464.13	20-50	24.00	440.13
	4/6/11	464.13	20-50	21.76	442.37
	9/19/11	464.13	20-50	23.76	440.37
	11/4/11	464.13	20-50	23.00	441.13
	2/1/12	464.13	20-50	33.43	430.70
	6/12/12	464.13	20-50	27.62	436.51
	8/28/12	464.13	20-50	30.17	433.96
	3/13/13	464.13	20-50	22.72	441.41
	6/21/13	**464.13**	**20-50**	**25.30**	**438.83**

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

Monitoring Well ID	Date	Top of Casing Elevation* (feet, msl)	Screen Interval (feet, bgs)	Depth to Groundwater (feet)	Groundwater Elevation (feet, msl)
MW-7A**	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**
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

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	4/6/11	465.39	45-50	21.78	443.61
cont.	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**
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
	3/13/13	465.39	65-70	23.34	442.05
	6/21/13	**465.39**	**65-70**	**26.00**	**439.39**
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

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	4/6/11	465.45	15-40	18.85	446.60
cont.	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**
EW-2**	4/6/06	465.99	15-40	16.20	449.79
	7/27/06	465.99	15-40	23.10	442.89
	10/12/06	465.99	15-40	21.48	444.51
	1/3/07	465.99	15-40	21.66	444.33
	4/13/07	465.99	15-40	23.93	442.06
	10/29/07	465.99	15-40	Dry	NC
	2/1/08	465.99	15-40	NM	NC
	4/18/08	465.99	15-40	28.04	437.95
	7/28/08	465.99	15-40	NM	NC
	11/18/08	465.99	15-40	Dry	NC
	2/4/09	465.99	15-40	Dry	NC
	4/21/09	465.99	15-40	Dry	NC
	9/24/09	465.99	15-40	Dry	NC
	3/4/10	465.99	15-40	25.89	NC
	7/20/10	465.99	15-40	24.45	441.54
	1/19/11	465.99	15-40	23.72	442.27
	4/6/11	465.99	15-40	19.00	446.99
	4/18/11	465.99	15-40	19.19	446.80
	5/9/11	465.99	15-40	19.67	446.32
	6/1/11	465.99	15-40	20.71	445.28
	6/15/11	465.99	15-40	21.00	444.99
	6/30/11	465.99	15-40	21.31	444.68
	9/19/11	465.99	15-40	23.55	442.44
	11/4/11	465.99	15-40	23.60	442.39
	2/2/12	465.99	15-40	33.66	432.33
	6/13/12	465.99	15-40	27.64	438.35
	8/28/12	465.99	15-40	NM	NC
	3/13/13/	465.99	15-40	22.58	443.41
	6/21/13	**465.99**	**15-40**	**26.14**	**439.85**

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-3 [(a)]	11/18/08	NC	25-30	Dry	NC
	2/4/09	NC	25-30	33.80	NC
	4/21/09	NC	25-30	Dry	NC
	9/24/09	NC	25-30	Dry	NC
	3/4/10	NC	25-30	28.02	NC
	7/20/10	NC	25-30	NM	NC
	1/19/11	NC	25-30	23.50	NC
	4/6/11	NC	25-30	18.30	NC
	4/18/11	NC	25-30	19.40	NC
	5/9/11	NC	25-30	19.67	NC
	6/1/11	NC	25-30	20.72	NC
	6/15/11	NC	25-30	20.92	NC
	6/30/11	NC	25-30	21.11	NC
	9/19/11	NC	25-30	23.25	NC
	11/4/11	NC	25-30	23.30	NC
	2/2/12	NC	25-30	28.76	NC
	6/13/12	NC	25-30	27.31	NC
	8/28/12	NC	25-30	28.87	NC
	3/13/13	NC	25-30	22.32	NC
	6/21/13	**NC**	**25-30**	**23.35**	**NC**
EW-3B	3/13/13	NC	24-39	21.73	NC
	6/21/13	**NC**	**24-39**	**24.12**	**NC**
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**
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**

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**
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**

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)
EX-1***	11/14/01	465.30	30-55	33.41	431.89
	5/7/02	465.30	30-55	27.58	437.72
	9/11/02	465.30	30-55	NM	NC
	12/11/02	465.30	30-55	27.98	437.32
	3/14/03	465.30	30-55	23.02	442.28
	6/25/03	465.30	30-55	22.41	442.89
	9/16/03	465.30	30-55	24.65	440.65
	3/10/04	465.30	30-55	17.99	447.31
	6/15/04	465.30	30-55	22.48	442.82
	9/17/04	465.30	30-55	25.91	439.39
	12/10/04	465.30	30-55	NM	NC
	3/2/05	465.30	30-55	NM	NC
	5/27/05	465.30	30-55	18.68	446.62
	7/21/05	465.30	30-55	21.55	443.75
	10/10/05	465.30	30-55	22.73	442.57
	1/9/06	465.30	30-55	18.05	447.25

Notes:
msl: mean sea level
bgs: below ground surface
NA: well not accessible
NC: elevation not calculated
NM: well not measured
* = Well MW-1, 2, and 3 renamed MW-1A, 2A, and 3A respectively
** = Well installed on 2/22/06-2/28/06
*** = Well destroyed on 2/22/06-2/28/06
(a) = Well EW-3 is 35 feet deep with a screen interval from 25 to 30 feet bgs.

Table 2
Historical 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		Napthalene
										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 2
Historical 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		Napthalene
										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	0.013	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 2
Historical 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		Napthalene
										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 2
Historical 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		Napthalene
										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	--	--	--	--	--	--	--	--
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Table 2
Historical 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		Napthalene
										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 napthalene were analyzed by EPA Method 8260B.
Refusal met in borings GP-20 and GP-27, therfore no samples collected.
Data compiled from other consultants was not subject to Allterra's standard of quality control.

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-1A*	8/11/00	NC	170,000	57,000	6,400	7,600	4,200	9,700	320,000	--	--	--	--	--	--	--	--	--	--
	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	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	NC	NS	NS	not sampled - well dry				NS	NS	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	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	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	437.69	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	430.03	NS	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	<0.2
	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 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-1A cont.	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
	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	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	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**
MW-1B	3/13/06	446.44	<50	<50	<0.5	<0.5	<0.5	<0.5	8.2	<0.5	<5.0	<0.5	<0.5	7.9	<50	<500	<0.5	<0.5	--
	4/6/06	449.43	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	1.0	<50	<500	<0.5	<0.5	--
	7/27/06	442.55	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--	--
	10/12/06	441.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	--	--	--
	1/3/07	443.98	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	4/13/07	441.72	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	7/16/07	429.45	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--	--
	10/29/07	417.70	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	2/1/08	431.12	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	4/18/08	437.67	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	7/29/08	420.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--
	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	--	--	--	--	1.1	--	--	--	--	--
	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	130	<0.5	<0.5	<0.5	<0.5	<5.0	<250	40,000	<250	<250	330	--	--	<250	<250	--
	4/8/11	446.62	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<0.5	<0.5	<0.5	--	--	<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 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/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**
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 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW- 2A* cont.	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	--
	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	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**
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	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	NC	NS	NS	not sampled - well dry				NS	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	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	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	7/27/06	442.94	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	--	--	--	--	--
	10/12/06	441.85	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	--	--	--
	1/3/07	444.32	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	4/13/07	442.06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-3A cont.	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	437.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/28/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	437.89	<50	--	<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	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	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	NS
	7/22/13	**NC**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
MW-4**	11/14/01	431.31	510	90	4.0	<0.5	<0.5	<0.5	14	--	--	--	--	--	--	--	--	--	--
	5/7/02	438.40	150	<50	3.5	0.5	<0.5	<0.5	48	--	--	--	--	--	--	--	--	--	--
	9/11/02	438.49	<50	--	<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 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/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	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	437.05	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	439.30	<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	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	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	NS
	7/22/13	**NC**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
MW-5**	11/14/01	429.71	<50	<66	<0.5	<0.5	<0.5	<0.5	8.2	--	--	--	--	--	--	--	--	--	--
	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 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/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	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	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	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	464.64	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	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	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**	**NS**

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/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	--	--	--	--	--
	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	--	--	--	--	--
	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**

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-6	11/14/01	430.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--	--	--	--
	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	<0.5	<0.5	--	--	--	--	--
	10/13/06	439.77	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	--	--	--
	1/4/07	442.10	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	4/16/07	439.73	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<500	<0.5	<0.5	--
	7/16/07	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	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	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
	4/22/09	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	--	--	--	--	--
	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	--	--	--	--	--

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-6 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**	**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	<5.0	73	<500	<5,000	<5.0	<5.0	--
	4/16/07	441.27	520	470	17	5.6	2.6	0.88	140	<12	2,500	<12	<12	170	<1,200	<12,000	<12	<12	--
	7/16/07	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	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	437.16	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	439.02	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	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	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**

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-7B	3/13/06	445.64	230	<50	1.8	4.7	<0.5	2.2	1,500	<50	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**

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/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**
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	--	--	--	--	--	--	--	--	--	--

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/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.	6/12/12	NC	<50	--	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<2.0	<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	--	--	--	--	--	--	--	--	--	--
	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-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	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	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 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
MW-9B	7/29/08	NC	<50	63	<0.5	<0.5	<0.5	<0.5	100	<10	2,800	<10	<10	160	<1,000	<10,000	<10	<10	--
	11/18/08	NC	<50	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**
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 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
EW-1	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	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	437.62	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	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**

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/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	--
	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	NC	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**

Table 3
Historical Groundwater Analytical Results
160 Holmes Street, Livermore, California

Well ID	Date Collected	Groundwater Elevation (feet above MSL)	Total Petroleum Hydrocarbons (µg/L)		Aromatic Volatile Organic Compounds (µg/L)					Oxygenated Volatile Organics (µg/L)							Lead Scavengers (µg/L)		Hexavalent Chromium (µg/L)
			Gasoline	Diesel	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	TAME	TBA	DIPE	ETBE	MTBE	Ethanol	Methanol	EDB	1,2-DCA	
EW-3 [(a)]	11/18/08	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/09	NC	<10,000	--	<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	NS
	9/24/09	NC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/10	NC	140,000	--	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**
EW-3B [(b)]	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**

Notes:
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 8260, and hexavalent chromium by EPA Method E200.8

µg/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-isoprpopyl 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.

APPENDIX A
Site Investigation Field Protocol

APPENDIX A
Allterra's Site Investigation Field Protocol

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

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

Soil Gas 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.

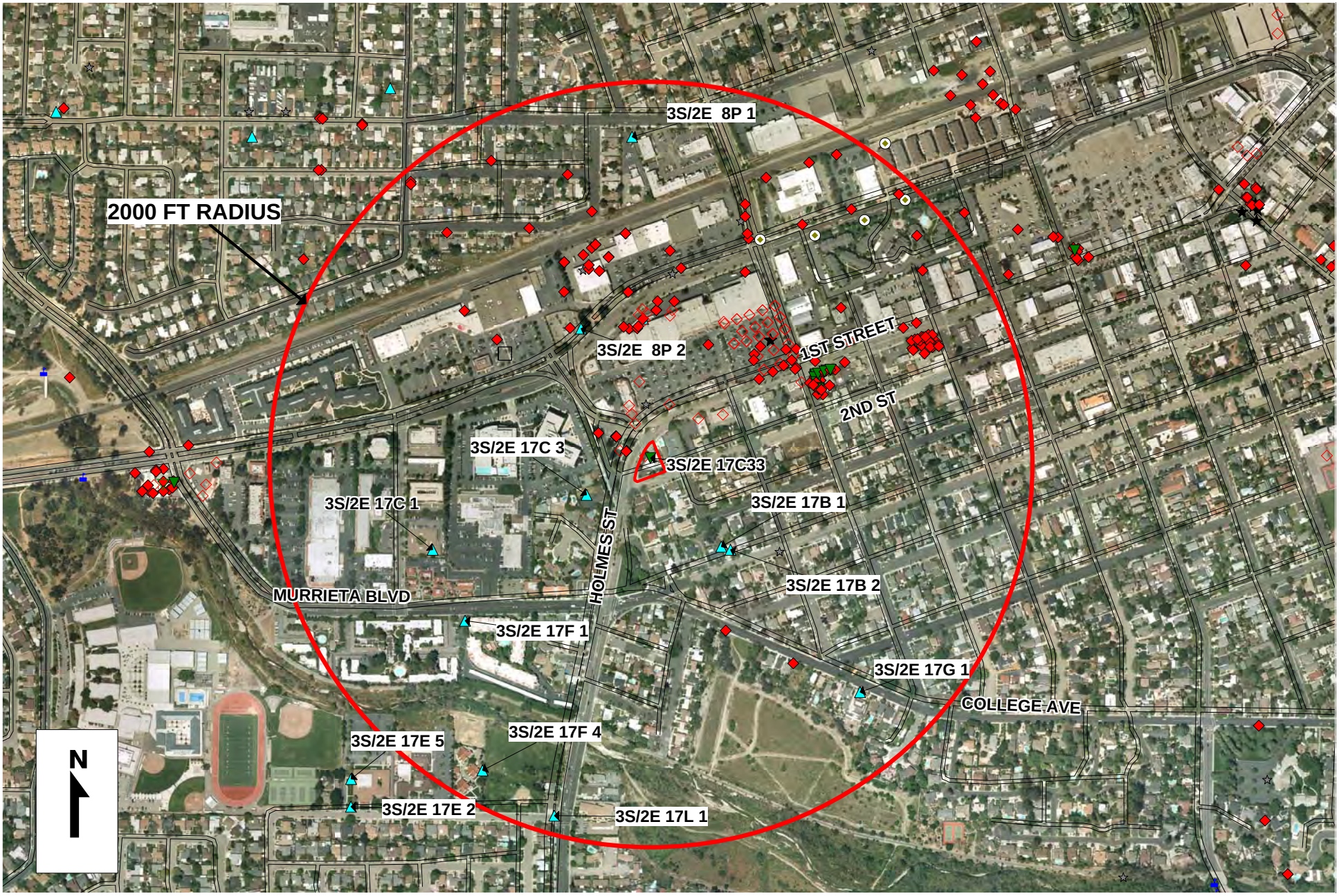
Sample Identification and Chain-Of-Custody Procedures: Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any in-field measurements made, sampling methodology, name(s) of on-site personnel, and any 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 BL	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. VERTERAN'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
Drilling Permits

ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Livermore Gas & Minimart
160 HOLMES ST, LIVERMORE

Coordinates Source _____ ft. Accuracy _____ ft.
LAT: _____ ft. LONG: _____ ft.
APN 47-82-7-7

CLIENT
Name Manwel and Samira Shuwayhat
Address 54 Wolfe Canyon Rd Phone 415-416-9556
City Kentfield Zip 94904

APPLICANT
Name Allterra Environmental, Inc.
Email info@allterraenv.com Fax 831 425 2609
Address 849 Almar Ave ste C-281 Phone 831 425 2608
City Santa Cruz Zip 95060

TYPE OF PROJECT:

Well Construction	X	Geotechnical Investigation	—
Well Destruction	—	Contamination Investigation	—
Cathodic Protection	—	Other	—

PROPOSED WELL USE:

Domestic	—	Irrigation	—
Municipal	—	Remediation	—
Industrial	—	Groundwater Monitoring	—
Dewatering	—	Other Injection	X

DRILLING METHOD:

Mud Rotary	—	Air Rotary	—	Hollow Stem Auger	X
Cable Tool	—	Direct Push	—	Other	—

DRILLING COMPANY Exploration Geoservices, Inc.
1535 Industrial Ave, San Jose, CA 95112
DRILLER'S LICENSE NO. 484288

WELL SPECIFICATIONS:
Drill Hole Diameter 10 in. Maximum
Casing Diameter 4 in. Depth 40 ft.
Surface Seal Depth _____ ft. Number 1

SOIL BORINGS:
Number of Borings _____ Maximum
Hole Diameter _____ in. Depth _____ ft.

ESTIMATED STARTING DATE 2-20-13
ESTIMATED COMPLETION DATE 2-22-13

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ Date 2-11-13

ATTACH SITE PLAN OR SKETCH

FOR OFFICE USE

PERMIT NUMBER 2013021
WELL NUMBER 3S/2E-17C8
APN 97-0082-007-07

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.
3. Permit is void if project not begun within 90 days of approval date.
4. Notify Zone 7 at least 24 hours before the start of work.

B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

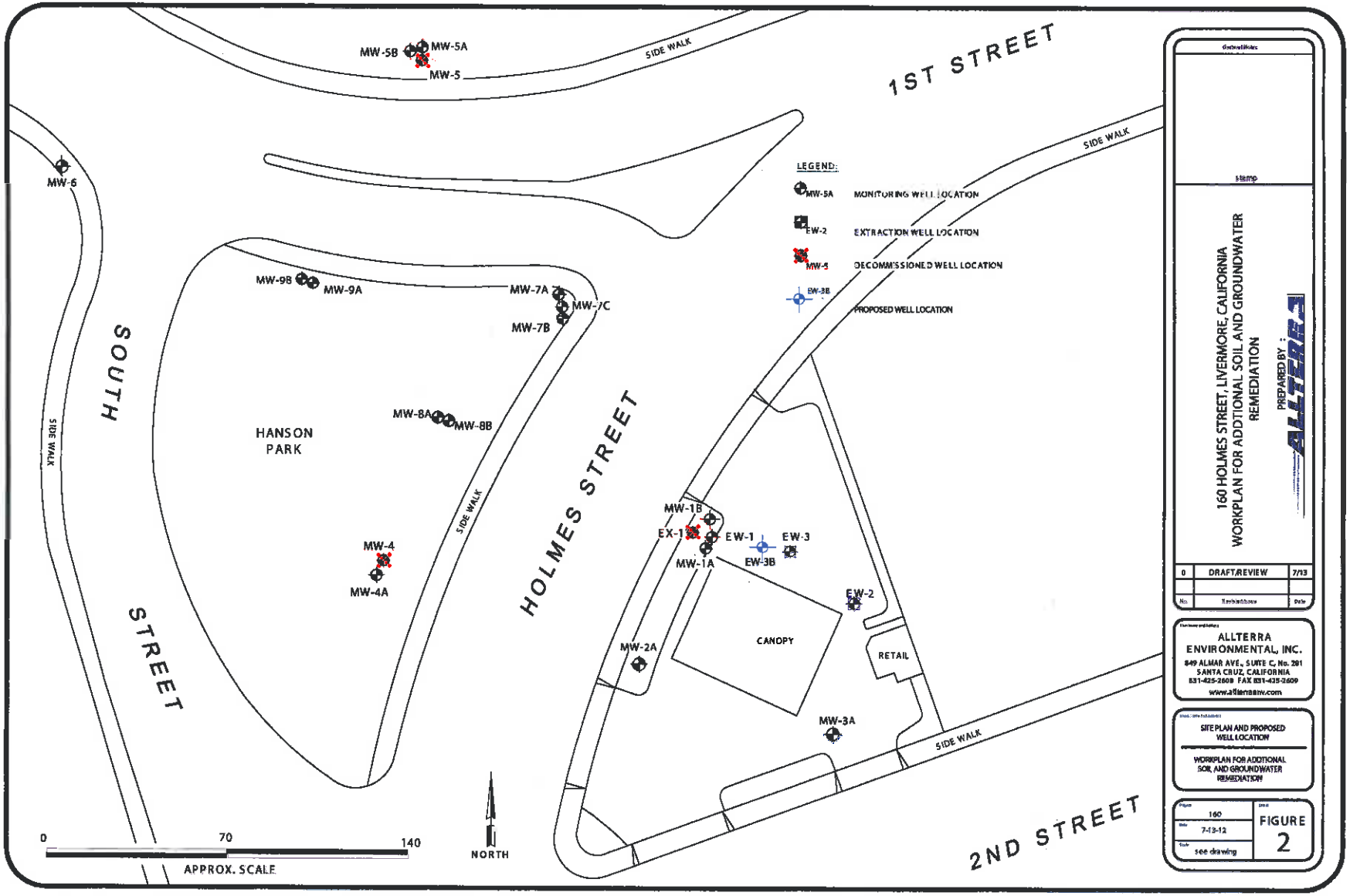
E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

G. SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report including all soil and water laboratory analysis results.

Approved Wyman Hong Date 2/25/13
Wyman Hong

Revised: January 4, 2010


1ST STREET
SIDE WALK
MW-5B
MW-5A
MW-5
MW-6
LEGEND:
MW-5A MONITORING WELL LOCATION
EW-2 EXTRACTION WELL LOCATION
MW-5 DECOMMISSIONED WELL LOCATION
EW-3B PROPOSED WELL LOCATION
MW-9B
MW-9A
MW-7A
MW-7C
MW-7B
SOUTH
STREET
SIDE WALK
HANSON
PARK
MW-8A
MW-8B
HOLMES STREET
SIDE WALK
MW-4
MW-4A
MW-1B
EX-1
EW-1
EW-3
EW-3B
MW-1A
EW-2
MW-2A
CANOPY
RETAIL
MW-3A
SIDE WALK
2ND STREET
0
70
140
APPROX. SCALE
NORTH
160 HOLMES STREET, LIVERMORE, CALIFORNIA
WORKPLAN FOR ADDTIONAL SOIL AND GROUNDWATER REMEDIATION
PREPARED BY :
ALLTERRA
0 DRAFT/REVIEW 7/13
ALLTERRA ENVIRONMENTAL, INC.
849 ALMAR AVE., SUITE C, No. 291
SANTA CRUZ, CALIFORNIA
831-425-2609 FAX 831-425-2609
www.allterraenv.com
SITE PLAN AND PROPOSED WELL LOCATION
WORKPLAN FOR ADDITIONAL SOIL AND GROUNDWATER REMEDIATION
160
7-13-12
see drawing
FIGURE
2

February 12, 2013

Wyman Hong
Zone 7 Water Agency
100 North Canyons Parkway
Livermore, California 94551

SUBJECT: Permit 2012081 Closure
160 Holmes Street, Livermore, California

Dear Mr. Hong,

Allterra Environmental, Inc. (Allterra) would like to close out well installation permit No. 2012081 and apply for a new well installation permit. We are planning to install the well during the week of February 18-22 2013.

If you have any questions or concerns please contact Allterra at (831) 425-2608.

Sincerely,
Allterra Environmental, Inc.

Aaron Powers
Project Geologist

enclosures: New permit application

Description of Proposed In-Situ Treatment Activities for Drilling Permit

To aggressively treat residual contaminates in soil and groundwater beneath the Site, a remedial solution consisting of approximately 2,000 pounds of RegenOx™ will be pressure injected into the source area using wells EW-1 and EW-3B. The RegenOx™ application process enables the two-part product to be combined and then pressure injected into the zone of contamination and moved out into the unsaturated zone and aquifer media. Based on the lithology and hydrogeologic characteristics of native sediments beneath the Site, multiple injection events will likely be required to facilitate the injection of the designed volume of RegenOx™ and to minimize potential adverse affects at the ground surface (i.e. surfacing, high back pressure). Using pressure injection techniques to ensure thorough distribution across heterogeneous soils, the remedial solution will be delivered to the subsurface in a series of three injection events spaced approximately one to two weeks apart. Detailed RegenOx™ application procedures using fixed wells are presented in the following pages.

ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 160 HOLMES ST. LIVERMORE, CA

Coordinates Source _____ ft. Accuracy _____ ft.
LAT: _____ ft. LONG: _____ ft.
APN 047-82-07-7

CLIENT
Name MANUEL SHUMAKHAT
Address 54 WOLFE CANYON RD. Phone 415.416.9556
City KENTFIELD, CA Zip 94904

APPLICANT
Name ALLTERRA ENVIRONMENTAL, INC.
Email joe@allterraenv.com Fax 831.425.2609
Address 849 ALMAR AVE, SUITE C-251 Phone 831.425.2608
City SANTA CRUZ, CA Zip 95060

TYPE OF PROJECT:

Well Construction	__	Geotechnical Investigation	__
Well Destruction	__	Contamination Investigation	✓
Cathodic Protection	__	Other _____	__

PROPOSED WELL USE:

Domestic	__	Irrigation	__
Municipal	__	Remediation	__
Industrial	__	Groundwater Monitoring	__
Dewatering	__	Other _____	__

DRILLING METHOD:

Mud Rotary	__	Air Rotary	__	Hollow Stem Auger	✓
Cable Tool	__	Direct Push	✓	Other _____	__

DRILLING COMPANY ENVIRONMENTAL CONTROL ASSOCIATES, INC.
3011 TWIN PALMS DRIVE, APTOS, CA 95003
DRILLER'S LICENSE NO. 695970

WELL SPECIFICATIONS:
Drill Hole Diameter _____ in. Maximum
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

SOIL BORINGS:
Number of Borings 3 Maximum
Hole Diameter 2.5 in. Depth 35 ft.

ESTIMATED STARTING DATE AUGUST 1, 2013
ESTIMATED COMPLETION DATE AUGUST 1, 2013

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ Date 7/22/13

ATTACH SITE PLAN OR SKETCH

FOR OFFICE USE

PERMIT NUMBER 2013089
WELL NUMBER _____
APN 97-0082-007-07

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original **Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.**
3. Permit is void if project not begun within 90 days of approval date.
4. **Notify Zone 7 at least 24 hours before the start of work.**

B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

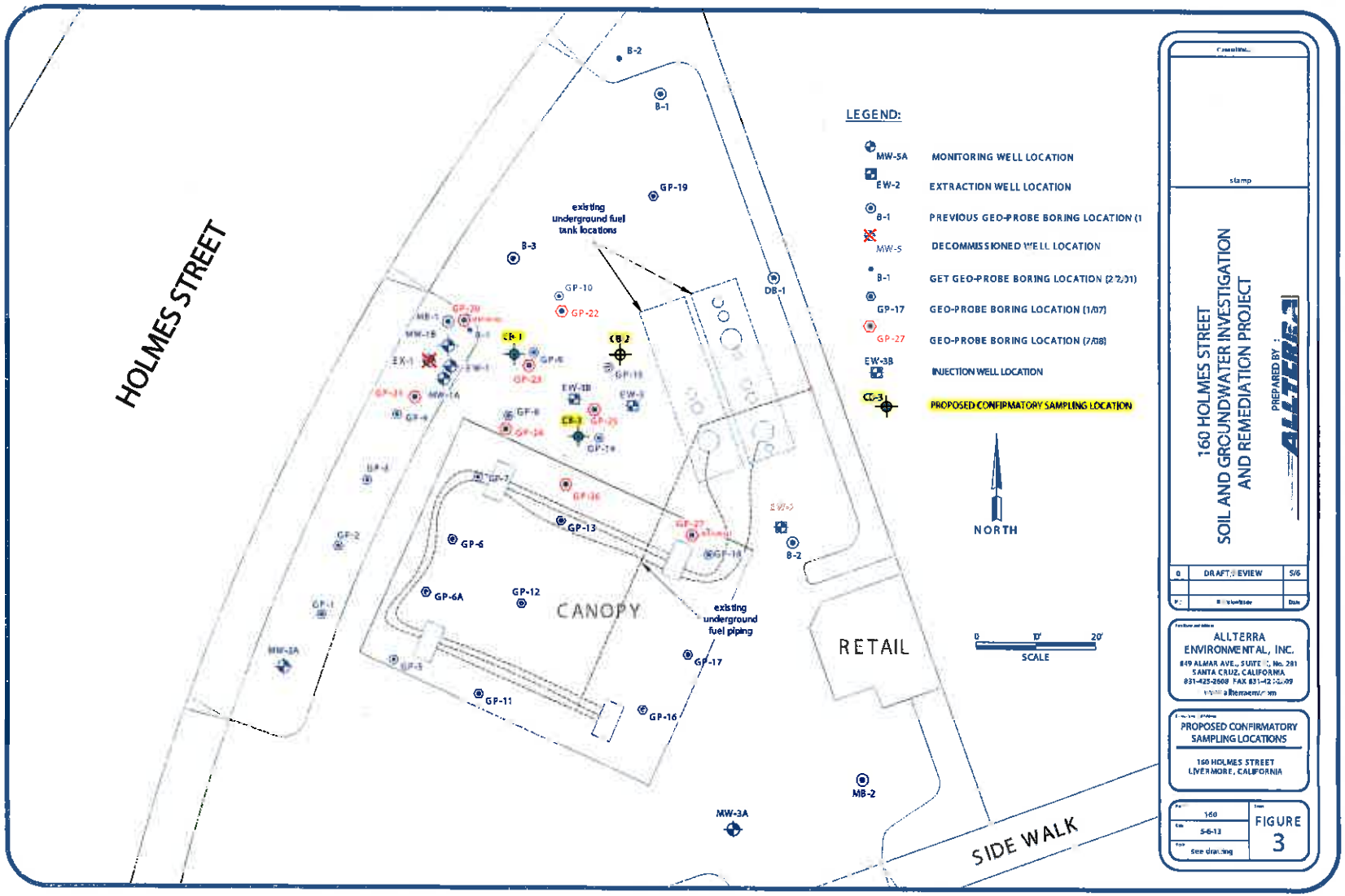
E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

(G.) SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

Approved Wyman Hong Date 7/23/13
Wyman Hong

Revised: January 4, 2010



Consultant

stamp

160 HOLMES STREET
SOIL AND GROUNDWATER INVESTIGATION
AND REMEDIATION PROJECT

PREPARED BY: ALLTERRA

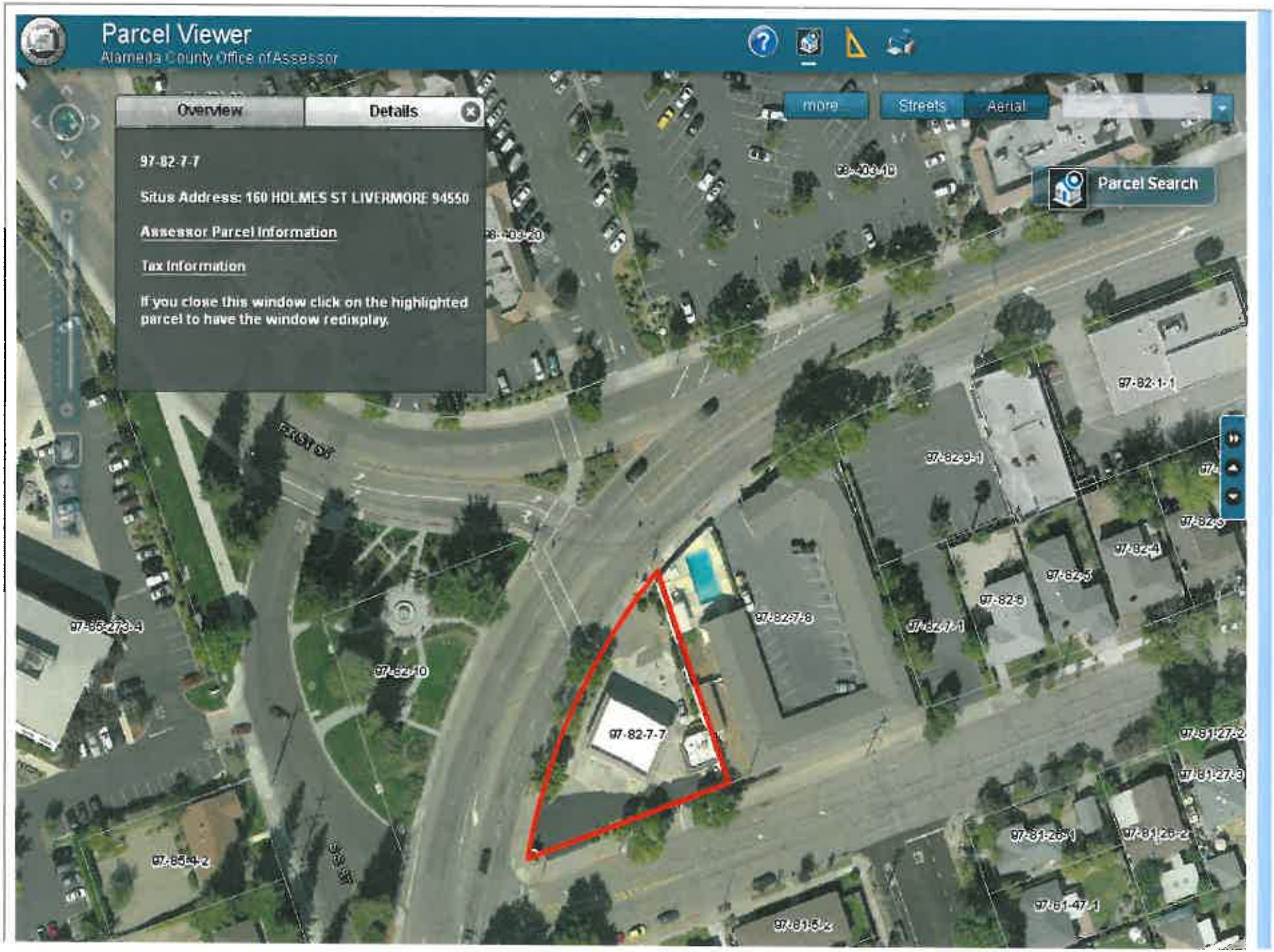
0	DRAFT @ EVIEW	5/6
P.C.	Description	Date

ALLTERRA ENVIRONMENTAL, INC.
849 ALMAR AVE., SUITE C, No. 281
SANTA CRUZ, CALIFORNIA
831-425-2608 FAX 831-42[illegible]09
[illegible]@alterraenv.com

PROPOSED CONFIRMATORY SAMPLING LOCATIONS

160 HOLMES STREET
LIVERMORE, CALIFORNIA

Project No. 160	Issue
Date 5-6-13	FIGURE 3
Scale See drawing	


Parcel Viewer
Alameda County Office of Assessor
Overview
Details
97-82-7-7
Situs Address: 160 HOLMES ST LIVERMORE 94550
Assessor Parcel Information
Tax Information
If you close this window click on the highlighted parcel to have the window redisplay.
more
Streets
Aerial
Parcel Search
97-82-1-1
97-82-9-1
97-82-7-8
97-82-7-1
97-82-7-7
97-82-10
97-85-273-4
97-85-4-2
97-81-47-1

APPENDIX D
Boring Logs

Field Well/Boring Log

Field location of boring: Northeast of fuel dispensers (See Site plan)	**Boring ID** **EW-3B**	Page: 1 of 2
	Project Number: 160	
	Date: 3/5/13	
	Location: 160 Holmes St., Livermore, CA	
	Logged By: AP	
Drilling Method/Boring Diameter (inches): Hollow stem auger/ 12	Driller: Exploration Geoservices Inc.	
	Casing installation data: 4-inch casing, 12-inch diameter bore hole, 24 to 39 feet below ground surface (bgs) screen interval	

Well Construction Details	PID (ppm)	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
				1		GM to GW	Silty Gravel with sand (GM), medium brown, loose, dry, no product odor (npo)
				2			heterogeneous mixture of material with common trash [Artificial Fill]
				3			Pea gravel at 2 feet bgs to 2.5 feet bgs.
				4			
				5			Some large cobbles in Fill (hard drilling), loose, dry, npo
				6			
				7			Gravel with sand (GW) at 4 feet bgs, some cobbles, dry, loose,
				8			npo [Artificial Fill]
				9		MH	Silt with trace clay (MH), brown, medium stiff, low plasticity, slightly moist, npo
				10			
	0.0			11			
				12			
				13		ML	
	0.0			14			
				15			Silt with trace sand (ML), light brown, soft to medium stiff, slightly moist,
				16			no plasticity, npo
				17		GW	Sandy Gravel (GW), brown to grey, coarse grained sand, loose, moist, npo
				18			
				19		GC	Clayey Gravel (GC) at 19 feet bgs, well-graded gravel in clay matrix,
			EW-3B@20'	20			very little recovery
				21		CL	Clay with silt (CL), greyish brown, soft, medium plasticity, moist, slight product
				22			odor (spo)
				23			
	5.2		▼	24			
			EW-3B@25'	25		CL	Silty Clay (CL), mottled grey and brown, soft, high plasticity, damp, moderate
				26			product odor (mpo)
			▽	27			
				28			
	3.1			29		GW	Gravelly Sand with some silt and clay (SW), brownish grey, loose, saturated, spo
			EW-3B@30'	30			very little recovery

Water Level Information		
Date	Time	Depth (feet)
3/5/13	12:49	28
	15:00	23.7

When applicable 31-60 feet bgs on page 2

Notes:

= Cement
= Bentonite
= Coarse sand
= 0.04 inch slotted PVC screen
= Blank PVC casing

▽ = initial water level
▼ = static water level

Field Well/Boring Log

Field location of boring: (See attached Site Plan)	**Boring ID** **EW-3B**	Page: 2 of 2
	Project Number: 160	
	Date: 3/5/13	
	Location: 160 Holmes St., Livermore, CA	
	Logged By: AP	
Drilling Method/Boring Diameter (inches): Hollow stem auger/12	Driller: Exploration Geoservices, Inc.	

Casing installation data: 4-inch casing, 12-inch diameter bore hole, 24 to 39 feet below ground surface (bgs) screen interval

Well Construction Details	PID (ppm)	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
				31		GW	
				32			See previous page
				33			
				34			
			EW-3B@35'	35		SP	Sand with some gravel (SP), coarse grained sand, loose, saturated, npo
				36			
				37			
				38			
				39			Total depth = 39 feet bgs

Notes:

= Cement
= Bentonite
= Coarse sand
= 0.004 inch slotted PVC screen
= Blank PVC casing

▽ = initial water level
▼ = static water level

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Field Well/Boring Log

Field location of boring: See Attached Site Plan

Boring ID CB-1 | Page 1 of 2

Project Number: 160

Date: 8/8/13

Location: 160 Holmes

Logged By: AP

Drilling Method/Boring Diameter (inches):Geoprobe / 2.5

Driller: ECA, Inc.

Casing installation data:

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1		GM/GW	
		CB-1@2.5	2			Silty Gravel (GM), dark brown, medium dense, dry, no
			3	X		product odor (npo), gravel angular 1/2" to 2" diameter.
0.0			4			
		CB-1@5	5	X		
			6			
		CB-1@7.5	7			Gravelly Silt (ML), dark brown, medium sti ff, moist, npo.
			8	X		
0.0			9			Sandy Gravel (GW), light brown to tan, loose, dr y, npo,
		CB-1@10	10	X		some (~3") angular granite cobbles. [Fill]
			11			
			12			
			13		ML	Clayey Silt (ML), light brown, stiff, moist, npo, very low
0.0			14			plasticity, low toughness.
		CB-1@15	15	X		
			16			
			17			
			18		GM	Silty Gravel with Sand (GM), brown to dark brown,
0.0			19			medium dense, moist, gravel rounded, gravel increases
		CB-1@20	20	X		with depth, some iron oxide motteling.
			21		CL	Gravelly Clay (CL), medium brown, very stiff, moist, npo,
			22			high plasticity, high toughness, some rounded gravel.
			23			
13.8			24			
		CB-1@25	25	X	CL	Silty Clay (CL), grey, soft, moist, strong product odor
			26			(spo), high plasticity, low toughness, dark grey staining.
			27			
			28			Silty Clay (CL), light grey, soft, damp to saturated,
			29			moderate product odor (mpo), high plasticity, low
		CB-1@30	30	X		toughness, some grey staining, sand content increases
						with depth.

Notes:

Field Well/Boring Log

Field location of boring: See Attached Site Plan

Boring ID CB-1 | Page 2 of 2

Project Number: 160

Date: 8/8/13

Location: 160 Holmes

Logged By: AP

Drilling Method/Boring Diameter (inches): Geoprobe / 2.5

Driller: ECA, Inc.

Casing installation data:

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
20.8			31		CL	See previous page
			32			
			33		CL	Sandy Clay (CL), grey, soft, saturated, mpo, high plasticity
			34			fines, low toughness.
		CB-1@35	35	X	CL	Gravelly Clay (CL), brown, stiff, dry, slight product odor,
						(spo), high plasticity fines, high toughness.

Water Level Information

Date	Time	Depth (feet)

Notes (total depth, etc.):

Bottom of boring at 35' below ground surface

Field Well/Boring Log

Field location of boring: See Attached Site Plan

Boring ID CB-2 | Page 1 of 2

Project Number: 160

Date: 8/8/13

Location: 160 Holmes

Logged By: AP

Drilling Method/Boring Diameter (inches): Geoprobe / 2.5

Driller: ECA, Inc.

Casing installation data:

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1		GW	
		CB-2@2.5	2			Gravelly Sand (GW), light grey to brown, loose, dry, npo,
			3	X		(no product odor) [Fill]
0.0			4			
		CB-2@5	5	X		
			6			same, some pea gravel
		CB-2@7.5	7			
			8	X		
0.0			9			
		CB-2@10	10	X		
			11			
			12			
			13			
0.0			14		ML	Clayey Silt (ML), brown, medium stiff, moist, npo, very low
		CB-2@15	15	X		plasticity, medium toughness.
			16			
			17			
			18		GM	Silty Gravel with Clay (GM), brown, stiff, medium, npo,
0.5			19			medium plasticity fines, medium toughness, gravel
		CB-2@20	20	X		rounded up to 2” in diameter.
			21			
			22		CL	Gravelly Clay (CL), light brown, medium stiff, moist, slight
			23			product odor (spo) high plasticity fines, medium toughness,
0.0			24			gravel approximately 1/4" diameter.
		CB-2@25	25	X		
			26			
			27			moisture increases with depth
			28			
			29			
		CB-2@30	30	X	CL	Sandy Clay (CL), grey, soft, moist, high plasticity, low
			31			toughness, moderate product odor (mpo).

Notes:

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Field Well/Boring Log

Field location of boring: See Attached Site Plan	**Boring ID** CB-2	Page 2 of 2
	Project Number: 160	
	Date: 8/8/13	
	Location: 160 Holmes	
	Logged By: AP	
Drilling Method/Boring Diameter (inches): Geoprobe / 2.5	Driller: ECA, Inc.	

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Casing installation data: / Description
			31		CL	See previous page
			32		CL	Silty Clay (CL), grey brown, medium stiff, moist, npo, high plasticity, low toughness.
			33			
0.0			34			
		CB-2@35	35	X		

Water Level Information		
Date	Time	Depth (feet)

Notes (total depth, etc.):

Bottom of boring at 35' below ground surface

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Field Well/Boring Log

Field location of boring: See Attached Site Plan

Boring ID CB-3 | Page 1 of 1

Project Number: 160

Date: 8/8/13

Location: 160 Holmes

Logged By: AP

Drilling Method/Boring Diameter (inches): Geoprobe / 2.5

Driller: ECA, Inc.

Casing installation data:

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1		GW/GM/SP	
		CB-2@2.5	2			Sandy Gravel (GW), grey brown, loose, dry, npo,
			3	X		(no product odor).
0.0			4			
		CB-2@5	5	X		Gravelly Silt (ML), dark brown, stiff, moist, npo.
			6			
		CB-2@7.5	7			
			8	X		
0.0			9			
			10			Gravelly Sand (SP), grey brown, loose, dry, npo. [Fill]
			11			
			12			large cobble at 14 feet below ground surface
			13			very little recovery
0.0			14		ML	Clayey Silt (ML), dark brown, medium stiff, moist, npo,
			15			very low plasticity, medium toughness.
			16			
			17			
			18			
			19		GW	Sandy Gravel with trace silt (GW), greyish brown, loose to
			20			medium dense, npo.
			21			
			22			
			23			Refusal at 22 feet below ground surface
			24			
			25			
			26			
			27			
			28			
			29			
			30			

Notes:

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Field Well/Boring Log

Field location of boring: See Attached Site Plan

Boring ID CB-4 | Page 1 of 2

Project Number: 160

Date: 8/8/13

Location: 160 Holmes

Logged By: AP

Drilling Method/Boring Diameter (inches): Geoprobe / 2.5

Driller: ECA, Inc.

Casing installation data:

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			1		GW	
		CB-4@2.5	2			Sandy Gravel (GW), grey brown, loose, dry, npo,
			3			(no product odor) [Fill]
0.0			4			
		CB-4@5	5	X		
			6			same
		CB-4@7.5	7			
			8			
0.0			9			some zones of increased fines (GM)
		CB-4@10	10	X		
			11			
			12			
			13			
0.0			14		ML	Clayey Silt with some sand (ML), light brown, stiff,
		CB-4@15	15	X		moist, npo, medium plasticity, high toughness.
			16			
			17			
			18		GC	Clayey Gravel (GC), medium brown, stiff, moist, npo,
0.5			19			medium plasticity fines, medium toughness.
		CB-4@20	20	X	GW	Gravelly Sand (GW), grey brown, medium dense, dry,
			21			npo, gravel up to 3" diameter.
			22		ML	Clayey Silt (ML), brown, medium stiff, moist, npo, low
			23			plasticity, medium toughness.
0.0			24			
		CB-4@25	25	X		
			26			
			27		CL	Silty Clay (CL), grey brown, medium stiff, moist, npo,
			28			medium plasticity, medium toughness.
			29			
		CB-4@30	30	X	CL	Sandy Clay (CL), grey, soft, wet, high plasticity, low
						toughness, moderate product odor (mpo).

Notes:

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Field Well/Boring Log

Field location of boring: See Attached Site Plan	**Boring ID** CB-4	Page 2 of 2
	Project Number: 160	
	Date: 8/8/13	
	Location: 160 Holmes	
	Logged By: AP	
Drilling Method/Boring Diameter (inches): Geoprobe / 2.5	Driller: ECA, Inc.	
	Casing installation data:	

PID	Blows/ft. or PSI	Sample ID	Depth (feet)	Sample	Soil Group Symbol (USGS)	Description
			31		CL	
			32			Sandy Clay (CL), grey, soft, wet, high plasticity, low
			33			toughness, moderate product odor (mpo).
0.0			34			
		CB-4@35	35	X		

Water Level Information		
Date	Time	Depth (feet)

Notes (total depth, etc.):

Bottom of boring at 35' below ground surface

APPENDIX E
Field Logs

Strong
Moderate
None

Allterra Environmental, Inc.

Well Development Field Log

Site Address	160 Holmes	Date	3·8·13
Project Number	160	Field Personnel	AP

Monitoring Well Information

None
Medium
High

Monitoring Well ID	EW-3B	Monitoring Well Diameter (inches)	4" (0.66)
Depth to Water (feet)	23.70	Water Column (feet)	15.30
Total Depth (feet)	39.00	80% Recharge Depth (feet)	
Depth to Product (feet)		1 Well Volume (gallons)	10.1

Comments

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		10	1924	19.4	7.20	High	light brown	None
		20	1064	19.5	7.34	High	light brown	None
		30	1046	19.2	7.30	High	light brown	None
		40	1079	19.3	7.26	High	light brown	None
		50	1047	19.2	7.52	High	light brown	None
		60	193	19.3	7.72	High	light brown	None
		70	961	19.2	7.60	High	light brown	None
		80	968	19.1	7.28	High	light brown	None
		90	937	19.1	7.60	High	light brown	None
		100	940	19.1	7.18	High	light brown	None

Total Purge Volume

Groundwater Sampling Information

Sample ID	Sample Time
Sample Containers (Number/Type)	
Comments	

ALLTERRA

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3·13·13

Project Number: **160** | Field Personnel: AP / RG

Monitoring Well Information

Monitoring Well ID: **MW-1A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 21.94 | Water Column (feet): 6.56 | (.17) = 1.1 gallons

Total Depth (ft): **28.50** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 1.1 gallons x 3 = 3.3 gallons

Comments:

Field Measurements and Observations

DO / Time	ORP / Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
4.04	86	1.1	3.33	20.6	7.66	High	light brown	None
4.04	91	2.2	3.61	21.9	7.69	High	light brown	None
		3.3						

Total Purge Volume: 3.3 | Comments:

Groundwater Sampling Information

Sample ID: **MW-1A** | Sample Time: 1:50 3/14/13

Sample Containers (#/Type): **(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly**

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3·14·13

Project Number: **160** | Field Personnel: AP / RG

Monitoring Well Information

Monitoring Well ID: **MW-1B** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 21.96 | Water Column (feet): 32.54' | (.17) = 5.5

Total Depth (ft): **54.50** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 5.5 x 3 16.5

Comments:

Field Measurements and Observations

DO / Time	ORP / Depth to Water	Purge Volume	Conductivity ms	Temperature	pH	Turbidity	Color	Odor
6.95	53	5.5	0.652	20.5	7.24	low	clear	none
7.06	59	11.0	0.649	20.2	7.12	low	light brn	↓
7.11	58	16.5	0.644	20.0	7.10	med	↓	↓

Total Purge Volume: | Comments:

Groundwater Sampling Information

Sample ID: **MW-1B** | Sample Time: 2:40 3/14/13

Sample Containers (#/Type): **(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly**

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3·13·13

Project Number: **160** | Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **MW-2A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 21.81 | Water Column (feet): 6.59 | (.17) = 1.1

Total Depth (ft): **28.40** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 1.1 x3 = 3.3

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		1.1	1139	19.9	6.98	High	Brown	None
		2.2	1100	19.7	6.82	High	Brown	None
		3.3	1083	19.6	6.85	High	Brown	None

Total Purge Volume: 3.3 | Comments:

Groundwater Sampling Information

Sample ID: **MW-2A** | Sample Time: 2:30

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3·13·13

Project Number: **160** | Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **MW-3A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 22.47 | Water Column (feet): 5.73 | (.17) = 1.0

Total Depth (ft): **28.20** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 1.0 x3 = 3

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		1	831	19.9	6.85	light brown	High	None
		2	809	19.9	6.84	light brown	High	None
		3	809	19.9	6.78	light brown	High	None

Total Purge Volume: 3 | Comments:

Groundwater Sampling Information

Sample ID: **MW-3A** | Sample Time: 2:00

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3·13·13

Project Number: **160** | Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **MW-4A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 22.38 | Water Column (feet): 6.42 | (.17) = 1.1

Total Depth (ft): **28.80** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 1.1 x3 = 3.3

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		1.1	960	19.5	7.41	None	clear	None
		2.2	972	19.3	7.30	low	light brown	↓
		3.3	910	19.1	7.07	low	↓	

Total Purge Volume: 3.3 | Comments: NOT SAMPLED

Groundwater Sampling Information

Sample ID: **MW-4A** | Sample Time: 2:45

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3.13.13

Project Number: **160** | Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **MW-5A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 23.38 | Water Column (feet): 10.6 | (.17) = 1.8

Total Depth (ft): **34.00** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 1.8 x3 = 5.4

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		1.8	1019	20.5	7.21	None	clear	None
		3.6	1105	20.6	7.22	None	clear	↓
		5.4	1121	20.6	7.24	low	grey brown	↓

Total Purge Volume: 5.4 | Comments:

Groundwater Sampling Information

Sample ID: **MW-5A** | Sample Time: 12:00 PM

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3·13·13

Project Number: **160** | Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **MW-5B** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 23.42 | Water Column (feet): 29.22 | (.17) = 4.9

Total Depth (ft): **52.64** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 4.9 x 3 = 14.7

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		4.9	691	20.4	7.36	NONE	clear	None
		9.8	~~738~~ 709	19.8	7.38	very low	Tan	None
		14.7	699	19.7	7.33	very low	Tan	None.

Total Purge Volume: 14.7 | Comments:

Groundwater Sampling Information

Sample ID: **MW-5B** | Sample Time: 12:00

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3·13·13

Project Number: **160** | Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **MW-6** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 22.72 | Water Column (feet): 24.28 | (.17) = 4.1

Total Depth (ft): **47.00** | 80% Recharge Depth (ft):

Depth to Product (ft): ? | 1 Well Volume (gallons): 4.1 x 3 = 12.3

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		4.1	1079	19.1	6.89	High	light brown	None
		8.2	1097	19.0	6.89	High	light brown	None
		12.3	1091	18.9	6.89	High	light brown	None

Total Purge Volume: 12.3 | Comments:

Groundwater Sampling Information

Sample ID: **MW-6** | Sample Time: 12:30

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3/14/13

Project Number: **160** | Field Personnel: JM

Monitoring Well Information

Monitoring Well ID: **MW-7A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 22.86 | Water Column (feet): 6.14 | (.17) = 1.0

Total Depth (ft): **29.00** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 1.0 x 3 = 3.0

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity µS	Temperature	pH	Turbidity	Color	Odor
		1.0	1134	19.5	7.12	med	grayish brn	none
		2.0	1132	19.5	7.09	↓	↓	↓
		3.0	1136	19.4	7.07			

Total Purge Volume: 3.0 | Comments:

Groundwater Sampling Information

Sample ID: **MW-7A** | Sample Time: 11:15 3/14/13

Sample Containers (#/Type): ~~(3) VOA HCL~~ 4 VOA / 1 amber

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3/14/13

Project Number: **160** | Field Personnel: JM

Monitoring Well Information

Monitoring Well ID: **MW-7B** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 23.05 | Water Column (feet): 25.46 | (.17) = 4.3

Total Depth (ft): **48.50** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 4.3 x 3 = 12.9

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity µS	Temperature	pH	Turbidity	Color	Odor
		4.3	744	20.2	7.54	low	clear	none
		8.6	905	19.9	7.31	low	clear	↓
		12.9	896	19.8	7.32	med	light brn	

Total Purge Volume: 12.9 | Comments:

Groundwater Sampling Information

Sample ID: **MW-7B** | Sample Time: 11:50 3/14/13

Sample Containers (#/Type): ~~(3) VOA HCL~~ 4 VOA / 1 amber

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date:

Project Number: **160** | Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-7C** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 23.34 | Water Column (feet): 45.16 | (.17) = 7.6

Total Depth (ft): **68.50** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 7.6 x3= 22.8

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		7.6	544	19.8	8.17	low	light brown	None
		15.2	701	19	7.65	None	clear	None
		22.8						

Total Purge Volume: 22.8 | Comments:

Groundwater Sampling Information

Sample ID: **MW-7C** | Sample Time: 12:40 3.14.13

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date:

Project Number: **160** | Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-8A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 23.09 | Water Column (feet): 12.41 | (.17) = 2.1

Total Depth (ft): **35.50** | 80% Recharge Depth (ft):

Depth to Product (ft): 4 | 1 Well Volume (gallons): 2.1 x3= 6.3

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		2.1	937	19.1	7.35	High	light brown	None
		4.2	945	18.9	7.29	High	light brown	None
		6.3						

Total Purge Volume: 6.3 | Comments:

Groundwater Sampling Information

Sample ID: **MW-8A** | Sample Time: 11:20 3.14.13

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-8B**	Monitoring Well Diameter (in): **2"**	CC
Depth to Water (ft): 22.82	Water Column (feet): 27.68	(.17) = 4.7
Total Depth (ft): **50.50**	80% Recharge Depth (ft):	
Depth to Product (ft):	1 Well Volume (gallons): 4.7 x 3 = 14.1	
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		4.7	670	19.3	7.30	None	Clear	None
		9.4	693	19.1	7.26	None	Clear	None
		14.1						

Total Purge Volume: 14.1 — Comments:

Groundwater Sampling Information

Sample ID:	**MW-8B**	Sample Time:	12:00 3-14-13
Sample Containers (#/Type):	**(3) VOA HCL**		
Comments:			

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-9A**	Monitoring Well Diameter (in): **2"**	CC
Depth to Water (ft): 22.20	Water Column (feet): 17.3	(.17) = 2.9
Total Depth (ft): **39.50**	80% Recharge Depth (ft):	
Depth to Product (ft):	1 Well Volume (gallons): 2.9 x 3 = 8.7	
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		2.9	726	19.5	7.34	None	Clear	None
		5.8	695	19.6	7.30	↓	↓	↓
		8.7	690	19.8	7.30			

Total Purge Volume: 8.7 — Comments:

Groundwater Sampling Information

Sample ID:	**MW-9A**	Sample Time:	1:45
Sample Containers (#/Type):	**(3) VOA HCL**		
Comments:			

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 3.13.13
Project Number: **160**	Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **MW-9B**	Monitoring Well Diameter (in): **2"**	CC
Depth to Water (ft): 22.29	Water Column (feet): 28.71	(.17) = 4.8
Total Depth (ft): **51.00**	80% Recharge Depth (ft):	
Depth to Product (ft):	1 Well Volume (gallons): 4.8 x3 = 14.4	
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		4.8	938	19.0	7.21	Med High	Brown	None
		9.6	946	19.2	6.80	↓	↓	↓
		14.4	935	19.3	6.81			

Total Purge Volume: 14.4 — Comments:

Groundwater Sampling Information

Sample ID:	**MW-9B**	Sample Time:	1:15
Sample Containers (#/Type):	**(3) VOA HCL**		
Comments:			

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 3.13.13
Project Number: **160**	Field Personnel: AP/RG

Monitoring Well Information

Monitoring Well ID: **EW-1**	Monitoring Well Diameter (in): **4"**	CC
Depth to Water (ft): 22.38	Water Column (feet): 16.62	(.66) = 10.9
Total Depth (ft): **39.00**	80% Recharge Depth (ft):	
Depth to Product (ft):	1 Well Volume (gallons): 10.9 x3 = 32.7	
Comments:		

Field Measurements and Observations

~~Time~~ DO	~~Depth to~~ SRP Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
3.90	87	10.9	.717	20.5	7.13	Low	Brown	None
4.08	90	21.8	.706	20.2	6.91	low	Brown	None
4.36	89	32.7	.709	20.5	6.90	low	Brown	None

Total Purge Volume: 32.7 — Comments:

Groundwater Sampling Information

Sample ID:	**EW-1**	Sample Time:	3:00 3/14/13
Sample Containers (#/Type):	**(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly**		
Comments:			

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3/14/13

Project Number: **160** | Field Personnel: JM

Monitoring Well Information

Monitoring Well ID: **EW-2** | Monitoring Well Diameter (in): **4"** | CC

Depth to Water (ft): 22.58 | Water Column (feet): 14.42 | (.66) = 9.5

Total Depth (ft): **37.00** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 9.5 x 3 = 28.5

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		9.5	1271	19.6	6.73	low	brn	none
		19	1129	19.2	6.94	low	↓	↓
		28.5	1126	19.1	6.94	med	↓	↓

Total Purge Volume: 28.5 | Comments: ~~NOT SAMPLED~~

Groundwater Sampling Information

Sample ID: **EW-2** | Sample Time: 12:25 3/14/13

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3/14/13

Project Number: **160** | Field Personnel: JM

Monitoring Well Information

Monitoring Well ID: **EW-3** | Monitoring Well Diameter (in): **4"** | CC

Depth to Water (ft): 22.32 | Water Column (feet): 11.68 | (.66) = 7.7

Total Depth (ft): **34.00** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 7.7 x 3 = 23.1

Comments:

Field Measurements and Observations

DO ORP

~~Time~~	Depth to Water	Purge Volume	Conductivity (ms)	Temperature	pH	Turbidity	Color	Odor
7.39	-123	7.7	4.13	20.0	7.83	med	brn	slight
5.84	-129	15.4	4.24	19.7	7.34	↓	↓	↓
5.35	-130	23.1	4.28	19.6	7.26	↓	↓	↓

Total Purge Volume: 23.1 | Comments:

Groundwater Sampling Information

Sample ID: **EW-3** | Sample Time: 2:30 3/14/13

Sample Containers (#/Type): **(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly**

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 3/14/13
Project Number: **160** | Field Personnel: JLL

Monitoring Well Information

Monitoring Well ID: **EW-3B** | Monitoring Well Diameter (in): **4"** | CC
Depth to Water (ft): 21.73 | Water Column (feet): 17.27 | (.66) = 11.3
Total Depth (ft): **39.00** | 80% Recharge Depth (ft):
Depth to Product (ft): — | 1 Well Volume (gallons): 11.3 x 3 = 33.9
Comments:

DO ORP

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity (ms)	Temperature	pH	Turbidity	Color	Odor
3.61	96	11.3	1.32	19.6	7.28	heavy	brown	none
3.82	91	22.6	0.988	19.7	7.39	↓	↓	↓
3.90	92	33.9	0.976	19.7	7.36			

Total Purge Volume: 33.9 | Comments: ~~NOT SAMPLED~~

Groundwater Sampling Information

Sample ID: **EW-3B** | Sample Time: 1:45 3/14/13
Sample Containers (#/Type): **(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly**
Comments:

Groundwater Sampling Field Log

Site Address: | Date:
Project Number: | Field Personnel:

Monitoring Well Information

Monitoring Well ID: | Monitoring Well Diameter (in): | CC
Depth to Water (ft): | Water Column (feet):
Total Depth (ft): | 80% Recharge Depth (ft):
Depth to Product (ft): | 1 Well Volume (gallons):
Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor

Total Purge Volume: | Comments:

Groundwater Sampling Information

Sample ID: | Sample Time:
Sample Containers (#/Type):
Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 6/21/13
Project Number: **160**	Field Personnel: Hatfield

Monitoring Well Information

Monitoring Well ID: **MW-1A**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 25.52	Water Column (feet): 2.98 (.17) = .507
Total Depth (ft): **28.50**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): .507(3) = 1.52
Comments: No Smell	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	DO	pH	Turbidity	Color	ORP	Odor
15:00		1	4.78	21.33	10.08	8.05	Moderate	Green/Brn	201	No
15:04		1	0.010	20.34	9.69	7.99	"	"	194	"
15:08		1	0.415	20.31	9.86	7.88	"	"	190	"

Total Purge Volume: 3 Comments:

Groundwater Sampling Information

Sample ID: **MW-1A**	Sample Time: 15:30
Sample Containers (#/Type):	(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly
Comments:	

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-1B**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 24.55	Water Column (feet): 29.95 (.17) = 5.09
Total Depth (ft): **54.50**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): 5.09(3) = 15.27
Comments: No smell	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor	DO
14:20		5	.717	20.44	8.88	None	Clear	No	5.78
14:30		5	.680	20.18	8.41	"	"	"	6.22
14:35		5	.660	19.90	8.16	"	"	"	5.68

Total Purge Volume: 15 Comments:

Groundwater Sampling Information

Sample ID: **MW-1B**	Sample Time:
Sample Containers (#/Type):	(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly
Comments:	

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-2A**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 24.33	Water Column (feet): 4.07 **(.17) =** .69
Total Depth (ft): **28.40**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): .69(3)=2.08
Comments: No Smell	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conduc-tivity	Temper-ature	pH	Turbidity	Color	Odor
		NOT SAMPLED						

Total Purge Volume:	Comments:

Groundwater Sampling Information

Sample ID:	**MW-2A**	Sample Time:
Sample Containers (#/Type):	**(3) VOA HCL**	
Comments:		

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-3A**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 24.99	Water Column (feet): 3.21 **(.17) =** .55
Total Depth (ft): **28.20**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): .55(3)=1.69
Comments: No Smell	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conduc-tivity	Temper-ature	pH	Turbidity	Color	Odor
		NOT SAMPLED						

Total Purge Volume:	Comments:

Groundwater Sampling Information

Sample ID:	**MW-3A**	Sample Time:
Sample Containers (#/Type):	**(3) VOA HCL**	
Comments:		

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-4A**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 24.88	Water Column (feet): 3.92 (.17) = .67
Total Depth (ft): **28.80**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): .67 (3) = 1.20
Comments:	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		NOT SAMPLED						

Total Purge Volume:	Comments: NOT SAMPLED

Groundwater Sampling Information

Sample ID: **MW-4A**	Sample Time:
Sample Containers (#/Type): **(3) VOA HCL**	
Comments:	

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-5A**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 26.15	Water Column (feet): 7.85 (.17) = 1.3345
Total Depth (ft): **34.00**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): (1.3345) 3 = 4.0
Comments:	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		1.5	1241	21.4	7.16	light	brn	none
		3.0	1223	21.2	7.10	med	↓	↓
		4.0	1220	21.0	7.05	med.		

Total Purge Volume:	Comments:

Groundwater Sampling Information

Sample ID: **MW-5A**	Sample Time: 11:45 6/25/15
Sample Containers (#/Type): **(3) VOA HCL**	
Comments:	

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 6/25/13
Project Number: **160**	Field Personnel: JM

Monitoring Well Information

Monitoring Well ID: **MW-5B**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 26.21	Water Column (feet): 26.43 **(.17) =** 4.49
Total Depth (ft): **52.64**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): 4.49 (3) = 13.5
Comments:	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
1131		4.5	739	21.2	7.31	low	clear	none
		9.0	756	21.0	7.23	↓	↓	↓
		13.5	768	20.7	7.18			

Total Purge Volume: 13.5 gal | Comments:

Groundwater Sampling Information

Sample ID: **MW-5B**	Sample Time: 1225 6/25/13
Sample Containers (#/Type): **(3) VOA HCL**	
Comments:	

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-6**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 25.30	Water Column (feet): 21.7 **(.17) =** 3.689
Total Depth (ft): **47.00**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): 3.689 (3) = 11.067
Comments:	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
11:05		4	1234	19.8	6.77	No	Lt Brown	No
11:10		4	1218	19.6	6.71	"	"	"
11:15		4	1215	19.5	6.70			

Total Purge Volume: 12 | Comments:

Groundwater Sampling Information

Sample ID: **MW-6**	Sample Time: 11:20
Sample Containers (#/Type): **(3) VOA HCL**	
Comments:	

ALTERRA

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 6/25

Project Number: **160** | Field Personnel: LMF

Monitoring Well Information

Monitoring Well ID: **MW-7A** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 25.09 | Water Column (feet): 3.91 | (.17) = 0.6647

Total Depth (ft): **29.00** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 0.6647 (3) = 1.9941

Comments: No Smell

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
DO 4.83	ORP 107	1.0 2.0	1.99 1.96	22.03 21.82	8.39 7.68	med. heavy	brown gray	none none

Total Purge Volume: | Comments:

Groundwater Sampling Information

Sample ID: **MW-7A** | Sample Time: 2:15

Sample Containers (#/Type): (6) **VOA HCL** / 1 poly

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date: 6/25

Project Number: **160** | Field Personnel: LF

Monitoring Well Information

Monitoring Well ID: **MW-7B** | Monitoring Well Diameter (in): **2"** | CC

Depth to Water (ft): 25.70 | Water Column (feet): 22.8 | (.17) = 3.876

Total Depth (ft): **48.50** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 3.876 (3) = 11.63

Comments: No Smell

Field Measurements and Observations

~~Time~~ DO	~~Depth to~~ ORP Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
7.08	51	3.5	1.02	20.22	8.25	none	lt. brown	none
5.81	42	4	.874	20.33	7.87	none	lt brown	↓
5.07	39	4	.909	21.24	7.79	none	lt. yellow	↓

Total Purge Volume: | Comments:

Groundwater Sampling Information

Sample ID: **MW-7B** | Sample Time: 3:00

Sample Containers (#/Type): (3) **VOA HCL** / 1 poly

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 6/25
Project Number: **160**	Field Personnel: LF

Monitoring Well Information

Monitoring Well ID: **MW-7C**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 26.0	Water Column (feet): 42.5 (.17) = 7.225
Total Depth (ft): **68.50**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): 7.225 (3) = 21.675
Comments:	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		5.0	579	20.5	8.96	med	orange	None
		10	704	20.2	8.01	med	brown	None
		15	726	19.8	7.49	med	lt brown	None

Total Purge Volume: Comments:

Groundwater Sampling Information

Sample ID: **MW-7C**	Sample Time: 12:30
Sample Containers (#/Type): **(3) VOA HCL**	
Comments:	

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 6/25/13
Project Number: **160**	Field Personnel: LF

Monitoring Well Information

Monitoring Well ID: **MW-8A**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 25.60	Water Column (feet): 9.9 (.17) = 1.683
Total Depth (ft): **35.50**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): 1.683 (3) = 5.049
Comments: No Smell	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		1.5	990	19.8	6.64	light	lt brn	NONE
		3.0	927	19.7	6.72	light	↓	↓
		4.5	958	19.6	6.73	med.	↓	↓

Total Purge Volume: 4.5 Comments:

Groundwater Sampling Information

Sample ID: **MW-8A**	Sample Time: 6/25/13 11:00
Sample Containers (#/Type): **(3) VOA HCL**	
Comments:	

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 6/25
Project Number: **160**	Field Personnel: LE

Monitoring Well Information

Monitoring Well ID: **MW-8B**	Monitoring Well Diameter (in): **2"**	CC	
Depth to Water (ft): 25.36	Water Column (feet): 25.14	(.17) =	4.27
Total Depth (ft): **50.50**	80% Recharge Depth (ft):		
Depth to Product (ft):	1 Well Volume (gallons):	4.27(3) =	12.82
Comments: No Smell			

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		3.0	723	20.5	7.35	light	gray	NONE
		6.0	717	20.2	7.19	med.	yellow-brn	NONE
		10.0	723	20	7.14	med	yellow-brn	NONE

Total Purge Volume:	Comments:

Groundwater Sampling Information

Sample ID:	**MW-8B**	Sample Time:	11:30
Sample Containers (#/Type):	**(3) VOA HCL**		
Comments:			

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-9A**	Monitoring Well Diameter (in): **2"**	CC	
Depth to Water (ft): 24.79	Water Column (feet): 14.71	(.17) =	2.5007
Total Depth (ft): **39.50**	80% Recharge Depth (ft):		
Depth to Product (ft):	1 Well Volume (gallons):	2.5007(3) =	7.5
Comments: No Smell			

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
11:55		3	724	19.8	7.31	No	Clear	No
11:59		2	725	19.9	7.15	"	"	"
12:05		3	769	19.7	7.01	"	"	"

Total Purge Volume: 8	Comments:

Groundwater Sampling Information

Sample ID:	**MW-9A**	Sample Time:	12:15
Sample Containers (#/Type):	**(3) VOA HCL**		
Comments:			

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **MW-9B**	Monitoring Well Diameter (in): **2"** CC
Depth to Water (ft): 24.86	Water Column (feet): 26.14 (.17) = 4.4438
Total Depth (ft): **51.00**	80% Recharge Depth (ft):
Depth to Product (ft):	1 Well Volume (gallons): 4.4438 (3) = 13.33
Comments: No Smell,	

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
11:30		4	940	19.6	7.11	No	clear	No
11:35		4	957	19.5	6.80	"	"	"
11:40		4	968	19.3	6.68	"	"	"

Total Purge Volume: 12

Comments:

Groundwater Sampling Information

Sample ID: **MW-9B**	Sample Time: 11:50
Sample Containers (#/Type): **(3) VOA HCL**	
Comments:	

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 6/25/13
Project Number: **160**	Field Personnel: JM

Monitoring Well Information

Monitoring Well ID: **EW-1**	Monitoring Well Diameter (in): **4"** CC
Depth to Water (ft): 24.95	Water Column (feet): 14.05 (.66) = 9.273
Total Depth (ft): **39.00**	80% Recharge Depth (ft):
Depth to Product (ft): —	1 Well Volume (gallons): 9.273 (3) = 27.819
Comments: No Smell	

Field Measurements and Observations

~~Time~~ DO mg/L	~~Depth to~~ Water ORP	Purge Volume	Conductivity mS/cm	Temperature	pH	Turbidity	Color	Odor
18.61	33	10	4.24	21.3	9.88	med	yellow brn	none
22.18	39	20	4.65	20.9	9.94	↓	↓	↓
22.50	42	25	5.33	20.8	9.98	heavy		

Total Purge Volume:

Comments:

Groundwater Sampling Information

Sample ID: **EW-1**	Sample Time: 1420 6/25/13
Sample Containers (#/Type):	
Comments: (4) **VOA HCL (1) ~~Amber~~ (1) 250 ml Unpreserved Poly**	

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Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date:

Project Number: **160** | Field Personnel:

Monitoring Well Information

Monitoring Well ID: **EW-2** | Monitoring Well Diameter (in): **4"** CC

Depth to Water (ft): 26.14 | Water Column (feet): 10.86 (.66) = 7.16

Total Depth (ft): **37.00** | 80% Recharge Depth (ft):

Depth to Product (ft): | 1 Well Volume (gallons): 7.16 (3) = 21.48

Comments:

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
			NOT SAMPLED					

Total Purge Volume: | Comments: NOT SAMPLED

Groundwater Sampling Information

Sample ID: **EW-2** | Sample Time:

Sample Containers (#/Type): **(3) VOA HCL**

Comments:

Groundwater Sampling Field Log

Site Address: **160 Holmes** | Date:

Project Number: **160** | Field Personnel:

Monitoring Well Information

Monitoring Well ID: **EW-3** | Monitoring Well Diameter (in): **4"** CC

Depth to Water (ft): 23.35 | Water Column (feet): 10.65 (.66) = 7.029

Total Depth (ft): **34.00** | 80% Recharge Depth (ft): /

Depth to Product (ft): — | 1 Well Volume (gallons): 7.029 (3) = 21.08

Comments: No smell

Field Measurements and Observations

~~Time~~ DO	~~Depth to Water~~ ORP	Purge Volume	Conductivity ms/cm	Temperature	pH	Turbidity	Color	Odor
12:56	96	10	3.47	20.1	10.53	high	reddish brn	none
13:32	14	15	4.53	19.7	10.71	↓	↓	↓

Total Purge Volume: | Comments: well dry after 15 gallons

Groundwater Sampling Information

Sample ID: **EW-3** | Sample Time: 1500 4/25/13

Sample Containers (#/Type): 6 **VOA HCL (1) ~~Amber UR~~ (1) 250 ml Unpreserved Poly**

Comments:

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date:
Project Number: **160**	Field Personnel:

Monitoring Well Information

Monitoring Well ID: **EW-3B**	Monitoring Well Diameter (in): **4"**	CC	
Depth to Water (ft): 24.12	Water Column (feet): 14.88	(.66) =	9.8208
Total Depth (ft): **39.00**	80% Recharge Depth (ft):		
Depth to Product (ft):	1 Well Volume (gallons): 9.8208 (3) = 29.46		
Comments: No smell			

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
12:37		10	4.14	19.7	10.93	High	Brown	None
12:38	28.40	5	22.4	19.79	10.38	High	"	"

ORP: 65, 67 — D.O: 2L.47, 14.64

Total Purge Volume:	Comments: NOT SAMPLED

Groundwater Sampling Information

Sample ID: **EW-3B**	Sample Time:
Sample Containers (#/Type): **(4) VOA HCL (1) Amber UP (1) 250 ml Unpreserved Poly**	
Comments: depth of well: 33.15	

Groundwater Sampling Field Log

Site Address:	Date:
Project Number:	Field Personnel:

Monitoring Well Information

Monitoring Well ID:	Monitoring Well Diameter (in):	CC
Depth to Water (ft):	Water Column (feet):	
Total Depth (ft):	80% Recharge Depth (ft):	
Depth to Product (ft):	1 Well Volume (gallons):	
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor

Total Purge Volume:	Comments:

Groundwater Sampling Information

Sample ID:	Sample Time:
Sample Containers (#/Type):	
Comments:	

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 7/19/13
Project Number: **160**	Field Personnel: LF & JH

Monitoring Well Information

Monitoring Well ID: **MW-1A**	Monitoring Well Diameter (in): **2"**	CC
Depth to Water (ft):	Water Column (feet):	**(.17) =**
Total Depth (ft): **28.50**	80% Recharge Depth (ft):	
Depth to Product (ft): ——	3 Well Volume (gallons):	1.5 gallons
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor	
		0.5	.484	21.2	5.02	Low	brown	do	orp
		1.0	.475	22.4	5.67	↓	gray	4.7	170
		1.5	.469	23.3	5.44	↓	gray	5.7	162
								5.98	165

Total Purge Volume: 1.5 gal

Comments: No odor

Groundwater Sampling Information

Sample ID:	**MW-1A**	Sample Time:	11:05
Sample Containers (#/Type):	**(5) VOAs / (1) Poly**		
Comments:			

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 7/19/13
Project Number: **160**	Field Personnel: JH

Monitoring Well Information

Monitoring Well ID: **MW-1B**	Monitoring Well Diameter (in): **2"**	CC
Depth to Water (ft):	Water Column (feet):	**(.17) =**
Total Depth (ft): **54.50**	80% Recharge Depth (ft):	
Depth to Product (ft): ——	3 Well Volume (gallons):	15 gallons
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	DO	Odor	ORP
		5	84.5	20.5	5.82	7.5	clear	6.46		197
		10	85.3	19.9	5.91	16.2	↓	7.61		189
		15	83.6	19.6	5.98	10.2	↓	7.84		189

Total Purge Volume: 15 gal

Comments: No odor

Groundwater Sampling Information

Sample ID:	**MW-1B**	Sample Time:	11:22
Sample Containers (#/Type):	**(5) VOAs / (1) Poly**		
Comments:			

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 7/19/13
Project Number: **160**	Field Personnel: JH

Monitoring Well Information

Monitoring Well ID: **MW-7A**	Monitoring Well Diameter (in): **2"**	CC
Depth to Water (ft):	Water Column (feet):	**(.17) =**
Total Depth (ft): **29.00**	80% Recharge Depth (ft):	
Depth to Product (ft): ——	3 * Well Volume (gallons):	2 gallons
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	~~Odor~~ DO	ORP
		1.0	.228	22.2	8.64	low	brown	5.69	129
		1.5	.192	22.6	8.46	↓	gray	5.97	129
		2.0	.191	23	8.05	↓	gray	5.51	131

Total Purge Volume: 2.0 gal

Comments: NO odor

Groundwater Sampling Information

Sample ID:	**MW-7A**	Sample Time:	11:35
Sample Containers (#/Type):	**(5) VOAs / (1) Poly**		
Comments:			

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 7/19/13
Project Number: **160**	Field Personnel: JH & LF

Monitoring Well Information

Monitoring Well ID: **MW-7B**	Monitoring Well Diameter (in): **2"**	CC
Depth to Water (ft):	Water Column (feet):	**(.17) =**
Total Depth (ft): **48.50**	80% Recharge Depth (ft):	
Depth to Product (ft): ——	3 * Well Volume (gallons):	12 gallons
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	~~Odor~~ DO	ORP
		4	.231	21.9	10.40	low	brown	do	DRY
		8	.147	21.7	9.06	↓	↓	4.97	110
		12	.110	21.02	8.47	↓	↓	4.91	117
									139

Total Purge Volume: 12 gal

Comments: NO oder

Groundwater Sampling Information

Sample ID:	**MW-7B**	Sample Time:	11:40
Sample Containers (#/Type):	**(5) VOAs / (1) Poly**		
Comments:			

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 7/19/13
Project Number: **160**	Field Personnel: JH / LF

Monitoring Well Information

Monitoring Well ID: **EW-1**	Monitoring Well Diameter (in): **4"**	CC
Depth to Water (ft):	Water Column (feet):	**(.66) =**
Total Depth (ft): **39.00**	80% Recharge Depth (ft):	
Depth to Product (ft): ——	1 Well Volume (gallons):	26 gallons
Comments:		

orp, Do,

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Do Odor orp
		5	0.780	20.3	8.67	371	orange brn	12.36 130
		10	0.741	19.9	9.34	871	↓	12.63 125
		20	0.666	20.0	9.40	-5?	↓	11.79 114
		25	0.561	19.8	9.45	-5?	↓	11.26 112

Total Purge Volume: 25 ga | Comments: orange / brown in color no odor

Groundwater Sampling Information

Sample ID:	**EW-1**	Sample Time:	11:15
Sample Containers (#/Type):	**(5) VOAs / (1) Poly**		
Comments:			

Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 7/19/13
Project Number: **160**	Field Personnel: JH & LF

Monitoring Well Information

Monitoring Well ID: **EW-3**	Monitoring Well Diameter (in): **4"**	CC
Depth to Water (ft):	Water Column (feet):	**(.66) =**
Total Depth (ft): **34.00**	80% Recharge Depth (ft):	
Depth to Product (ft): ——	3 1 Well Volume (gallons):	21 gallons
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	DO Odor orp
		5	2.73	20.3	9.89	284	brn	8.79 43
		10	2.34	20.1	9.87	283	↓	8.77 56
		15	2.75	20.0	9.34	274	↓	8.79 54

Total Purge Volume: 15 gal | Comments: Well Dry @ 10ga

Groundwater Sampling Information

Sample ID:	**EW-3**	Sample Time:	11:00
Sample Containers (#/Type):	**(5) VOAs / (1) Poly**		
Comments:			

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Groundwater Sampling Field Log

Site Address: **160 Holmes**	Date: 7/19/13
Project Number: **160**	Field Personnel: JH

Monitoring Well Information

Monitoring Well ID: **EW-3B**	Monitoring Well Diameter (in): **4"**	CC
Depth to Water (ft):	Water Column (feet):	**(.66) =**
Total Depth (ft): **39.00**	80% Recharge Depth (ft):	
Depth to Product (ft): ——	3 1 Well Volume (gallons):	30 gallons
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	DO	ORP Odor
		10	3.26	19.9	10.28	high	orange/brn	7.93	56
		20	3.24	20.2	10.45	↓	"	7.75	46
		25	3.33	20.2	10.21	↓	"	7.05	46

Total Purge Volume: 25 gal	Comments: NOT SAMPLED (well dry @ 15 gal

Groundwater Sampling Information

Sample ID:	**EW-3B**	Sample Time:	10:45
Sample Containers (#/Type):	**(5) VOAs / (1) Poly**		
Comments:			

Groundwater Sampling Field Log

Site Address:	Date:
Project Number:	Field Personnel:

Monitoring Well Information

Monitoring Well ID:	Monitoring Well Diameter (in):	CC
Depth to Water (ft):	Water Column (feet):	
Total Depth (ft):	80% Recharge Depth (ft):	
Depth to Product (ft):	1 Well Volume (gallons):	
Comments:		

Field Measurements and Observations

Time	Depth to Water	Purge Volume	Conductivity	Temperature	pH	Turbidity	Color	Odor
		10						

Total Purge Volume:	Comments:

Groundwater Sampling Information

Sample ID:		Sample Time:	
Sample Containers (#/Type):			
Comments:			

APPENDIX F
RegenOx™ Application Procedures

REGENESIS

RegenOx™

CHEMICAL OXIDATION REDEFINED

RegenOx™ *In Situ* Chemical Oxidation Application Instructions

Using Fixed Wells (Overview of Methods)

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

Application of RegenOx via a series of fixed wells can be accomplished most effectively by separate application of RegenOx Part A and Part B via multiple separate application events. **Most sites require 3-4 applications to ensure contact and minimize rebound.** NOTE: for the purposes of this discussion, it is assumed that the hydraulic conductivity of this aquifer is sufficient to accept the volumes of material associated with this approach.

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

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

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

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

682 gals Part A + 13,532 gals H_2O = 14,214 gals of fluid

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

14,214 gals of fluid/5 wells = 2,843 gals/well/event

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

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

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

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

TABLE 1.

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

Example:
Based on application into a silty sand aquifer (10^{-4} cm/sec) the Part B solution should be mixed at 5%.
Using the previous example, this application will require a total of 5,970 pounds of Part B applied via two events of 2,985 pounds or 100 bucket/event

2,985 lbs./30 lbs./bucket = 100 buckets

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

100 buckets Part B x 68 gallons water/bucket = 6,800 gallons of water

This yields a total solution application per event estimation of:

(6,800 gals of H_2O + 260 gals Part B)/5 wells = 1,412 gals Part B Solution/well/event

Step 2:
Clear Part B material from the injection well and surrounding well pack by application of a clear water chaser equivalent to the volume of 1.5-3x the borehole volume.

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

[(10 feet x 0.543 gals/ft) + (10 feet x 0.163 gals/ft)] = 7 gals

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

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

[(10 feet x 1.23 gals/ft) + (10 feet x 0.65)] = 19 gals

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

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

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

5,970 lbs Part A/30 lbs/bucket = 199 buckets

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

199 buckets Part A x 68 gallons H_2O/bucket = 13,532 gallons of H_2O

This yields a total solution application per event estimation of:

(13,532 gals of H_2O + 682 gals Part A)/5 wells = 2,843 gals Part A Solution/well/event

Step 4:
Clear the Part A solution from the injection well and some of the surrounding well pack by application of a clear water chaser equivalent to the volume of 1.5-3x the borehole volume.

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

[(10 feet x 0.543 gallons/ft) + (10 feet x 0.163)] = 7.1 gallons

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

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

[(10 feet x 1.23 gallons/ft) + (10 feet x 0.65)] = 19 gallons.

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

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

Pump Selection (Wells)

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

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

Pump Cleaning (Wells)

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

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

APPENDIX G
Certified Analytical Reports and Chains-of-Custody

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/13/13-03/14/13
		Date Received: 03/14/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Reported: 03/20/13
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 03/19/13

WorkOrder: 1303434

March 20, 2013

Dear James:

Enclosed within are:

1) The results of the **19** analyzed samples from your project: **#160; 160 Holmes,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1303434

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: 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**
Project Name:
Sampler Signature:

Field Point Name / Sample ID	Sample Collection: Date	Sample Collection: Time	Sample Containers: Number of Containers	Sample Containers: Container Type	Matrix: Air	Matrix: Water	Matrix: Soil	Matrix: Sludge	Matrix: Other	Preservation: Ice	Preservation: HCl	Preservation: HNO_3	Preservation: Other	TPHg/ BTEX/ MTBE (EPA 8015/8021)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Lead Scavengers (8260)	Dissolved Oxygen	Carbon Dioxide	Methane	Total Dissolved Solids	Arsenic, Total Chromium, Total iron, Manganese, Sodium	Hexachrome	Ferrous Iron	Alkalinity	Sulfate		EDF required
MW-1A	3-14-13	1:50	6	VARIOUS		x				x	x			x	x	x	x						x					x
MW-1B	3-14-13	2:40	6	VARIOUS		x				x	x			x	x	x	x						x					x
MW-7A	3-14-13	11:15	#5	VARIOUS		x				x	x			x	x	x	x						x					x
MW-7B	3-14-13	11:50	#5	VARIOUS		x				x	x			x	x	x	x						x					x
EW-1	3-14-13	3:00	6	VARIOUS		x				x	x			x	x	x	x						x					x
EW-3	3-14-13	2:30	6	VARIOUS		x				x	x			x	x	x	x						x					x
EW-3B	3-14-13	1:45	6	VOA various		x				x	x			x	x	x	x						x					x
EW-2	3-14-13	12:25	3	VOA		x				x	x			x														x
MW-9A	3-13-13	1:45	3	VOA		x				x	x			x														x
MW-9B	3-13-13	1:15	3	VOA		x				x	x			x														x
MW-7C	3-14-13	12:40	3	VOA		x				x	x			x														x
MW-8A	3-14-13	11:20	3	VOA		x				x	x			x														x
MW-8B	3-14-13	12:00	3	VOA		x				x	x			x														x
MW-5A	3-13-13	12:00	3	VOA		x				x	x			x														x
MW-5B	3-13-13	12:00	3	VOA		x				x	x			x														x
MW-4A	3-13-13	2:45	3	VOA		x				x	x			x														x
MW-2A	3-13-13	2:30	3	VOA		x				x	x			x														x
MW-3A	3-13-13	2:00	3	VOA		x				x	x			x														x
MW-6	3-13-13	12:30	3	VOA		x				x	x			x														x

Sampled By: JOE MANCINI	Date: 3/14/13	Time: 3:05	Received By:	
Received By:	Date: 3/14	Time: 1650	Received By:	
Received By:	Date:	Time:	Received By:	

Comments:
ICE/t° 6.2
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

PRESERVATION	VOAS	O&G	METALS	OTHER

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1303434 **ClientCode: ATRS**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
James Allen
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
831-425-2608 FAX: 831-425-2609

Email: allterraenvironmental@yahoo.com; micah
cc:
PO:
ProjectNo: #160; 160 Holmes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: 5 days

Date Received: **03/14/2013**
Date Printed: **03/19/2013**

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
1303434-001	MW-1A	Water	3/14/2013 13:50	☐	D	B	A	C								
1303434-002	MW-1B	Water	3/14/2013 14:40	☐	D	B	A	C								
1303434-003	MW-7A	Water	3/14/2013 11:15	☐		B	A	C								
1303434-004	MW-7B	Water	3/14/2013 11:50	☐		B	A	C								
1303434-005	EW-1	Water	3/14/2013 15:00	☐	D	B	A	C								
1303434-006	EW-3	Water	3/14/2013 14:30	☐	D	B	A	C								
1303434-007	EW-3B	Water	3/14/2013 11:45	☐	D	B	A	C								
1303434-008	EW-2	Water	3/14/2013 12:25	☐			A									
1303434-009	MW-9A	Water	3/13/2013 13:45	☐			A									
1303434-010	MW-9B	Water	3/13/2013 13:15	☐			A									
1303434-011	MW-7C	Water	3/14/2013 12:40	☐			A									
1303434-012	MW-8A	Water	3/14/2013 11:20	☐			A									
1303434-013	MW-8B	Water	3/14/2013 12:00	☐			A									
1303434-014	MW-5A	Water	3/13/2013 12:00	☐			A									

Test Legend:

1	218_6_W	2	5-OXYS+PBSCV_W	3	G-MBTEX_W	4	TPH(D)_W	5	
6		7		8		9		10	
11		12							

Prepared by: Zoraida Cortez

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.

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1303434 **ClientCode: ATRS**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
James Allen
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
831-425-2608 FAX: 831-425-2609

Email: allterraenvironmental@yahoo.com; micah
cc:
PO:
ProjectNo: #160; 160 Holmes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: 5 days

Date Received: 03/14/2013
Date Printed: 03/19/2013

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
1303434-015	MW-5B	Water	3/13/2013 12:00	☐			A									
1303434-016	MW-4A	Water	3/13/2013 14:45	☐			A									
1303434-017	MW-2A	Water	3/13/2013 14:30	☐			A									
1303434-018	MW-3A	Water	3/13/2013 14:00	☐			A									
1303434-019	MW-6	Water	3/13/2013 12:30	☐			A									

Test Legend:

1	218_6_W	2	5-OXYS+PBSCV_W	3	G-MBTEX_W	4	TPH(D)_W	5	
6		7		8		9		10	
11		12							

Prepared by: Zoraida Cortez

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.

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **Allterra Environmental**

Date and Time Received: **3/14/2013 6:35:58 PM**

Project Name: **#160; 160 Holmes**

LogIn Reviewed by: Zoraida Cortez

WorkOrder N°: **1303434** Matrix: Water

Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 6.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Comments:

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/14/13
		Date Received: 03/14/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 03/14/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/14/13

Hexachrome by IC*

Analytical Method: E218.6 Work Order: 1303434

Lab ID	Client ID	Matrix	Hexachrome	DF	Comments
1303434-001D	MW-1A	W	ND	1	b1
1303434-002D	MW-1B	W	1.6	1	
1303434-005D	EW-1	W	ND	1	
1303434-006D	EW-3	W	ND	1	
1303434-007D	EW-3B	W	ND	1	b1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	0.2 µg/L	
	S	NA	

* water samples are reported in µg/L.

N/A means surrogate not applicable to this analysis; # means surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/14/13
		Date Received: 03/14/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 03/14/13-03/16/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/14/13-03/16/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1303434

Lab ID	1303434-001B	1303434-002B	1303434-003B	1303434-004B	Reporting Limit for DF =1	
Client ID	MW-1A	MW-1B	MW-7A	MW-7B		
Matrix	W	W	W	W		
DF	100	1	1	33	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<50	ND	ND	ND<17	NA	0.5
t-Butyl alcohol (TBA)	5100	ND	130	1700	NA	2.0
1,2-Dibromoethane (EDB)	ND<50	ND	ND	ND<17	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<50	ND	ND	ND<17	NA	0.5
Diisopropyl ether (DIPE)	ND<50	ND	ND	ND<17	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<50	ND	ND	ND<17	NA	0.5
Methyl-t-butyl ether (MTBE)	ND<50	ND	0.97	ND<17	NA	0.5
Surrogate Recoveries (%)						
%SS1:	100	104	102	102		
Comments	b1					

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

c8) sample pH is greater than 2
b1) aqueous sample that contains greater than ~1 vol. % sediment

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/14/13
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849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 03/14/13-03/16/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/14/13-03/16/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1303434

Lab ID	1303434-005B	1303434-006B	1303434-007B		Reporting Limit for DF =1	
Client ID	EW-1	EW-3	EW-3B			
Matrix	W	W	W			
DF	50	1000	100		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<25	ND<500	ND<50		NA	0.5
t-Butyl alcohol (TBA)	2500	130,000	14,000		NA	2.0
1,2-Dibromoethane (EDB)	ND<25	ND<500	ND<50		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<25	ND<500	ND<50		NA	0.5
Diisopropyl ether (DIPE)	ND<25	ND<500	ND<50		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<25	ND<500	ND<50		NA	0.5
Methyl-t-butyl ether (MTBE)	ND<25	6200	ND<50		NA	0.5
Surrogate Recoveries (%)						
%SS1:	100	101	101			
Comments		c8	b1			

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

c8) sample pH is greater than 2
b1) aqueous sample that contains greater than ~1 vol. % sediment

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/13/13-03/14/13
		Date Received: 03/14/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 03/15/13-03/20/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/15/13-03/20/13

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1303434

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1A	W	ND	ND	1.1	ND	ND	ND	1	98	b1
002A	MW-1B	W	ND	ND	ND	ND	ND	ND	1	98	
003A	MW-7A	W	79	ND	ND	1.3	ND	ND	1	108	d9
004A	MW-7B	W	ND	ND	ND	1.6	ND	ND	1	110	
005A	EW-1	W	ND	ND	ND	ND	ND	ND	1	105	
006A	EW-3	W	ND<1000	6300	ND<10	ND<10	ND<10	ND<10	20	100	a5
007A	EW-3B	W	58	13	ND	0.64	ND	ND	1	105	d1,b1
008A	EW-2	W	ND	ND	ND	ND	ND	ND	1	104	
009A	MW-9A	W	ND	ND	ND	ND	ND	ND	1	104	
010A	MW-9B	W	ND	ND	ND	ND	ND	ND	1	100	
011A	MW-7C	W	ND	ND	ND	ND	ND	ND	1	98	
012A	MW-8A	W	ND	ND	ND	ND	ND	ND	1	105	b1
013A	MW-8B	W	ND	ND	ND	ND	ND	ND	1	99	
014A	MW-5A	W	ND	ND	ND	ND	ND	ND	1	99	
015A	MW-5B	W	ND	ND	ND	ND	ND	ND	1	99	
016A	MW-4A	W	ND	ND	ND	ND	ND	ND	1	98	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
a5) reporting limit raised due to high MTBE content
b1) aqueous sample that contains greater than ~1 vol. % sediment
d1) weakly modified or unmodified gasoline is significant
d9) no recognizable pattern

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/13/13-03/14/13
		Date Received: 03/14/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 03/15/13-03/20/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/15/13-03/20/13

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1303434

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
017A	MW-2A	W	ND	ND	ND	ND	ND	0.70	1	99	b1
018A	MW-3A	W	ND	ND	ND	ND	ND	ND	1	99	b1
019A	MW-6	W	ND	ND	ND	ND	ND	ND	1	105	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
a5) reporting limit raised due to high MTBE content
b1) aqueous sample that contains greater than ~1 vol. % sediment
d1) weakly modified or unmodified gasoline is significant
d9) no recognizable pattern

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/14/13
		Date Received: 03/14/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted 03/14/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed 03/17/13

Total Extractable Petroleum Hydrocarbons*

Extraction method: SW3510C Analytical methods: SW8015B Work Order: 1303434

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1303434-001C	MW-1A	W	ND	1	97	b1
1303434-002C	MW-1B	W	ND	1	97	
1303434-003C	MW-7A	W	130	1	96	e2
1303434-004C	MW-7B	W	ND	1	93	
1303434-005C	EW-1	W	ND	1	97	
1303434-006C	EW-3	W	500	1	98	e4,e2
1303434-007C	EW-3B	W	110	1	96	e2,b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in ug/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 75490 | WorkOrder: 1303434

EPA Method: SW8015B **Extraction: SW3510C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	102	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	85	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75490 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303434-001C	03/14/13 1:50 PM	03/14/13	03/17/13 7:29 AM	1303434-002C	03/14/13 2:40 PM	03/14/13	03/17/13 6:23 AM
1303434-003C	03/14/13 11:15 AM	03/14/13	03/17/13 4:10 AM	1303434-004C	03/14/13 11:50 AM	03/14/13	03/17/13 3:05 AM
1303434-005C	03/14/13 3:00 PM	03/14/13	03/17/13 5:17 AM	1303434-006C	03/14/13 2:30 PM	03/14/13	03/17/13 4:10 AM
1303434-007C	03/14/13 11:45 AM	03/14/13	03/17/13 1:59 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 75516 | WorkOrder: 1303434

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1303418-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	10	97.9	99.1	1.16	97.3	70 - 130	20	70 - 130
Benzene	ND	10	87.7	89.4	1.94	102	70 - 130	20	70 - 130
t-Butyl alcohol (TBA)	ND	40	110	115	5.03	89	70 - 130	20	70 - 130
Chlorobenzene	ND	10	87	89.8	3.13	99.6	70 - 130	20	70 - 130
1,2-Dibromoethane (EDB)	ND	10	95	96.1	1.12	96	70 - 130	20	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	93.7	91.6	2.24	99.5	70 - 130	20	70 - 130
Diisopropyl ether (DIPE)	ND	10	99	98.9	0.103	108	70 - 130	20	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	98.7	99.4	0.744	104	70 - 130	20	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	98.9	98.5	0.436	99.1	70 - 130	20	70 - 130
Toluene	ND	10	82.5	86.4	4.64	97.2	70 - 130	20	70 - 130
Trichloroethene	1.0	10	85.8	86.6	0.884	99.3	70 - 130	20	70 - 130
%SS1:	104	25	105	104	0.860	99	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75516 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303434-001B	03/14/13 1:50 PM	03/15/13	03/15/13 7:51 PM	1303434-002B	03/14/13 2:40 PM	03/14/13	03/14/13 10:41 PM
1303434-003B	03/14/13 11:15 AM	03/14/13	03/14/13 11:20 PM	1303434-004B	03/14/13 11:50 AM	03/15/13	03/15/13 8:30 PM
1303434-005B	03/14/13 3:00 PM	03/15/13	03/15/13 9:09 PM	1303434-006B	03/14/13 2:30 PM	03/16/13	03/16/13 11:38 AM
1303434-007B	03/14/13 11:45 AM	03/15/13	03/15/13 10:28 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR E218.6

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 75519 | WorkOrder: 1303434

EPA Method: E218.6 **Extraction: E218.6** **Spiked Sample ID: 1303432-001C**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Hexachrome	ND	25	99.1	94.8	4.37	97	90 - 110	10	90 - 110

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75519 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303434-001D	03/14/13 1:50 PM	03/14/13	03/14/13 7:44 PM	1303434-002D	03/14/13 2:40 PM	03/14/13	03/14/13 8:03 PM
1303434-005D	03/14/13 3:00 PM	03/14/13	03/14/13 8:21 PM	1303434-006D	03/14/13 2:30 PM	03/14/13	03/14/13 8:39 PM
1303434-007D	03/14/13 11:45 AM	03/14/13	03/14/13 8:57 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 75521 | WorkOrder: 1303434

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1303373-007A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	60	101	97.1	3.97	98.9	70 - 130	20	70 - 130
MTBE	ND	10	102	97.7	4.51	89.2	70 - 130	20	70 - 130
Benzene	ND	10	100	93	7.31	100	70 - 130	20	70 - 130
Toluene	ND	10	101	93.6	7.33	97.5	70 - 130	20	70 - 130
Ethylbenzene	ND	10	98.6	91.6	7.21	98.3	70 - 130	20	70 - 130
Xylenes	ND	30	101	93.6	7.43	98.4	70 - 130	20	70 - 130
%SS:	100	10	96	96	0	101	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75521 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303434-004A	03/14/13 11:50 AM	03/16/13	03/16/13 11:54 PM	1303434-005A	03/14/13 3:00 PM	03/16/13	03/16/13 5:15 AM
1303434-007A	03/14/13 11:45 AM	03/16/13	03/16/13 5:44 AM	1303434-008A	03/14/13 12:25 PM	03/15/13	03/15/13 9:11 AM
1303434-009A	03/13/13 1:45 PM	03/15/13	03/15/13 9:41 AM	1303434-010A	03/13/13 1:15 PM	03/15/13	03/15/13 10:11 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 75571 | WorkOrder: 1303434

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1303434-002A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	60	105	103	2.37	102	70 - 130	20	70 - 130
MTBE	ND	10	102	100	1.03	98.5	70 - 130	20	70 - 130
Benzene	ND	10	102	104	2.03	98.2	70 - 130	20	70 - 130
Toluene	ND	10	101	103	1.50	96.3	70 - 130	20	70 - 130
Ethylbenzene	ND	10	102	104	1.78	96.7	70 - 130	20	70 - 130
Xylenes	ND	30	103	105	1.06	97.3	70 - 130	20	70 - 130
%SS:	98	10	96	101	5.23	96	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75571 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303434-001A	03/14/13 1:50 PM	03/15/13	03/15/13 2:07 PM	1303434-002A	03/14/13 2:40 PM	03/15/13	03/15/13 2:37 PM
1303434-003A	03/14/13 11:15 AM	03/17/13	03/17/13 12:54 AM	1303434-006A	03/14/13 2:30 PM	03/15/13	03/15/13 5:42 PM
1303434-011A	03/14/13 12:40 PM	03/15/13	03/15/13 6:44 PM	1303434-012A	03/14/13 11:20 AM	03/20/13	03/20/13 5:22 AM
1303434-013A	03/14/13 12:00 PM	03/15/13	03/15/13 8:46 PM	1303434-014A	03/13/13 12:00 PM	03/15/13	03/15/13 9:17 PM
1303434-015A	03/13/13 12:00 PM	03/15/13	03/15/13 9:47 PM	1303434-016A	03/13/13 2:45 PM	03/15/13	03/15/13 10:17 PM
1303434-017A	03/13/13 2:30 PM	03/15/13	03/15/13 10:47 PM	1303434-018A	03/13/13 2:00 PM	03/15/13	03/15/13 11:18 PM
1303434-019A	03/13/13 12:30 PM	03/15/13	03/15/13 11:48 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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Analytical Report

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 06/25/13
		Date Received: 06/26/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Reported: 07/02/13
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 07/01/13

WorkOrder: 1306679

July 02, 2013

Dear James:

Enclosed within are:

1) The results of the **15** analyzed samples from your project: **#160; 160 Holmes,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1306679

ALLTERRA

849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: 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**
Project Name: Double A2 Gas
Sampler Signature: Joseph Hatfield

Field Point Name / Sample ID	Sample Collection: Date	Sample Collection: Time	Sample Containers: Number of Containers	Sample Containers: Container Type	Matrix: Air	Matrix: Water	Matrix: Soil	Matrix: Sludge	Matrix: Other	Preservation: Ice	Preservation: HCl	Preservation: HNO_3	Preservation: Other	TPHg/ BTEX/ MTBE (EPA 8015/8021)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Lead Scavengers (8260)	Dissolved Oxygen	Carbon Dioxide	Methane	Total Dissolved Solids	Arsenic, Total Chromium, Total iron, Manganese, Sodium	Hexachrome	Ferrous Iron	Alkalinity	Sulfate		EDF required
MW-1A	6/25/13	15:30	6	(6) VARIOUS		x				x	x			x	x	x	x						x					x
MW-1B	6/25/13	14:40	6	(6) VARIOUS		x				x	x			x	x	x	x						x					x
MW-7A		14:15	6	(6) VARIOUS		x				x	x			x	x	x	x						x					x
MW-7B		15:00	6	(6) VARIOUS		x				x	x			x	x	x	x						x					x
EW-1		14:20	6	(6) VARIOUS		x				x	x			x	x	x	x						x					x
EW-3		15:00	6	(6) VARIOUS		x				x	x			x	x	x	x						x					x
EW-3B	6/25/13	15:30	6	(6) ~~VOA~~ VARIOUS		x				x	x			x	x	x	x						x					x
~~EW-2~~			3	VOA		x				x	x			x	x	x	x						x					x
MW-9A	6/25/13	12:15	3	VOA		x				x	x			x														x
MW-9B	6/25/13	11:50	3	VOA		x				x	x			x														x
MW-7C		12:30	3	VOA		x				x	x			x														x
MW-8A *		11:00	3	VOA		x				x	x			x														x
MW-8B			3	VOA		x				x	x			x														x
MW-5A		11:45	3	VOA		x				x	x			x														x
MW-5B		12:25	3	VOA		x				x	x			x														x
~~MW-4A~~			3	VOA		x				x	x			x														x
~~MW-2A~~			3	VOA		x				x	x			x														x
~~MW-3A~~			3	VOA		x				x	x			x														x
MW-6	6/25/13	11:20	3	VOA		x				x	x			x														x

Sampled By: Joseph Hatfield Date: 6/25/13 Time: 17:30 Received By: Laura Ferry

Received By: Laura Ferry Date: 6/26/13 Time: 11:05a Received By: Mc Vall

Received By: Date: Time: Received By:

ICE/t° 0.7
GOOD CONDITION ~~APPROPRIATE~~
HEAD SPACE ABSENT CONTAINERS
DECHLORINATED IN LAB PRESERVED IN LAB
PRESERVATION VOAS | O&G | METALS | OTHER

Not all Wells were Sampled

Comments: EW-2, MW-4A, MW-2A, MW-3A

ICE/t°
GOOD CONDITION not Sampled
HEAD SPACE ABSENT APPROPRIATE
DECHLORINATED IN LAB CONTAINERS
PRESERVED IN LAB
PRESERVATION VOAS | O&G | METALS | OTHER
~~RECD SEALED & INTACT~~ VIA Hand D

* VOAs Labeled = MW-8

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1306679 **ClientCode: ATRS**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
James Allen
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
831-425-2608 FAX: 831-425-2609

Email: allterraenvironmental@yahoo.com; micah
cc:
PO:
ProjectNo: #160; 160 Holmes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: 5 days

Date Received: **06/26/2013**
Date Printed: **06/26/2013**

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
1306679-001	MW-1A	Water	6/25/2013 15:30	☐	D	C	A	A	B							
1306679-002	MW-1B	Water	6/25/2013 14:40	☐	D	C	A		B							
1306679-003	MW-7A	Water	6/25/2013 14:15	☐	D	C	A		B							
1306679-004	MW-7B	Water	6/25/2013 15:00	☐	D	C	A		B							
1306679-005	EW-1	Water	6/25/2013 14:20	☐	D	C	A		B							
1306679-006	EW-3	Water	6/25/2013 15:00	☐	D	C	A		B							
1306679-007	EW-3B	Water	6/25/2013 15:30	☐	D	C	A		B							
1306679-008	MW-9A	Water	6/25/2013 12:15	☐			A									
1306679-009	MW-9B	Water	6/25/2013 11:50	☐			A									
1306679-010	MW-7C	Water	6/25/2013 12:30	☐			A									
1306679-011	MW-8A	Water	6/25/2013 11:00	☐			A									
1306679-012	MW-8B	Water	6/25/2013	☐			A									
1306679-013	MW-5A	Water	6/25/2013 11:45	☐			A									
1306679-014	MW-5B	Water	6/25/2013 12:25	☐			A									

Test Legend:

1	218_6_W	2	5-OXYS+PBSCV_W	3	G-MBTEX_W	4	PREDF REPORT	5	TPH(D)_W
6		7		8		9		10	
11		12							

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.

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1306679 **ClientCode: ATRS**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
James Allen
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
831-425-2608 FAX: 831-425-2609

Email: allterraenvironmental@yahoo.com; micah
cc:
PO:
ProjectNo: #160; 160 Holmes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: **5 days**

Date Received: **06/26/2013**
Date Printed: **06/26/2013**

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
1306679-015	MW-6	Water	6/25/2013 11:20	☐			A									

Test Legend:

1	218_6_W	2	5-OXYS+PBSCV_W	3	G-MBTEX_W	4	PREDF REPORT	5	TPH(D)_W
6		7		8		9		10	
11		12							

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.

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Sample Receipt Checklist

Client Name: **Allterra Environmental**
Date and Time Received: **6/26/2013 11:07:57 AM**

Project Name: **#160; 160 Holmes**
LogIn Reviewed by: Maria Venegas

WorkOrder N°: **1306679** Matrix: Water
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 0.7°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Comments:

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 06/25/13
		Date Received: 06/26/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 06/26/13-06/27/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 06/26/13-06/27/13

Hexachrome by IC*

Analytical Method: E218.6 Work Order: 1306679

Lab ID	Client ID	Matrix	Hexachrome	DF	Comments
1306679-001D	MW-1A	W	1.2	1	
1306679-002D	MW-1B	W	1.9	1	
1306679-003D	MW-7A	W	ND	1	b1
1306679-004D	MW-7B	W	ND	1	
1306679-005D	EW-1	W	19	10	b1
1306679-006D	EW-3	W	44	10	b1
1306679-007D	EW-3B	W	21	10	b1

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	0.2 µg/L	
	S	NA	

* water samples are reported in µg/L.

N/A means surrogate not applicable to this analysis; # means surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 06/25/13
		Date Received: 06/26/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 06/29/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 06/29/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1306679

Lab ID	1306679-001C	1306679-002C	1306679-003C	1306679-004C	Reporting Limit for DF =1	
Client ID	MW-1A	MW-1B	MW-7A	MW-7B		
Matrix	W	W	W	W		
DF	200	1	1	33	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<100	ND	ND	ND<17	NA	0.5
t-Butyl alcohol (TBA)	6800	ND	25	2200	NA	2.0
1,2-Dibromoethane (EDB)	ND<100	ND	ND	ND<17	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<100	ND	ND	ND<17	NA	0.5
Diisopropyl ether (DIPE)	ND<100	ND	ND	ND<17	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<100	ND	ND	ND<17	NA	0.5
Methyl-t-butyl ether (MTBE)	ND<100	ND	0.66	ND<17	NA	0.5
Surrogate Recoveries (%)						
%SS1:	107	106	107	105		
Comments			b1			

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 06/25/13
		Date Received: 06/26/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 06/29/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 06/29/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1306679

Lab ID	1306679-005C	1306679-006C	1306679-007C		Reporting Limit for DF =1	
Client ID	EW-1	EW-3	EW-3B			
Matrix	W	W	W			
DF	100	2	500		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<50	ND<1.0	ND<250		NA	0.5
t-Butyl alcohol (TBA)	4400	130	27,000		NA	2.0
1,2-Dibromoethane (EDB)	ND<50	ND<1.0	ND<250		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<50	ND<1.0	ND<250		NA	0.5
Diisopropyl ether (DIPE)	ND<50	ND<1.0	ND<250		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<50	ND<1.0	ND<250		NA	0.5
Methyl-t-butyl ether (MTBE)	ND<50	9.0	ND<250		NA	0.5
Surrogate Recoveries (%)						
%SS1:	108	110	109			
Comments	b1	b1	b1			

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 06/25/13
		Date Received: 06/26/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 06/27/13-06/28/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 06/27/13-06/28/13

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1306679

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1A	W	ND	ND	ND	ND	ND	ND	1	101	
002A	MW-1B	W	ND	ND	ND	ND	ND	ND	1	105	
003A	MW-7A	W	200	ND	ND	7.2	ND	ND	1	---#	d1,b1
004A	MW-7B	W	ND	ND	ND	1.3	ND	ND	1	108	
005A	EW-1	W	ND	25	ND	ND	ND	ND	1	99	b1
006A	EW-3	W	140	ND<10	ND	0.80	2.6	4.4	1	96	d1,b1
007A	EW-3B	W	120	ND<30	ND	1.1	ND	1.1	1	101	d1,b1
008A	MW-9A	W	ND	ND	ND	ND	ND	ND	1	105	
009A	MW-9B	W	ND	ND	ND	ND	ND	ND	1	102	
010A	MW-7C	W	ND	ND	ND	ND	ND	ND	1	105	
011A	MW-8A	W	ND	ND	ND	ND	ND	ND	1	105	
012A	MW-8B	W	ND	ND	ND	ND	ND	ND	1	110	
013A	MW-5A	W	ND	ND	ND	ND	ND	ND	1	108	
014A	MW-5B	W	ND	ND	ND	ND	ND	ND	1	112	
015A	MW-6	W	ND	ND	ND	ND	ND	ND	1	108	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
d1) weakly modified or unmodified gasoline is significant

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 06/25/13
		Date Received: 06/26/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted 06/26/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed 06/26/13-06/29/13

Total Extractable Petroleum Hydrocarbons*

Extraction method: SW3510C Analytical methods: SW8015B Work Order: 1306679

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1306679-001B	MW-1A	W	ND	1	89	
1306679-002B	MW-1B	W	ND	1	102	
1306679-003B	MW-7A	W	72	1	90	e2,b1
1306679-004B	MW-7B	W	ND	1	103	
1306679-005B	EW-1	W	160	1	102	e7,e2,b1
1306679-006B	EW-3	W	1600	1	89	e7,e2,b1
1306679-007B	EW-3B	W	180	1	87	e2,b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in ug/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
e2) diesel range compounds are significant; no recognizable pattern
e7) oil range compounds are significant

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 78714 | WorkOrder: 1306679

EPA Method: SW8015B **Extraction: SW3510C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	94.2	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	102	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 78714 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1306679-001B	06/25/13 3:30 PM	06/26/13	06/27/13 1:31 AM	1306679-002B	06/25/13 2:40 PM	06/26/13	06/26/13 7:46 PM
1306679-003B	06/25/13 2:15 PM	06/26/13	06/29/13 6:27 AM	1306679-004B	06/25/13 3:00 PM	06/26/13	06/26/13 10:15 PM
1306679-005B	06/25/13 2:20 PM	06/26/13	06/26/13 9:01 PM	1306679-006B	06/25/13 3:00 PM	06/26/13	06/27/13 2:40 AM
1306679-007B	06/25/13 3:30 PM	06/26/13	06/27/13 8:26 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR E218.6

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 78745 | WorkOrder: 1306679

EPA Method: E218.6 | **Extraction: E218.6** | **Spiked Sample ID: 1306679-001d**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Hexachrome	1.2	25	107	106	0.968	107	90 - 110	10	90 - 110

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 78745 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1306679-001D	06/25/13 3:30 PM	06/26/13	06/26/13 5:34 PM	1306679-002D	06/25/13 2:40 PM	06/26/13	06/26/13 6:29 PM
1306679-003D	06/25/13 2:15 PM	06/26/13	06/26/13 6:47 PM	1306679-004D	06/25/13 3:00 PM	06/26/13	06/26/13 7:05 PM
1306679-005D	06/25/13 2:20 PM	06/27/13	06/27/13 9:30 AM	1306679-006D	06/25/13 3:00 PM	06/27/13	06/27/13 11:20 AM
1306679-007D	06/25/13 3:30 PM	06/27/13	06/27/13 9:12 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 78783 | WorkOrder: 1306679

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1306690-002A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	60	102	95.7	6.44	94.8	70 - 130	20	70 - 130
MTBE	ND	10	106	102	4.02	96	70 - 130	20	70 - 130
Benzene	ND	10	92.3	96.2	4.11	93.5	70 - 130	20	70 - 130
Toluene	ND	10	94.6	97.6	3.05	98.8	70 - 130	20	70 - 130
Ethylbenzene	ND	10	92.8	96.7	4.11	97.7	70 - 130	20	70 - 130
Xylenes	ND	30	93.9	97.6	3.80	100	70 - 130	20	70 - 130
%SS:	108	10	100	102	1.59	101	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 78783 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1306679-001A	06/25/13 3:30 PM	06/27/13	06/27/13 12:08 AM	1306679-002A	06/25/13 2:40 PM	06/27/13	06/27/13 12:38 AM
1306679-003A	06/25/13 2:15 PM	06/27/13	06/27/13 1:08 AM	1306679-004A	06/25/13 3:00 PM	06/27/13	06/27/13 9:04 AM
1306679-008A	06/25/13 12:15 PM	06/27/13	06/27/13 2:07 AM	1306679-009A	06/25/13 11:50 AM	06/28/13	06/28/13 3:34 AM
1306679-010A	06/25/13 12:30 PM	06/27/13	06/27/13 3:07 AM	1306679-011A	06/25/13 11:00 AM	06/27/13	06/27/13 3:36 AM
1306679-012A	06/25/13	06/27/13	06/27/13 4:06 AM	1306679-013A	06/25/13 11:45 AM	06/27/13	06/27/13 4:36 AM
1306679-014A	06/25/13 12:25 PM	06/27/13	06/27/13 5:05 AM	1306679-015A	06/25/13 11:20 AM	06/27/13	06/27/13 8:34 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 78830 | WorkOrder: 1306679

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1306491-012A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	60	93.8	90.4	3.75	93.5	70 - 130	20	70 - 130
MTBE	ND	10	98.2	106	8.04	101	70 - 130	20	70 - 130
Benzene	ND	10	93	88.5	4.93	94	70 - 130	20	70 - 130
Toluene	ND	10	94.4	89.2	5.67	95.3	70 - 130	20	70 - 130
Ethylbenzene	ND	10	93.4	88.7	5.13	94.3	70 - 130	20	70 - 130
Xylenes	ND	30	95.5	91	4.85	96	70 - 130	20	70 - 130
%SS:	101	10	98	98	0	98	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 78830 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1306679-005A	06/25/13 2:20 PM	06/28/13	06/28/13 3:03 AM	1306679-006A	06/25/13 3:00 PM	06/27/13	06/27/13 6:45 PM
1306679-007A	06/25/13 3:30 PM	06/27/13	06/27/13 7:20 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 78897 | WorkOrder: 1306679

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1306679-002C**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	10	126	125	0.798	106	70 - 130	20	70 - 130
Benzene	ND	10	101	100	1.05	91.6	70 - 130	20	70 - 130
t-Butyl alcohol (TBA)	ND	40	149, F1	142, F1	4.79	109	70 - 130	20	70 - 130
Chlorobenzene	ND	10	101	98.9	2.39	89.7	70 - 130	20	70 - 130
1,2-Dibromoethane (EDB)	ND	10	126	123	2.49	103	70 - 130	20	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	113	111	2.30	94	70 - 130	20	70 - 130
Diisopropyl ether (DIPE)	ND	10	117	117	0	105	70 - 130	20	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	123	120	2.58	104	70 - 130	20	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	134, F1	131, F1	2.31	110	70 - 130	20	70 - 130
Toluene	ND	10	97	94.9	2.17	86.4	70 - 130	20	70 - 130
Trichloroethene	ND	10	108	109	1.12	91.7	70 - 130	20	70 - 130
%SS1:	106	25	108	111	2.57	107	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

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

BATCH 78897 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1306679-001C	06/25/13 3:30 PM	06/29/13	06/29/13 11:30 AM	1306679-002C	06/25/13 2:40 PM	06/29/13	06/29/13 12:07 PM
1306679-003C	06/25/13 2:15 PM	06/29/13	06/29/13 1:37 AM	1306679-004C	06/25/13 3:00 PM	06/29/13	06/29/13 1:22 PM
1306679-005C	06/25/13 2:20 PM	06/29/13	06/29/13 2:00 PM	1306679-006C	06/25/13 3:00 PM	06/29/13	06/29/13 2:38 PM
1306679-007C	06/25/13 3:30 PM	06/29/13	06/29/13 3:15 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification 1644

QA/QC Officer

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Analytical Report

Allterra Environmental	Client Project ID: #160; 160 Holmes.,Livermore,CA	Date Sampled: 07/22/13
		Date Received: 07/24/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Reported: 07/29/13
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 07/29/13

WorkOrder: 1307754

July 30, 2013

Dear James:

Enclosed within are:

1) The results of the **8** analyzed samples from your project: **#160; 160 Holmes.,Livermore,CA,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1307754

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: 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 St., Livermore, CA**
Project Name:
Sampler Signature:

Field Point Name / Sample ID	Sample Collection: Date	Sample Collection: Time	Sample Containers: Number of Containers	Sample Containers: Container Type	Matrix: Air	Matrix: Water	Matrix: Soil	Matrix: Sludge	Matrix: Other	Preservation: Ice	Preservation: HCl	Preservation: HNO_3	Preservation: Other	TPHg/ BTEX/ MTBE (EPA 8015/8021)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Lead Scavengers (8260)	Dissolved Oxygen	Carbon Dioxide	Methane	Total Dissolved Solids	Arsenic, Total Chromium, Total iron, Manganese, Sodium	Hexachrome	Ferrous Iron	Alkalinity	Sulfate	TTO (EPA 624)	EDF required
MW-1A	7/22	11:05	6	5 VOA / 1 POLY		x				x	x		x	x	x	x	x						x					x
MW-1B	7/22	11:22	6	5 VOA / 1 POLY		x				x	x		x	x	x	x	x						x					x
MW-7A	7/22	11:35	6	5 VOA / 1 POLY		x				x	x		x	x	x	x	x						x					x
MW-7B	7/22	11:40	6	5 VOA / 1 POLY		x				x	x		x	x	x	x	x						x					x
EW-1	7/22	11:15	6	5 VOA / 1 POLY		x				x	x		x	x	x	x	x						x					x
EW-3	7/22	11:00	6	5 VOA / 1 POLY		x				x	x		x	x	x	x	x						x					x
EW-3B	7/22	10:45	6	5 VOA / 1 POLY		x				x	x		x	x	x	x	x						x					x
TANK-1	7/22/13	11:30	4	VOA		x				x	x																x	

REC'D SEALED & INTACT VIA on trac

APPROPRIATE
CONTAINERS
PRESERVED IN LAB
VOAS | O&G | METALS | OTHER

Sampled By: JOE MANDINE	Date: 7/23/13	Time: 9:30AM	Received By:
Received By:	Date: 07/24/13	Time: 08:50	Received By:
Received By:	Date:	Time:	Received By:

Comments:

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1307754 **ClientCode: ATRS**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
James Allen
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
831-425-2608 FAX: 831-425-2609

Email: allterraenvironmental@yahoo.com; micah
cc:
PO:
ProjectNo: #160; 160 Holmes.,Livermore,CA

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: **5 days**

Date Received: **07/24/2013**
Date Printed: **07/24/2013**

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
1307754-001	MW-1A	Water	7/22/2013 11:05	☐	D	C		A	A	B						
1307754-002	MW-1B	Water	7/22/2013 11:22	☐	D	C		A		B						
1307754-003	MW-7A	Water	7/22/2013 11:35	☐	D	C		A		B						
1307754-004	MW-7B	Water	7/22/2013 11:40	☐	D	C		A		B						
1307754-005	EW-1	Water	7/22/2013 11:15	☐	D	C		A		B						
1307754-006	EW-3	Water	7/22/2013 11:00	☐	D	C		A		B						
1307754-007	EW-3B	Water	7/22/2013 10:45	☐	D	C		A		B						
1307754-008	Tank-1	Water	7/22/2013 11:30	☐			A									

Test Legend:

1	218_6_W	2	5-OXYS+PBSCV_W	3	624_W	4	G-MBTEX_W	5	PREDF REPORT
6	TPH(D)_W	7		8		9		10	
11		12							

Prepared by: Laura Rodriguez

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.

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Sample Receipt Checklist

Client Name: **Allterra Environmental**
Date and Time Received: **7/24/2013**

Project Name: **#160; 160 Holmes.,Livermore,CA**
LogIn Reviewed by: Laura Rodriguez

WorkOrder N°: **1307754** Matrix: Water
Carrier: OnTrac

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 7.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Comments:

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Allterra Environmental 849 Almar Ave, Ste. C #281 Santa Cruz, CA 95060	Client Project ID: #160; 160 Holmes.,Livermore,CA	Date Sampled: 07/22/13
		Date Received: 07/24/13
	Client Contact: James Allen	Date Extracted: 07/24/13-07/25/13
	Client P.O.:	Date Analyzed: 07/24/13-07/25/13

Hexachrome by IC*

Analytical Method: E218.6 Work Order: 1307754

Lab ID	Client ID	Matrix	Hexachrome	DF	Comments
1307754-001D	MW-1A	W	ND	1	b1
1307754-002D	MW-1B	W	1.7	1	
1307754-003D	MW-7A	W	ND	1	
1307754-004D	MW-7B	W	ND	1	
1307754-005D	EW-1	W	6.7	2	
1307754-006D	EW-3	W	24	20	
1307754-007D	EW-3B	W	25	20	

Reporting Limit for DF = 1; ND means not detected at or above the reporting limit	W	0.2 µg/L	
	S	NA	

* water samples are reported in µg/L.

N/A means surrogate not applicable to this analysis; # means surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

b1) aqueous sample that contains greater than ~1 vol. % sediment

CDPH ELAP 1644 ♦ NELAP 12283CA TD Analyst's Initial Angela Rydelius, Lab Manager

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Allterra Environmental 849 Almar Ave, Ste. C #281 Santa Cruz, CA 95060	Client Project ID: #160; 160 Holmes.,Livermore,CA	Date Sampled: 07/22/13
		Date Received: 07/24/13
	Client Contact: James Allen	Date Extracted: 07/24/13-07/26/13
	Client P.O.:	Date Analyzed: 07/24/13-07/26/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1307754

Lab ID	1307754-001C	1307754-002C	1307754-003C	1307754-004C	Reporting Limit for DF =1	
Client ID	MW-1A	MW-1B	MW-7A	MW-7B		
Matrix	W	W	W	W		
DF	200	1	1	10	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<100	ND	ND	ND<5.0	NA	0.5
t-Butyl alcohol (TBA)	17,000	6.8	7.9	740	NA	2.0
1,2-Dibromoethane (EDB)	ND<100	ND	ND	ND<5.0	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<100	ND	ND	ND<5.0	NA	0.5
Diisopropyl ether (DIPE)	ND<100	ND	ND	ND<5.0	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<100	ND	ND	ND<5.0	NA	0.5
Methyl-t-butyl ether (MTBE)	ND<100	ND	ND	ND<5.0	NA	0.5
Surrogate Recoveries (%)						
%SS1:	101	106	105	99		
Comments	b1					

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment

CDPH ELAP 1644 ♦ NELAP 12283CA KF Analyst's Initial  Angela Rydelius, Lab Manager

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental 849 Almar Ave, Ste. C #281 Santa Cruz, CA 95060	Client Project ID: #160; 160 Holmes.,Livermore,CA	Date Sampled: 07/22/13
		Date Received: 07/24/13
	Client Contact: James Allen	Date Extracted: 07/24/13-07/26/13
	Client P.O.:	Date Analyzed: 07/24/13-07/26/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1307754

Lab ID	1307754-005C	1307754-006C	1307754-007C		Reporting Limit for DF =1	
Client ID	EW-1	EW-3	EW-3B			
Matrix	W	W	W			
DF	10	100	200		S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<5.0	ND<50	ND<100		NA	0.5
t-Butyl alcohol (TBA)	530	7100	15,000		NA	2.0
1,2-Dibromoethane (EDB)	ND<5.0	ND<50	ND<100		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<5.0	ND<50	ND<100		NA	0.5
Diisopropyl ether (DIPE)	ND<5.0	ND<50	ND<100		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND<50	ND<100		NA	0.5
Methyl-t-butyl ether (MTBE)	29	1400	ND<100		NA	0.5
Surrogate Recoveries (%)						
%SS1:	97	97	96			
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

b1) aqueous sample that contains greater than ~1 vol. % sediment

CDPH ELAP 1644 ♦ NELAP 12283CA KF Analyst's Initial  Angela Rydelius, Lab Manager

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Allterra Environmental	Client Project ID: #160; 160 Holmes.,Livermore,CA	Date Sampled: 07/22/13
		Date Received: 07/24/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted 07/24/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed 07/24/13

Volatile Organics by P&T and GC/MS (624 Basic Target List)*

Extraction Method: E624 | Analytical Method: E624 | Work Order: 1307754

Lab ID	1307754-008A
Client ID	Tank-1
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Benzene	ND	1.0	0.5	Bromodichloromethane	ND	1.0	0.5
Bromoform	ND	1.0	0.5	Bromomethane	ND	1.0	0.5
Carbon tetrachloride	ND	1.0	0.5	Chlorobenzene	ND	1.0	0.5
Chloroethane	ND	1.0	0.5	Chloroform	ND	1.0	0.5
Chloromethane	ND	1.0	0.5	Dibromochloromethane	ND	1.0	0.5
1,2-Dichlorobenzene	ND	1.0	0.5	1,3-Dichlorobenzene	ND	1.0	0.5
1,4-Dichlorobenzene	ND	1.0	0.5	Dichlorodifluoromethane	ND	1.0	0.5
1,1-Dichloroethane	ND	1.0	0.5	1,2-Dichloroethane (1,2-DCA)	ND	1.0	0.5
1,1-Dichloroethene	ND	1.0	0.5	cis-1,2-Dichloroethene	ND	1.0	0.5
trans-1,2-Dichloroethene	ND	1.0	0.5	1,2-Dichloropropane	ND	1.0	0.5
cis-1,3-Dichloropropene	ND	1.0	0.5	trans-1,3-Dichloropropene	ND	1.0	0.5
Ethylbenzene	ND	1.0	0.5	Freon 113	ND	1.0	10
Hexachlorobutadiene	ND	1.0	0.5	Hexachloroethane	ND	1.0	0.5
Methyl-t-butyl ether (MTBE)	ND	1.0	0.5	Methylene chloride	ND	1.0	0.5
Naphthalene	ND	1.0	0.5	Styrene	ND	1.0	0.5
1,1,2,2-Tetrachloroethane	ND	1.0	0.5	Tetrachloroethene	ND	1.0	0.5
Toluene	ND	1.0	0.5	1,2,4-Trichlorobenzene	ND	1.0	0.5
1,1,1-Trichloroethane	ND	1.0	0.5	1,1,2-Trichloroethane	ND	1.0	0.5
Trichloroethene	ND	1.0	0.5	Trichlorofluoromethane	ND	1.0	0.5
Vinyl chloride	ND	1.0	0.5	Xylenes, Total	ND	1.0	0.5

Surrogate Recoveries (%)

%SS1:	104	%SS2:	98
%SS3:	87		

Comments:

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or surrogate coelutes with another peak.

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Allterra Environmental	Client Project ID: #160; 160 Holmes.,Livermore,CA	Date Sampled: 07/22/13
		Date Received: 07/24/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted: 07/25/13-07/26/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 07/25/13-07/26/13

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1307754

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1A	W	ND	ND	ND	ND	ND	ND	1	100	b1
002A	MW-1B	W	ND	ND	ND	ND	ND	ND	1	104	
003A	MW-7A	W	ND	ND	ND	0.96	ND	ND	1	112	
004A	MW-7B	W	ND	ND	ND	ND	ND	ND	1	105	
005A	EW-1	W	ND	33	ND	ND	ND	ND	1	102	
006A	EW-3	W	410	1500	1.0	0.68	ND	14	1	97	
007A	EW-3B	W	80	24	0.59	0.54	0.88	1.0	1	98	d1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
d1) weakly modified or unmodified gasoline is significant

CDPH ELAP 1644 ♦ NELAP 12283CA IA Analyst's Initial Angela Rydelius, Lab Manager

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Allterra Environmental	Client Project ID: #160; 160 Holmes.,Livermore,CA	Date Sampled: 07/22/13
		Date Received: 07/24/13
849 Almar Ave, Ste. C #281	Client Contact: James Allen	Date Extracted 07/24/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 07/25/13-07/27/13

Total Extractable Petroleum Hydrocarbons*

Extraction method: SW3510C Analytical methods: SW8015B Work Order: 1307754

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1307754-001B	MW-1A	W	ND	1	101	b1
1307754-002B	MW-1B	W	ND	1	110	
1307754-003B	MW-7A	W	ND	1	108	
1307754-004B	MW-7B	W	ND	1	109	
1307754-005B	EW-1	W	55	1	106	e2
1307754-006B	EW-3	W	480	1	101	e2,e4,e7
1307754-007B	EW-3B	W	140	1	98	e2,e4

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in ug/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.
e7) oil range compounds are significant

CDPH ELAP 1644 ♦ NELAP 12283CA MAM Analyst's Initial  Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR E218.6

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 79752 | WorkOrder: 1307754

EPA Method: E218.6 **Extraction: E218.6** **Spiked Sample ID: 1307754-001d**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Hexachrome	ND	25	106	106	0	106	90 - 110	10	90 - 110

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 79752 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1307754-001D	07/22/13 11:05 AM	07/24/13	07/24/13 2:34 PM	1307754-002D	07/22/13 11:22 AM	07/24/13	07/24/13 3:29 PM
1307754-003D	07/22/13 11:35 AM	07/24/13	07/24/13 3:47 PM	1307754-004D	07/22/13 11:40 AM	07/24/13	07/24/13 4:05 PM
1307754-005D	07/22/13 11:15 AM	07/25/13	07/25/13 9:25 AM	1307754-006D	07/22/13 11:00 AM	07/25/13	07/25/13 10:20 AM
1307754-007D	07/22/13 10:45 AM	07/25/13	07/25/13 10:57 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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QC SUMMARY REPORT FOR E624

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 79804 | WorkOrder: 1307754

EPA Method: E624 **Extraction: E624** **Spiked Sample ID: 1307754-008A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Benzene	ND	20	104	100	3.93	117	37 - 151	20	37 - 151
Bromodichloromethane	ND	20	117	115	1.70	141	35 - 155	20	35 - 155
Bromoform	ND	20	99.3	97	2.32	101	45 - 169	20	45 - 169
Bromomethane	ND	20	156	139	11.6	145	1 - 242	20	1 - 242
Carbon tetrachloride	ND	20	98.3	96.4	1.89	102	70 - 140	20	70 - 140
Chlorobenzene	ND	20	101	94.8	5.90	110	37 - 160	20	37 - 160
Chloroethane	ND	20	98.6	91.7	7.22	93.5	14 - 230	20	14 - 230
Chloroform	ND	20	104	100	3.91	121	51 - 138	20	51 - 138
Chloromethane	ND	20	91.2	82.1	10.5	86.5	1 - 273	20	1 - 273
Dibromochloromethane	ND	20	99.2	94.3	4.99	108	53 - 149	20	53 - 149
1,2-Dichlorobenzene	ND	20	110	105	4.70	126	18 - 190	20	18 - 190
1,3-Dichlorobenzene	ND	20	98.5	93.4	5.36	120	59 - 156	20	59 - 156
1,4-Dichlorobenzene	ND	20	104	98.5	5.86	116	18 - 190	20	18 - 190
Dichlorodifluoromethane	ND	20	159	148	7.13	141	70 - 160	20	70 - 145
1,1-Dichloroethane	ND	20	98.7	95	3.74	112	70 - 130	20	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	20	97.8	93.3	4.72	118	49 - 155	20	49 - 155
1,1-Dichloroethene	ND	20	92.3	88.5	4.19	96.8	1 - 234	20	1 - 234
cis-1,2-Dichloroethene	ND	20	108	103	5.06	127	70 - 130	20	70 - 130
trans-1,2-Dichloroethene	ND	20	93.3	88.8	4.89	98.9	54 - 156	20	54 - 156
1,2-Dichloropropane	ND	20	101	95.8	4.87	121	1 - 210	20	1 - 210
cis-1,3-Dichloropropene	ND	20	98	92.7	5.35	105	1 - 227	20	1 - 227
trans-1,3-Dichloropropene	ND	20	97.9	92.7	5.27	105	17 - 183	20	17 - 183
Ethylbenzene	ND	20	112	105	6.63	113	37 - 162	20	37 - 162
Freon 113	ND	20	123	119	3.94	129	70 - 130	20	70 - 130
Hexachlorobutadiene	ND	20	114	105	8.36	103	70 - 130	20	70 - 130
Hexachloroethane	ND	20	107	105	1.80	104	70 - 130	20	70 - 130
Methyl-t-butyl ether (MTBE)	ND	20	105	102	2.31	135	70 - 130	20	70 - 140
Methylene chloride	ND	20	92.9	89.8	3.47	111	1 - 221	20	1 - 221
Naphthalene	ND	20	88.5	88.5	0	102	70 - 130	20	70 - 130
Styrene	ND	20	97.3	92.9	4.56	106	70 - 130	20	70 - 130
1,1,2,2-Tetrachloroethane	ND	20	92.2	89.5	2.90	103	46 - 157	20	46 - 157

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR E624

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 79804 | WorkOrder: 1307754

EPA Method: E624 **Extraction: E624** **Spiked Sample ID: 1307754-008A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
Tetrachloroethene	ND	20	94.5	89.4	5.61	92.6	64 - 148	20	64 - 148
Toluene	ND	20	93.3	88.4	5.37	99.9	47 - 150	20	47 - 150
1,2,4-Trichlorobenzene	ND	20	98.3	95.1	3.24	107	70 - 130	20	70 - 130
1,1,1-Trichloroethane	ND	20	115	111	4.30	127	52 - 162	20	52 - 162
1,1,2-Trichloroethane	ND	20	93.6	91	2.83	110	52 - 150	20	52 - 150
Trichloroethene	ND	20	103	98.9	3.86	118	71 - 157	20	71 - 157
Trichlorofluoromethane	ND	20	119	104	13.3	68.8	17 - 181	20	17 - 181
Vinyl chloride	ND	20	119	113	4.95	109	1 - 251	20	1 - 251
%SS1:	104	25	105	106	1.06	120	70 - 130	20	70 - 130
%SS2:	98	25	97	96	0.820	92	70 - 130	20	70 - 130
%SS3:	87	2.5	87	85	1.92	88	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 79804 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1307754-008A	07/22/13 11:30 AM	07/24/13	07/24/13 11:20 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 79806 | WorkOrder: 1307754

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1307754-008A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	10	106	104	1.94	105	70 - 130	20	70 - 130
Benzene	ND	10	104	100	3.93	96.9	70 - 130	20	70 - 130
t-Butyl alcohol (TBA)	ND	40	95.7	97.6	1.98	104	70 - 130	20	70 - 130
Chlorobenzene	ND	10	101	94.8	5.90	92.4	70 - 130	20	70 - 130
1,2-Dibromoethane (EDB)	ND	10	95.7	92.1	3.90	91.4	70 - 130	20	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	97.8	93.3	4.72	94.2	70 - 130	20	70 - 130
Diisopropyl ether (DIPE)	ND	10	102	99.9	1.89	97.2	70 - 130	20	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	105	103	1.44	103	70 - 130	20	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	105	102	2.31	104	70 - 130	20	70 - 130
Toluene	ND	10	93.3	88.4	5.37	85.4	70 - 130	20	70 - 130
Trichloroethene	ND	10	103	98.9	3.86	93	70 - 130	20	70 - 130
%SS1:	104	25	105	106	1.06	109	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 79806 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1307754-001C	07/22/13 11:05 AM	07/26/13	07/26/13 2:40 AM	1307754-002C	07/22/13 11:22 AM	07/24/13	07/24/13 11:55 PM
1307754-003C	07/22/13 11:35 AM	07/25/13	07/25/13 12:37 AM	1307754-004C	07/22/13 11:40 AM	07/26/13	07/26/13 3:20 AM
1307754-005C	07/22/13 11:15 AM	07/26/13	07/26/13 4:00 AM	1307754-006C	07/22/13 11:00 AM	07/26/13	07/26/13 4:40 AM
1307754-007C	07/22/13 10:45 AM	07/26/13	07/26/13 5:20 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 79793 | WorkOrder: 1307754

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1307738-007B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	60	101	94.4	7.02	91	70 - 130	20	70 - 130
MTBE	ND	10	98.7	106	7.52	98.9	70 - 130	20	70 - 130
Benzene	ND	10	105	98	6.47	91.4	70 - 130	20	70 - 130
Toluene	ND	10	108	101	6.24	92.9	70 - 130	20	70 - 130
Ethylbenzene	ND	10	106	99.5	5.92	92.1	70 - 130	20	70 - 130
Xylenes	ND	30	106	101	4.70	94	70 - 130	20	70 - 130
%SS:	103	10	107	100	7.40	97	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 79793 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1307754-001A	07/22/13 11:05 AM	07/25/13	07/25/13 12:29 AM	1307754-002A	07/22/13 11:22 AM	07/25/13	07/25/13 12:59 AM
1307754-003A	07/22/13 11:35 AM	07/26/13	07/26/13 8:24 PM	1307754-004A	07/22/13 11:40 AM	07/26/13	07/26/13 9:25 PM
1307754-005A	07/22/13 11:15 AM	07/25/13	07/25/13 2:30 AM	1307754-006A	07/22/13 11:00 AM	07/25/13	07/25/13 3:00 AM
1307754-006A	07/22/13 11:00 AM	07/26/13	07/26/13 1:04 AM	1307754-007A	07/22/13 10:45 AM	07/26/13	07/26/13 7:22 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 79734 | WorkOrder: 1307754

EPA Method: SW8015B **Extraction: SW3510C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	111	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	94	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 79734 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1307754-001B	07/22/13 11:05 AM	07/24/13	07/25/13 10:44 AM	1307754-002B	07/22/13 11:22 AM	07/24/13	07/27/13 9:37 AM
1307754-003B	07/22/13 11:35 AM	07/24/13	07/25/13 1:13 PM	1307754-004B	07/22/13 11:40 AM	07/24/13	07/25/13 4:41 AM
1307754-005B	07/22/13 11:15 AM	07/24/13	07/25/13 3:29 AM	1307754-006B	07/22/13 11:00 AM	07/24/13	07/25/13 7:05 AM
1307754-007B	07/22/13 10:45 AM	07/24/13	07/25/13 5:53 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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Analytical Report

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/05/13
		Date Received: 03/07/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Reported: 03/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 03/12/13

WorkOrder: 1303150

March 13, 2013

Dear Aaron:

Enclosed within are:

1) The results of the **5** analyzed samples from your project: **#160; 160 Holmes,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1303150

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: 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**
Project Name:
Sampler Signature:

Field Point Name / Sample ID	Sample Collection: Date	Sample Collection: Time	Sample Containers: Number of Containers	Sample Containers: Container Type	Matrix: Air	Matrix: Water	Matrix: Soil	Matrix: Sludge	Matrix: Other	Preservation: Ice	Preservation: HCl	Preservation: HNO_3	Preservation: Other	TPHg/ BTEX/ MTBE (EPA 8015/8021)	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	HOLD	EDF required
EW-3B@5	3/5/13	10:30	1	Jar			x			x								x	
EW-3B@10		10:45	1	Jar			x			x								x	
EW-3B@15		11:00	1	Jar			x			x								x	
EW-3B@20		11:15	1	Jar			x			x				x		x	x		x
EW-3B@25		11:30	1	Jar			x			x				x		x	x		x
EW-3B@30		11:45	1	Jar			x			x				x		x	x		x
EW-3B@35		12:00	1	Jar			x			x				x		x	x		x
EW-3B@40		12:15	1	Jar			x			x				x		x	x		x

REC'D SEALED & INTACT VIA OnTrac

ICE/T° 4.3
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT CONTAINERS ✓
DECHLORINATED IN LAB PRESERVED IN LAB
PRESERVATION VOAS | O&G | METALS | OTHER

Sampled By: Aaron Powers	Date: 3/5/13	Time:	Received By:
Received By:	Date: 3/7/13	Time: 0822	Received By:
Received By:	Date:	Time:	Received By:

Comments: Please hold samples EW-3B@5, 10, 15

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1303150 **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; allterraenvironmen
cc:
PO:
ProjectNo: #160; 160 Holmes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: 5 days

Date Received: **03/07/2013**
Date Printed: **03/07/2013**

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
1303150-004	EW-3B@20	Soil	3/5/2013 11:15	☐	A	A	A	A								
1303150-005	EW-3B@25	Soil	3/5/2013 11:30	☐	A	A		A								
1303150-006	EW-3B@30	Soil	3/5/2013 11:45	☐	A	A		A								
1303150-007	EW-3B@35	Soil	3/5/2013 12:00	☐	A	A		A								
1303150-008	EW-3B@40	Solid	3/5/2013 12:15	☐	A	A		A								

Test Legend:

1	5-OXYS_S	2	G-MBTEX_S	3	PREDF REPORT	4	TPH(D)_S	5	
6		7		8		9		10	
11		12							

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.

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Sample Receipt Checklist

Client Name: **Allterra Environmental**
Date and Time Received: **3/7/2013 9:15:27 AM**
Project Name: **#160; 160 Holmes**
LogIn Reviewed by: Maria Venegas
WorkOrder N°: **1303150** Matrix: Soil/Solid
Carrier: OnTrac

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 4.3°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Comments:

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/05/13
		Date Received: 03/07/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 03/07/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/07/13-03/08/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1303150

Lab ID	1303150-004A	1303150-005A	1303150-006A	1303150-007A	Reporting Limit for DF =1	
Client ID	EW-3B@20	EW-3B@25	EW-3B@30	EW-3B@35		
Matrix	S	S	S	S		
DF	1	40	20	10	S	W
Compound	**Concentration**				mg/kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND<0.20	ND<0.10	ND<0.050	0.005	NA
t-Butyl alcohol (TBA)	ND	15	13	7.0	0.05	NA
Diisopropyl ether (DIPE)	ND	ND<0.20	ND<0.10	ND<0.050	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND<0.20	ND<0.10	ND<0.050	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND<0.20	ND<0.10	ND<0.050	0.005	NA
Surrogate Recoveries (%)						
%SS1:	90	97	104	95		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or surrogate coelutes with another peak.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/05/13
		Date Received: 03/07/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 03/07/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/07/13-03/08/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1303150

Lab ID	1303150-008A				Reporting Limit for DF =1		
Client ID	EW-3B@40						
Matrix	S						
DF	1				S	W	
Compound	**Concentration**				mg/kg	ug/L	
tert-Amyl methyl ether (TAME)	ND				0.005	NA	
t-Butyl alcohol (TBA)	ND				0.05	NA	
Diisopropyl ether (DIPE)	ND				0.005	NA	
Ethyl tert-butyl ether (ETBE)	ND				0.005	NA	
Methyl-t-butyl ether (MTBE)	ND				0.005	NA	
Surrogate Recoveries (%)							
%SS1:	97						
Comments							

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or surrogate coelutes with another peak.

DHS ELAP Certification 1644

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Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/05/13
		Date Received: 03/07/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 03/07/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 03/08/13-03/12/13

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1303150

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
004A	EW-3B@20	S	ND	ND	ND	ND	ND	0.0076	1	105	
005A	EW-3B@25	S	8.3	ND	ND	0.0057	ND	ND	1	93	d7
006A	EW-3B@30	S	ND	ND	ND	ND	ND	ND	1	94	
007A	EW-3B@35	S	1.8	ND	ND	ND	ND	ND	1	97	d7
008A	EW-3B@40	S	ND	ND	ND	ND	ND	ND	1	115	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram

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Angela Rydelius, Lab Manager

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental	Client Project ID: #160; 160 Holmes	Date Sampled: 03/05/13
		Date Received: 03/07/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted 03/07/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed 03/07/13-03/11/13

Total Extractable Petroleum Hydrocarbons*

Extraction method: SW3550B Analytical methods: SW8015B Work Order: 1303150

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1303150-004A	EW-3B@20	S	6.2	1	91	e7,e2
1303150-005A	EW-3B@25	S	ND	1	89	
1303150-006A	EW-3B@30	S	ND	1	97	
1303150-007A	EW-3B@35	S	ND	1	89	
1303150-008A	EW-3B@40	S	ND	1	88	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e2) diesel range compounds are significant; no recognizable pattern
e7) oil range compounds are significant

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Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 75263 | WorkOrder: 1303150

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1303131-012A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	0.050	73.4	76.1	3.67	79.3	56 - 94	30	70 - 130
t-Butyl alcohol (TBA)	ND	0.20	82.4	77.1	6.65	88.2	56 - 140	30	70 - 130
Diisopropyl ether (DIPE)	ND	0.050	80.7	86.4	6.86	89.3	53 - 111	30	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	0.050	80.5	85.8	6.34	87.8	61 - 104	30	70 - 130
Methyl-t-butyl ether (MTBE)	ND	0.050	80.5	89.8	10.9	90.3	58 - 107	30	70 - 130
%SS1:	89	0.12	87	94	7.85	88	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75263 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303150-004A	03/05/13 11:15 AM	03/07/13	03/07/13 11:37 PM	1303150-005A	03/05/13 11:30 AM	03/07/13	03/08/13 6:54 PM
1303150-006A	03/05/13 11:45 AM	03/07/13	03/08/13 4:03 PM	1303150-007A	03/05/13 12:00 PM	03/07/13	03/08/13 4:44 PM
1303150-008A	03/05/13 12:15 PM	03/07/13	03/08/13 1:32 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 75265 | WorkOrder: 1303150

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1303158-003A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	0.60	96.5	102	5.38	108	70 - 130	20	70 - 130
MTBE	ND	0.10	84.7	86	1.43	101	70 - 130	20	70 - 130
Benzene	ND	0.10	101	99	1.93	120	70 - 130	20	70 - 130
Toluene	ND	0.10	97.8	96	1.91	119	70 - 130	20	70 - 130
Ethylbenzene	ND	0.10	99.5	98.3	1.20	115	70 - 130	20	70 - 130
Xylenes	ND	0.30	99.4	98.5	0.845	121	70 - 130	20	70 - 130
%SS:	111	0.10	105	100	5.51	101	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75265 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303150-004A	03/05/13 11:15 AM	03/07/13	03/12/13 7:19 PM	1303150-005A	03/05/13 11:30 AM	03/07/13	03/08/13 12:22 PM
1303150-006A	03/05/13 11:45 AM	03/07/13	03/08/13 12:53 PM	1303150-007A	03/05/13 12:00 PM	03/07/13	03/08/13 1:23 PM
1303150-008A	03/05/13 12:15 PM	03/07/13	03/11/13 11:19 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 75182 | WorkOrder: 1303150

EPA Method: SW8015B **Extraction: SW3550B** **Spiked Sample ID: 1303027-005A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	1800	40	NR	NR	NR	111	N/A	N/A	70 - 130
%SS:	102	25	NR	NR	NR	98	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75182 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303150-004A	03/05/13 11:15 AM	03/07/13	03/07/13 8:58 PM	1303150-005A	03/05/13 11:30 AM	03/07/13	03/08/13 12:24 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 75260 | WorkOrder: 1303150

EPA Method: SW8015B **Extraction: SW3550B** **Spiked Sample ID: 1303158-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	71	40	NR	NR	NR	106	N/A	N/A	70 - 130
%SS:	102	25	NR	NR	NR	95	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 75260 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1303150-006A	03/05/13 11:45 AM	03/07/13	03/11/13 7:55 PM	1303150-007A	03/05/13 12:00 PM	03/07/13	03/07/13 10:07 PM
1303150-008A	03/05/13 12:15 PM	03/07/13	03/07/13 7:50 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

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Analytical Report

Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Reported: 08/21/13
Santa Cruz, CA 95060	Client P.O.:	Date Completed: 08/21/13

WorkOrder: 1308400

August 21, 2013

Dear Aaron:

Enclosed within are:

1) The results of the **29** analyzed samples from your project: **#160; 160 Homes,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: www.allterraenv.com
Phone: (831) 425-2608 Facsimile: (831) 425-2609

1308400

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 Homes St, Livermore, CA
Project Name: 160 Holmes
Sampler Signature:

REC'D SEALED & INTACT VIA OnTrac

Field Point Name / Sample ID	Sample Collection		Sample Containers		Matrix					Preservation				TPHg/ BTEX/ MTBE (EPA 8015/8021)	BTEX (EPA 8020)	TPHd (EPA 8015)	5-fuel oxys (EPA 8260)	Napthalene (EPA 8260)	Lead Scavengers (8260)	Total HVOCs (EPA 8260)		CAM-17 Metals (EPA 6010/6020)	LUFT 5 Metals (EPA 6010/6020)	PAH's/ PNA's (EPA 8270,625/8310)	Fish Toxicity/Bioassay	Lead (EPA 6010/200.9/200.8)		EDF required
	Date	Time	Number of Containers	Container Type	Air	Water	Soil	Sludge	Other	Ice	HCl	HNO_3	Other															
CB-1@2.5	8/8/13	9:30	1	jar			x			x				x		x	x	x	x									x
CB-1@5	8/8/13	9:40	1	acetate			x			x				x		x	x	x	x									x
CB-1@7.5	8/8/13	9:50	1	jar			x			x				x		x	x	x	x									x
CB-1@10	8/8/13	9:55	1	acetate			x			x				x		x	x	x	x									x
CB-1@15	8/8/13	10:00	1	acetate			x			x				x		x	x		x									x
CB-1@20	8/8/13	10:15	1	jar			x			x				x		x	x		x									x
CB-1@25	8/8/13	10:30	1	acetate			x			x				x		x	x		x									x
CB-1@30	8/8/13	10:40	1	jar			x			x				x		x	x		x									x
CB-1@35	8/8/13	10:50	1	jar			x			x				x		x	x		x									x
CB-2@2.5	8/8/13	11:10	1	acetate			x			x				x		x	x	x	x									x
CB-2@5	8/8/13	11:15	1	acetate			x			x				x		x	x	x	x									x
CB-2@7.5	8/8/13	11:20	1	acetate			x			x				x		x	x	x	x									x
CB-2@10	8/8/13	11:30	1	acetate			x			x				x		x	x	x	x									x
CB-2@15	8/8/13	11:40	1	acetate			x			x				x		x	x		x									x
CB-2@20	8/8/13	11:50	1	acetate			x			x				x		x	x		x									x
CB-2@25	8/8/13	12:00	1	acetate			x			x				x		x	x		x									x
CB-2@30	8/8/13	12:20	1	acetate			x			x				x		x	x		x									x
CB-2@35	8/8/13	12:30	1	acetate			x			x				x		x	x		x									x
CB-3@2.5	8/8/13	2:10	1	acetate			x			x				x		x	x	x	x									x
CB-3@5	8/8/13	2:15	1	acetate			x			x				x		x	x	x	x									x
CB-3@7.5	8/8/13	2:30	1	acetate			x			x				x		x	x	x	x									x
CB-4@5	8/8/13	3:15	1	acetate			x			x				x		x	x	x	x									x
CB-4@7.5	8/8/13	3:20	1	acetate			x			x				x		x	x	x	x									x
CB-4@10	8/8/13	3:30	1	acetate			x			x				x		x	x	x	x									x
CB-4@15	8/8/13	3:40	1	acetate			x			x				x		x	x		x									x
CB-4@20	8/8/13	3:50	1	acetate			x			x				x		x	x		x									x
CB-4@25	8/8/13	4:00	1	acetate			x			x				x		x	x		x									x
CB-4@30	8/8/13	4:10	1	acetate			x			x				x		x	x		x									x
CB-4@35	8/8/13	4:20	1	acetate			x			x				x		x	x		x									x

Sampled By:	Date:	Time:	Received By:
Aaron Powers	8/12/13		
Received By:	Date:	Time:	Received By:
	8/13/13	0950	
Received By:	Date:	Time:	Received By:

Comments:
ICE/t° 4.2 ✓
GOOD CONDITION ✓ APPROPRIATE ✓
HEAD SPACE ABSENT ____ CONTAINERS ____
DECHLORINATED IN LAB ____ PRESERVED IN LAB ____

PRESERVATION	VOAS	O&G	METALS	OTHER

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1308400 **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; allterraenvironmen
cc:
PO:
ProjectNo: #160; 160 Homes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: 5 days

Date Received: **08/13/2013**
Date Printed: **08/13/2013**

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
1308400-001	CB-1@2.5	Soil	8/8/2013 9:30	☐		A	A	A	A							
1308400-002	CB-1@5	Soil	8/8/2013 9:40	☐		A	A		A							
1308400-003	CB-1@7.5	Soil	8/8/2013 9:50	☐		A	A		A							
1308400-004	CB-1@10	Soil	8/8/2013 9:55	☐		A	A		A							
1308400-005	CB-1@15	Soil	8/8/2013 10:00	☐	A		A		A							
1308400-006	CB-1@20	Soil	8/8/2013 10:15	☐	A		A		A							
1308400-007	CB-1@25	Soil	8/8/2013 10:30	☐	A		A		A							
1308400-008	CB-1@30	Soil	8/8/2013 10:40	☐	A		A		A							
1308400-009	CB-1@35	Soil	8/8/2013 10:50	☐	A		A		A							
1308400-010	CB-2@2.5	Soil	8/8/2013 11:10	☐		A	A		A							
1308400-011	CB-2@5	Soil	8/8/2013 11:15	☐		A	A		A							
1308400-012	CB-2@7.5	Soil	8/8/2013 11:20	☐		A	A		A							
1308400-013	CB-2@10	Soil	8/8/2013 11:30	☐		A	A		A							
1308400-014	CB-2@15	Soil	8/8/2013 11:40	☐	A		A		A							

Test Legend:

1	5-OXYS+PBSCV_S	2	8260VOC_S	3	G-MBTEX_S	4	PREDF REPORT	5	TPH(D)_S
6		7		8		9		10	
11		12							

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.

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1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1308400 **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; allterraenvironmen
cc:
PO:
ProjectNo: #160; 160 Homes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: 5 days

Date Received: **08/13/2013**
Date Printed: **08/13/2013**

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
1308400-015	CB-2@20	Soil	8/8/2013 11:50	☐	A		A		A							
1308400-016	CB-2@25	Soil	8/8/2013 12:00	☐	A		A		A							
1308400-017	CB-2@30	Soil	8/8/2013 12:20	☐	A		A		A							
1308400-018	CB-2@35	Soil	8/8/2013 12:30	☐	A		A		A							
1308400-019	CB-3@2.5	Soil	8/8/2013 14:10	☐		A	A		A							
1308400-020	CB-3@5	Soil	8/8/2013 14:15	☐		A	A		A							
1308400-021	CB-3@7.5	Soil	8/8/2013 14:30	☐		A	A		A							
1308400-022	CB-4@5	Soil	8/8/2013 15:15	☐		A	A		A							
1308400-023	CB-4@7.5	Soil	8/8/2013 15:20	☐		A	A		A							
1308400-024	CB-4@10	Soil	8/8/2013 15:30	☐		A	A		A							
1308400-025	CB-4@15	Soil	8/8/2013 15:40	☐	A		A		A							
1308400-026	CB-4@20	Soil	8/8/2013 15:50	☐	A		A		A							
1308400-027	CB-4@25	Soil	8/8/2013 16:00	☐	A		A		A							
1308400-028	CB-4@30	Soil	8/8/2013 16:10	☐	A		A		A							

Test Legend:

1	5-OXYS+PBSCV_S	2	8260VOC_S	3	G-MBTEX_S	4	PREDF REPORT	5	TPH(D)_S
6		7		8		9		10	
11		12							

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.

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Pittsburg, CA 94565-1701
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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1308400 **ClientCode: ATRS**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
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849 Almar Ave, Ste. C #281
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831-425-2608 FAX: 831-425-2609

Email: aaron@allterraenv.com; allterraenvironmen
cc:
PO:
ProjectNo: #160; 160 Homes

Bill to:
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
micah@allterraenv.com

Requested TAT: 5 days

Date Received: **08/13/2013**
Date Printed: **08/13/2013**

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
1308400-029	CB-4@35	Soil	8/8/2013 16:20	☐	A		A		A							

Test Legend:

1	5-OXYS+PBSCV_S	2	8260VOC_S	3	G-MBTEX_S	4	PREDF REPORT	5	TPH(D)_S
6		7		8		9		10	
11		12							

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.

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"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **Allterra Environmental**
Date and Time Received: **8/13/2013 12:05:52 PM**
Project Name: **#160; 160 Homes**
LogIn Reviewed by: Maria Venegas
WorkOrder N°: **1308400** Matrix: Soil
Carrier: OnTrac

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 4.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Comments:

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-005A	1308400-006A	1308400-007A	1308400-008A	Reporting Limit for DF =1	
Client ID	CB-1@15	CB-1@20	CB-1@25	CB-1@30		
Matrix	S	S	S	S		
DF	1	1	200	100	S	W
Compound	**Concentration**				mg/kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND	ND<1.0	ND<0.50	0.005	NA
t-Butyl alcohol (TBA)	ND	ND	ND<10	5.0	0.05	NA
1,2-Dibromoethane (EDB)	ND	ND	ND<0.80	ND<0.40	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND<0.80	ND<0.40	0.004	NA
Diisopropyl ether (DIPE)	ND	ND	ND<1.0	ND<0.50	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND	ND<1.0	ND<0.50	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	2.7	7.6	0.005	NA
Surrogate Recoveries (%)						
%SS1:	104	90	93	91		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

CDPH ELAP 1644 ♦ NELAP 12283CA BB Analyst's Initial Angela Rydelius, Lab Manager

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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-009A	1308400-014A	1308400-015A	1308400-016A	Reporting Limit for DF =1	
Client ID	CB-1@35	CB-2@15	CB-2@20	CB-2@25		
Matrix	S	S	S	S		
DF	20	1	1	1	S	W
Compound	**Concentration**				mg/kg	ug/L
tert-Amyl methyl ether (TAME)	ND<0.10	ND	ND	ND	0.005	NA
t-Butyl alcohol (TBA)	5.4	ND	ND	0.095	0.05	NA
1,2-Dibromoethane (EDB)	ND<0.080	ND	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND<0.080	ND	ND	ND	0.004	NA
Diisopropyl ether (DIPE)	ND<0.10	ND	ND	ND	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND<0.10	ND	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND<0.10	ND	ND	0.019	0.005	NA
Surrogate Recoveries (%)						
%SS1:	92	88	89	91		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

CDPH ELAP 1644 ♦ NELAP 12283CA BB Analyst's Initial Angela Rydelius, Lab Manager

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-017A	1308400-018A	1308400-025A	1308400-026A	Reporting Limit for DF =1	
Client ID	CB-2@30	CB-2@35	CB-4@15	CB-4@20		
Matrix	S	S	S	S		
DF	67	100	1	1	S	W
Compound	**Concentration**				mg/kg	ug/L
tert-Amyl methyl ether (TAME)	ND<0.33	ND<0.50	ND	ND	0.005	NA
t-Butyl alcohol (TBA)	ND<3.3	27	ND	ND	0.05	NA
1,2-Dibromoethane (EDB)	ND<0.27	ND<0.40	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND<0.27	ND<0.40	ND	ND	0.004	NA
Diisopropyl ether (DIPE)	ND<0.33	ND<0.50	ND	ND	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND<0.33	ND<0.50	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	6.6	ND<0.50	ND	ND	0.005	NA
Surrogate Recoveries (%)						
%SS1:	111	92	86	88		
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

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

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-027A	1308400-028A	1308400-029A		Reporting Limit for DF =1	
Client ID	CB-4@25	CB-4@30	CB-4@35			
Matrix	S	S	S			
DF	1	40	50		S	W
Compound	**Concentration**				mg/kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND<0.20	ND<0.25		0.005	NA
t-Butyl alcohol (TBA)	ND	12	13		0.05	NA
1,2-Dibromoethane (EDB)	ND	ND<0.16	ND<0.20		0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND<0.16	ND<0.20		0.004	NA
Diisopropyl ether (DIPE)	ND	ND<0.20	ND<0.25		0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND<0.20	ND<0.25		0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND<0.20	ND<0.25		0.005	NA
Surrogate Recoveries (%)						
%SS1:	89	92	114			
Comments						

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-001A	1308400-002A	1308400-003A	1308400-004A	Reporting Limit for DF =1	
Client ID	CB-1@2.5	CB-1@5	CB-1@7.5	CB-1@10		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/Kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	0.005	NA
t-Butyl alcohol (TBA)	ND	ND	ND	ND	0.05	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.004	NA
Diisopropyl ether (DIPE)	ND	ND	ND	ND	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	0.005	NA
Naphthalene	ND	ND	ND	ND	0.005	NA
Surrogate Recoveries (%)						
%SS1:	91	91	90	90		
%SS2:	104	100	102	102		
%SS3:	101	99	102	99		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or surrogate coelutes with another peak.

CDPH ELAP 1644 ♦ NELAP 12283CA BB Analyst's Initial Angela Rydelius, Lab Manager

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-010A	1308400-011A	1308400-012A	1308400-013A	Reporting Limit for DF =1	
Client ID	CB-2@2.5	CB-2@5	CB-2@7.5	CB-2@10		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/Kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	0.005	NA
t-Butyl alcohol (TBA)	ND	ND	ND	ND	0.05	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.004	NA
Diisopropyl ether (DIPE)	ND	ND	ND	ND	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	0.005	NA
Naphthalene	ND	ND	ND	ND	0.005	NA
Surrogate Recoveries (%)						
%SS1:	91	90	90	88		
%SS2:	102	102	103	103		
%SS3:	99	98	102	102		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or surrogate coelutes with another peak.

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-019A	1308400-020A	1308400-021A	1308400-022A	Reporting Limit for DF =1	
Client ID	CB-3@2.5	CB-3@5	CB-3@7.5	CB-4@5		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/Kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND	ND	ND	0.005	NA
t-Butyl alcohol (TBA)	ND	ND	ND	ND	0.05	NA
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND	ND	ND	0.004	NA
Diisopropyl ether (DIPE)	ND	ND	ND	ND	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND	ND	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND	ND	ND	0.005	NA
Naphthalene	ND	ND	ND	ND	0.005	NA
Surrogate Recoveries (%)						
%SS1:	91	91	89	90		
%SS2:	103	104	103	104		
%SS3:	105	104	102	104		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or surrogate coelutes with another peak.

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/14/13-08/16/13

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 1308400

Lab ID	1308400-023A	1308400-024A			Reporting Limit for DF =1	
Client ID	CB-4@7.5	CB-4@10				
Matrix	S	S				
DF	1	1			S	W
Compound	**Concentration**				mg/Kg	ug/L
tert-Amyl methyl ether (TAME)	ND	ND			0.005	NA
t-Butyl alcohol (TBA)	ND	ND			0.05	NA
1,2-Dibromoethane (EDB)	ND	ND			0.004	NA
1,2-Dichloroethane (1,2-DCA)	ND	ND			0.004	NA
Diisopropyl ether (DIPE)	ND	ND			0.005	NA
Ethyl tert-butyl ether (ETBE)	ND	ND			0.005	NA
Methyl-t-butyl ether (MTBE)	ND	ND			0.005	NA
Naphthalene	ND	ND			0.005	NA
Surrogate Recoveries (%)						
%SS1:	88	89				
%SS2:	105	104				
%SS3:	104	102				
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

surrogate diluted out of range or surrogate coelutes with another peak.

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13-08/16/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/13/13-08/17/13

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1308400

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	CB-1@2.5	S	ND	ND	ND	ND	ND	ND	1	97	
002A	CB-1@5	S	ND	ND	ND	ND	ND	ND	1	87	
003A	CB-1@7.5	S	ND	ND	ND	ND	ND	ND	1	98	
004A	CB-1@10	S	ND	ND	ND	ND	ND	ND	1	93	
005A	CB-1@15	S	ND	ND	ND	ND	ND	ND	1	93	
006A	CB-1@20	S	ND	ND	ND	ND	ND	ND	1	99	
007A	CB-1@25	S	3200	ND<10	ND<0.50	4.9	29	290	100	---#	d2,d9
008A	CB-1@30	S	100	ND<15	ND<0.10	0.21	1.6	2.8	20	113	d2,d9
009A	CB-1@35	S	ND	ND	ND	ND	ND	ND	1	87	
010A	CB-2@2.5	S	ND	ND	ND	ND	ND	ND	1	97	
011A	CB-2@5	S	ND	ND	ND	ND	ND	ND	1	93	
012A	CB-2@7.5	S	ND	ND	ND	ND	ND	ND	1	97	
013A	CB-2@10	S	ND	ND	ND	ND	ND	ND	1	102	
014A	CB-2@15	S	ND	ND	ND	ND	ND	ND	1	99	
015A	CB-2@20	S	ND	ND	ND	ND	ND	ND	1	94	
016A	CB-2@25	S	4.1	ND	ND	ND	ND	ND	1	79	d7

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d2) heavier gasoline range compounds are significant (aged gasoline?)
d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
d9) no recognizable pattern

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted: 08/13/13-08/16/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed: 08/13/13-08/17/13

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1308400

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
017A	CB-2@30	S	9.6	9.9	0.0061	0.012	0.25	0.023	1	90	d2,d9
018A	CB-2@35	S	ND	ND	ND	ND	ND	ND	1	93	
019A	CB-3@2.5	S	ND	ND	ND	ND	ND	ND	1	97	
020A	CB-3@5	S	ND	ND	ND	ND	ND	ND	1	94	
021A	CB-3@7.5	S	ND	ND	ND	ND	ND	ND	1	82	
022A	CB-4@5	S	ND	ND	ND	ND	ND	ND	1	90	
023A	CB-4@7.5	S	ND	ND	ND	ND	ND	ND	1	90	
024A	CB-4@10	S	ND	ND	ND	ND	ND	ND	1	89	
025A	CB-4@15	S	ND	ND	ND	ND	ND	ND	1	91	
026A	CB-4@20	S	ND	ND	ND	ND	ND	ND	1	90	
027A	CB-4@25	S	ND	ND	ND	ND	ND	ND	1	86	
028A	CB-4@30	S	3.5	ND	ND	0.013	ND	ND	1	81	d7,d9
029A	CB-4@35	S	5.6	ND	ND	0.015	ND	ND	1	82	d7

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d2) heavier gasoline range compounds are significant (aged gasoline?)
d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
d9) no recognizable pattern

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed 08/14/13-08/20/13

Total Extractable Petroleum Hydrocarbons*

Extraction method: SW3550B Analytical methods: SW8015B Work Order: 1308400

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1308400-001A	CB-1@2.5	S	10	1	92	e7,e2
1308400-002A	CB-1@5	S	2.2	1	97	e7,e2
1308400-003A	CB-1@7.5	S	ND	1	112	
1308400-004A	CB-1@10	S	ND	1	94	
1308400-005A	CB-1@15	S	1.7	1	117	e7,e2
1308400-006A	CB-1@20	S	1.8	1	98	e2
1308400-007A	CB-1@25	S	1200	2	109	e4,e2
1308400-008A	CB-1@30	S	38	1	116	e4
1308400-009A	CB-1@35	S	1.5	1	115	e2
1308400-010A	CB-2@2.5	S	3.5	1	105	e7,e2
1308400-011A	CB-2@5	S	3.4	1	89	e7,e2
1308400-012A	CB-2@7.5	S	ND	1	96	
1308400-013A	CB-2@10	S	1.1	1	95	e2
1308400-014A	CB-2@15	S	1.2	1	107	e2
1308400-015A	CB-2@20	S	2.5	1	110	e7,e2

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.
e7) oil range compounds are significant

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Allterra Environmental	Client Project ID: #160; 160 Homes	Date Sampled: 08/08/13
		Date Received: 08/13/13
849 Almar Ave, Ste. C #281	Client Contact: Aaron Powers	Date Extracted 08/13/13
Santa Cruz, CA 95060	Client P.O.:	Date Analyzed 08/14/13-08/20/13

Total Extractable Petroleum Hydrocarbons*

Extraction method: SW3550B Analytical methods: SW8015B Work Order: 1308400

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1308400-016A	CB-2@25	S	6.8	1	97	e7,e2
1308400-017A	CB-2@30	S	3.1	1	108	e2
1308400-018A	CB-2@35	S	ND	1	112	
1308400-019A	CB-3@2.5	S	7.9	1	107	e7,e2
1308400-020A	CB-3@5	S	35	1	109	e7,e2
1308400-021A	CB-3@7.5	S	2.1	1	98	e7,e2
1308400-022A	CB-4@5	S	5.9	1	98	e7,e2
1308400-023A	CB-4@7.5	S	14	1	99	e7,e2
1308400-024A	CB-4@10	S	1.3	1	91	e2
1308400-025A	CB-4@15	S	1.1	1	96	e7,e2
1308400-026A	CB-4@20	S	ND	1	89	
1308400-027A	CB-4@25	S	2.8	1	99	e7,e2
1308400-028A	CB-4@30	S	3.6	1	117	e7,e2,e4
1308400-029A	CB-4@35	S	1.3	1	99	e7,e2

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.
e7) oil range compounds are significant

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80498 | WorkOrder: 1308400

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1308390-002A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND	0.050	98.7,F1	129,F1	26.3	86.9	56 - 94	30	70 - 130
t-Butyl alcohol (TBA)	ND	0.20	108	107	0.881	88.9	56 - 140	30	70 - 130
1,2-Dibromoethane (EDB)	ND	0.050	99.6	95	4.74	102	54 - 119	30	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	0.050	95.9	92.5	3.54	89.4	48 - 115	30	70 - 130
Diisopropyl ether (DIPE)	ND	0.050	95.7	93	2.83	92.7	53 - 111	30	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	0.050	95.7	93.9	1.93	89.4	61 - 104	30	70 - 130
Methyl-t-butyl ether (MTBE)	ND	0.050	94.7	92.9	1.94	84.8	58 - 107	30	70 - 130
%SS1:	105	0.12	111	112	0.961	111	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

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

BATCH 80498 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-001A	08/08/13 9:30 AM	08/13/13	08/14/13 7:47 PM	1308400-002A	08/08/13 9:40 AM	08/13/13	08/14/13 8:27 PM
1308400-003A	08/08/13 9:50 AM	08/13/13	08/14/13 9:08 PM	1308400-004A	08/08/13 9:55 AM	08/13/13	08/14/13 9:48 PM
1308400-005A	08/08/13 10:00 AM	08/13/13	08/14/13 11:59 PM	1308400-006A	08/08/13 10:15 AM	08/13/13	08/14/13 10:28 PM
1308400-007A	08/08/13 10:30 AM	08/13/13	08/16/13 4:53 AM	1308400-008A	08/08/13 10:40 AM	08/13/13	08/16/13 8:31 PM
1308400-009A	08/08/13 10:50 AM	08/13/13	08/16/13 9:11 PM	1308400-010A	08/08/13 11:10 AM	08/13/13	08/14/13 11:08 PM
1308400-011A	08/08/13 11:15 AM	08/13/13	08/14/13 11:49 PM	1308400-012A	08/08/13 11:20 AM	08/13/13	08/15/13 12:29 AM
1308400-013A	08/08/13 11:30 AM	08/13/13	08/15/13 1:10 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80520 | WorkOrder: 1308400

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 1308400-029A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
tert-Amyl methyl ether (TAME)	ND<0.25	0.050	83	81.1	2.34	82.2	56 - 94	30	70 - 130
t-Butyl alcohol (TBA)	13	0.20	NR	NR	NR	84.7	N/A	N/A	70 - 130
1,2-Dibromoethane (EDB)	ND<0.20	0.050	92.1	93.9	1.96	89.6	54 - 119	30	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND<0.20	0.050	86.8	81.8	6.00	88	48 - 115	30	70 - 130
Diisopropyl ether (DIPE)	ND<0.25	0.050	89.9	84.8	5.90	90.6	53 - 111	30	70 - 130
Ethyl tert-butyl ether (ETBE)	ND<0.25	0.050	86.7	82.6	4.92	87.2	61 - 104	30	70 - 130
Methyl-t-butyl ether (MTBE)	ND<0.25	0.050	96.9	97.2	0.368	84.5	58 - 107	30	70 - 130
%SS1:	114	0.12	112	113	0.567	107	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 80520 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-014A	08/08/13 11:40 AM	08/13/13	08/15/13 1:50 AM	1308400-015A	08/08/13 11:50 AM	08/13/13	08/15/13 2:30 AM
1308400-016A	08/08/13 12:00 PM	08/13/13	08/16/13 6:53 AM	1308400-017A	08/08/13 12:20 PM	08/13/13	08/15/13 8:07 PM
1308400-018A	08/08/13 12:30 PM	08/13/13	08/16/13 10:32 PM	1308400-019A	08/08/13 2:10 PM	08/13/13	08/15/13 3:11 AM
1308400-020A	08/08/13 2:15 PM	08/13/13	08/15/13 3:51 AM	1308400-021A	08/08/13 2:30 PM	08/13/13	08/15/13 4:31 AM
1308400-022A	08/08/13 3:15 PM	08/13/13	08/15/13 10:50 PM	1308400-023A	08/08/13 3:20 PM	08/13/13	08/15/13 11:30 PM
1308400-024A	08/08/13 3:30 PM	08/13/13	08/16/13 12:11 AM	1308400-025A	08/08/13 3:40 PM	08/13/13	08/16/13 12:51 AM
1308400-026A	08/08/13 3:50 PM	08/13/13	08/16/13 1:31 AM	1308400-027A	08/08/13 4:00 PM	08/13/13	08/16/13 2:12 AM
1308400-028A	08/08/13 4:10 PM	08/13/13	08/16/13 11:12 PM	1308400-029A	08/08/13 4:20 PM	08/13/13	08/15/13 8:54 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80495 | WorkOrder: 1308400

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1308386-041A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	0.60	101	111	9.76	108	70 - 130	20	70 - 130
MTBE	ND	0.10	108	106	2.04	94.1	70 - 130	20	70 - 130
Benzene	ND	0.10	109	107	1.91	107	70 - 130	20	70 - 130
Toluene	ND	0.10	111	111	0	111	70 - 130	20	70 - 130
Ethylbenzene	ND	0.10	111	112	0.930	112	70 - 130	20	70 - 130
Xylenes	ND	0.30	120	121	0.871	119	70 - 130	20	70 - 130
%SS:	95	0.10	100	99	1.46	100	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 80495 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-001A	08/08/13 9:30 AM	08/13/13	08/13/13 9:59 PM	1308400-002A	08/08/13 9:40 AM	08/13/13	08/13/13 10:30 PM
1308400-003A	08/08/13 9:50 AM	08/13/13	08/13/13 11:30 PM	1308400-004A	08/08/13 9:55 AM	08/13/13	08/14/13 12:01 AM
1308400-006A	08/08/13 10:15 AM	08/13/13	08/14/13 3:01 AM	1308400-007A	08/08/13 10:30 AM	08/13/13	08/14/13 2:01 AM
1308400-008A	08/08/13 10:40 AM	08/13/13	08/14/13 4:01 AM	1308400-009A	08/08/13 10:50 AM	08/13/13	08/14/13 3:51 PM
1308400-010A	08/08/13 11:10 AM	08/13/13	08/14/13 3:31 AM	1308400-011A	08/08/13 11:15 AM	08/13/13	08/14/13 6:01 AM
1308400-012A	08/08/13 11:20 AM	08/13/13	08/14/13 6:31 AM	1308400-013A	08/08/13 11:30 AM	08/13/13	08/14/13 7:01 AM
1308400-014A	08/08/13 11:40 AM	08/13/13	08/14/13 7:31 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80519 | WorkOrder: 1308400

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1308400-029A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	0.94	0.60	96.9	93.2	1.47	104	70 - 130	20	70 - 130
MTBE	ND	0.10	79.9	84.5	4.63	101	70 - 130	20	70 - 130
Benzene	ND	0.10	91	91	0	107	70 - 130	20	70 - 130
Toluene	0.015	0.10	87.7	91.2	3.36	109	70 - 130	20	70 - 130
Ethylbenzene	ND	0.10	101	106	5.24	109	70 - 130	20	70 - 130
Xylenes	ND	0.30	100	111	10.0	116	70 - 130	20	70 - 130
%SS:	82	0.10	83	86	4.22	99	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 80519 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-015A	08/08/13 11:50 AM	08/13/13	08/14/13 8:01 AM	1308400-016A	08/08/13 12:00 PM	08/13/13	08/15/13 1:02 PM
1308400-017A	08/08/13 12:20 PM	08/13/13	08/14/13 1:15 PM	1308400-017A	08/08/13 12:20 PM	08/13/13	08/15/13 11:26 PM
1308400-018A	08/08/13 12:30 PM	08/13/13	08/14/13 8:31 AM	1308400-019A	08/08/13 2:10 PM	08/13/13	08/14/13 9:01 AM
1308400-020A	08/08/13 2:15 PM	08/13/13	08/14/13 9:31 AM	1308400-021A	08/08/13 2:30 PM	08/13/13	08/14/13 4:23 PM
1308400-022A	08/08/13 3:15 PM	08/13/13	08/14/13 2:02 PM	1308400-023A	08/08/13 3:20 PM	08/13/13	08/15/13 12:25 AM
1308400-025A	08/08/13 3:40 PM	08/13/13	08/15/13 1:55 AM	1308400-026A	08/08/13 3:50 PM	08/13/13	08/15/13 3:55 AM
1308400-027A	08/08/13 4:00 PM	08/13/13	08/14/13 2:49 PM	1308400-029A	08/08/13 4:20 PM	08/13/13	08/14/13 3:04 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80542 | WorkOrder: 1308400

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1308420-005A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	50	0.60	NR	NR	NR	109	N/A	N/A	70 - 130
MTBE	ND<0.5	0.10	NR	NR	NR	112	N/A	N/A	70 - 130
Benzene	ND<0.05	0.10	NR	NR	NR	108	N/A	N/A	70 - 130
Toluene	1.6	0.10	NR	NR	NR	113	N/A	N/A	70 - 130
Ethylbenzene	ND<0.05	0.10	NR	NR	NR	113	N/A	N/A	70 - 130
Xylenes	0.74	0.30	NR	NR	NR	122	N/A	N/A	70 - 130
%SS:	182	0.10	NR	NR	NR	100	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 80542 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-005A	08/08/13 10:00 AM	08/14/13	08/15/13 3:07 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80685 | WorkOrder: 1308400

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1308589-006A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	ND	0.60	104	106	1.49	104	70 - 130	20	70 - 130
MTBE	ND	0.10	100	104	3.80	105	70 - 130	20	70 - 130
Benzene	ND	0.10	108	111	2.53	104	70 - 130	20	70 - 130
Toluene	ND	0.10	111	114	2.57	109	70 - 130	20	70 - 130
Ethylbenzene	ND	0.10	112	115	2.43	110	70 - 130	20	70 - 130
Xylenes	ND	0.30	120	124	3.31	117	70 - 130	20	70 - 130
%SS:	96	0.10	101	102	0.243	97	70 - 130	20	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 80685 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-024A	08/08/13 3:30 PM	08/16/13	08/17/13 4:09 AM	1308400-028A	08/08/13 4:10 PM	08/16/13	08/17/13 4:39 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80496 | WorkOrder: 1308400

EPA Method: SW8015B **Extraction: SW3550B** **Spiked Sample ID: 1308386-041A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	6	40	NR	NR	NR	95.9	N/A	N/A	70 - 130
%SS:	100	25	NR	NR	NR	87	N/A	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 80496 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-001A	08/08/13 9:30 AM	08/13/13	08/17/13 10:11 PM	1308400-002A	08/08/13 9:40 AM	08/13/13	08/15/13 11:25 AM
1308400-003A	08/08/13 9:50 AM	08/13/13	08/15/13 12:20 AM	1308400-004A	08/08/13 9:55 AM	08/13/13	08/14/13 9:50 PM
1308400-005A	08/08/13 10:00 AM	08/13/13	08/14/13 11:05 PM	1308400-006A	08/08/13 10:15 AM	08/13/13	08/15/13 1:34 AM
1308400-007A	08/08/13 10:30 AM	08/13/13	08/20/13 1:03 PM	1308400-008A	08/08/13 10:40 AM	08/13/13	08/18/13 4:18 AM
1308400-009A	08/08/13 10:50 AM	08/13/13	08/16/13 8:26 PM	1308400-010A	08/08/13 11:10 AM	08/13/13	08/15/13 11:25 AM
1308400-011A	08/08/13 11:15 AM	08/13/13	08/15/13 8:55 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil | QC Matrix: Soil | BatchID: 80521 | WorkOrder: 1308400

EPA Method: SW8015B **Extraction: SW3550B** **Spiked Sample ID: 1308400-029A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	1.3	40	105	105	0	96.9	70 - 130	30	70 - 130
%SS:	99	25	96	95	0.145	86	70 - 130	30	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 80521 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1308400-012A	08/08/13 11:20 AM	08/13/13	08/14/13 11:05 PM	1308400-013A	08/08/13 11:30 AM	08/13/13	08/15/13 12:20 AM
1308400-014A	08/08/13 11:40 AM	08/13/13	08/20/13 4:13 PM	1308400-015A	08/08/13 11:50 AM	08/13/13	08/15/13 7:07 PM
1308400-016A	08/08/13 12:00 PM	08/13/13	08/18/13 3:47 PM	1308400-017A	08/08/13 12:20 PM	08/13/13	08/20/13 1:03 PM
1308400-018A	08/08/13 12:30 PM	08/13/13	08/14/13 10:07 PM	1308400-019A	08/08/13 2:10 PM	08/13/13	08/15/13 1:34 AM
1308400-020A	08/08/13 2:15 PM	08/13/13	08/14/13 8:58 PM	1308400-021A	08/08/13 2:30 PM	08/13/13	08/16/13 8:26 PM
1308400-022A	08/08/13 3:15 PM	08/13/13	08/17/13 8:58 AM	1308400-023A	08/08/13 3:20 PM	08/13/13	08/18/13 12:12 PM
1308400-024A	08/08/13 3:30 PM	08/13/13	08/17/13 11:11 AM	1308400-025A	08/08/13 3:40 PM	08/13/13	08/17/13 7:28 AM
1308400-026A	08/08/13 3:50 PM	08/13/13	08/15/13 2:47 AM	1308400-027A	08/08/13 4:00 PM	08/13/13	08/15/13 10:09 AM
1308400-028A	08/08/13 4:10 PM	08/13/13	08/15/13 10:09 AM	1308400-029A	08/08/13 4:20 PM	08/13/13	08/15/13 5:00 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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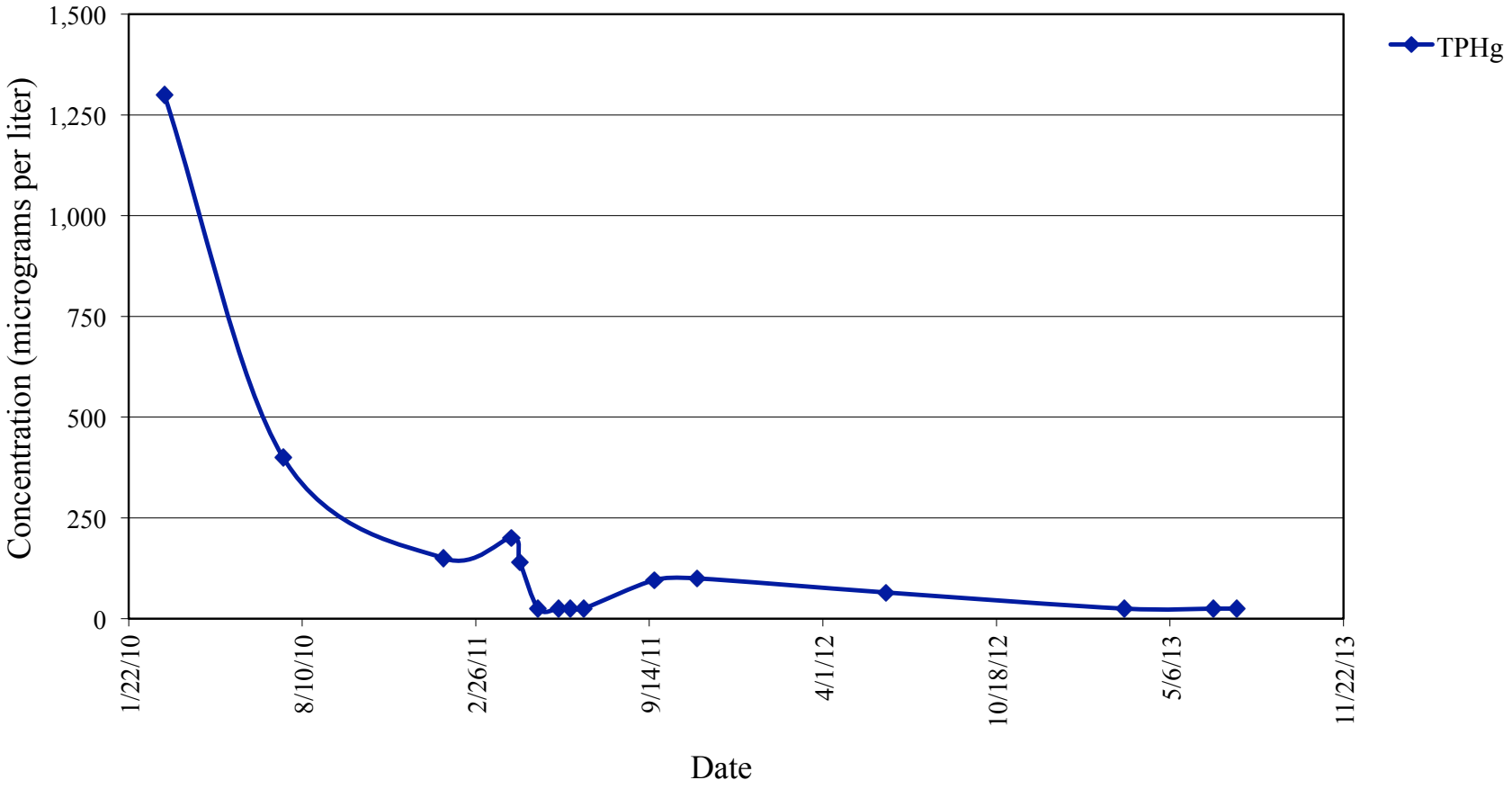
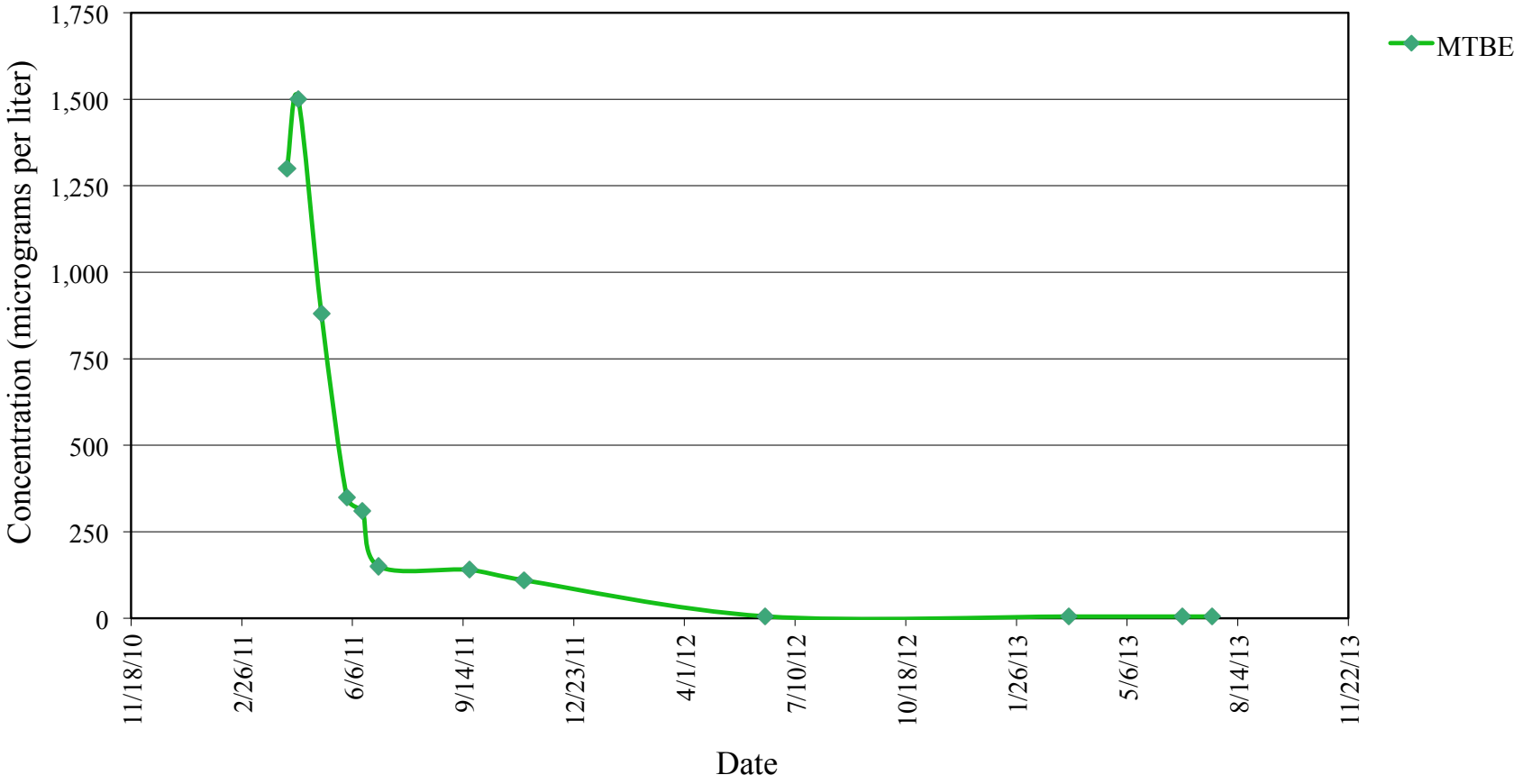
QA/QC Officer

APPENDIX H
Time-Trend Plots – Petroleum Constituents in Groundwater

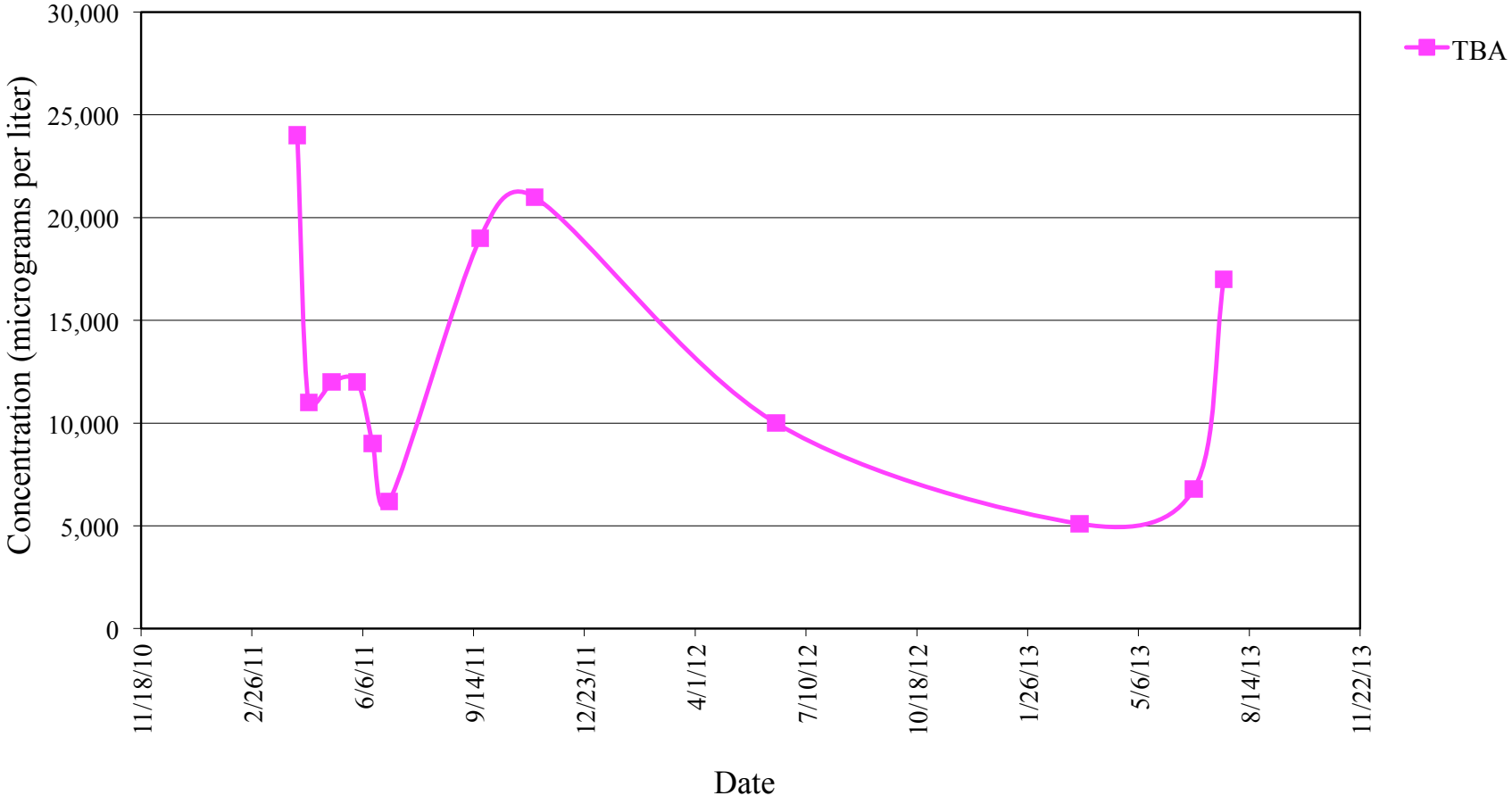
MW-1A TPHg Concentrations in Groundwater Over Time

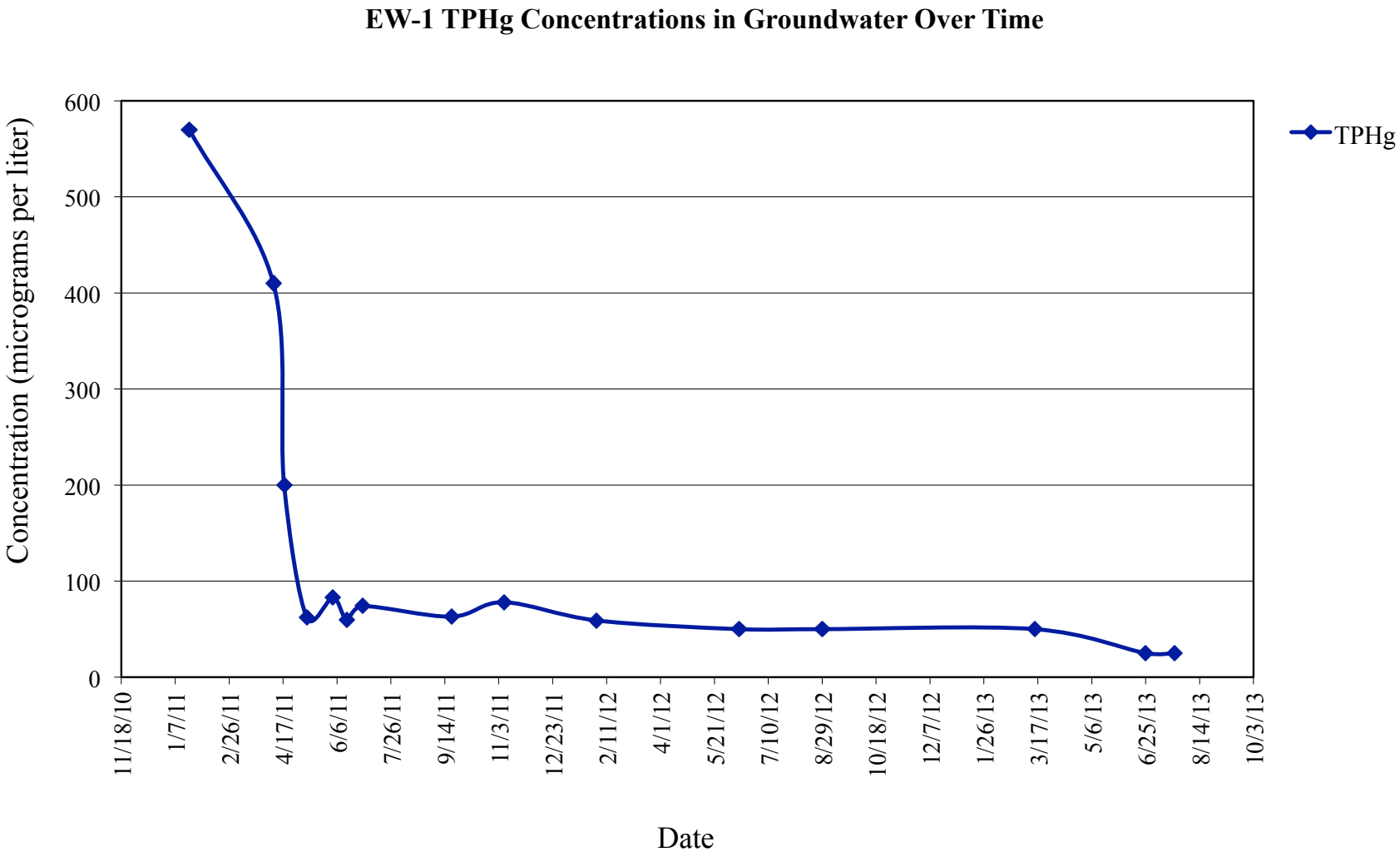


MW-1A MTBE Concentrations in Groundwater Over Time

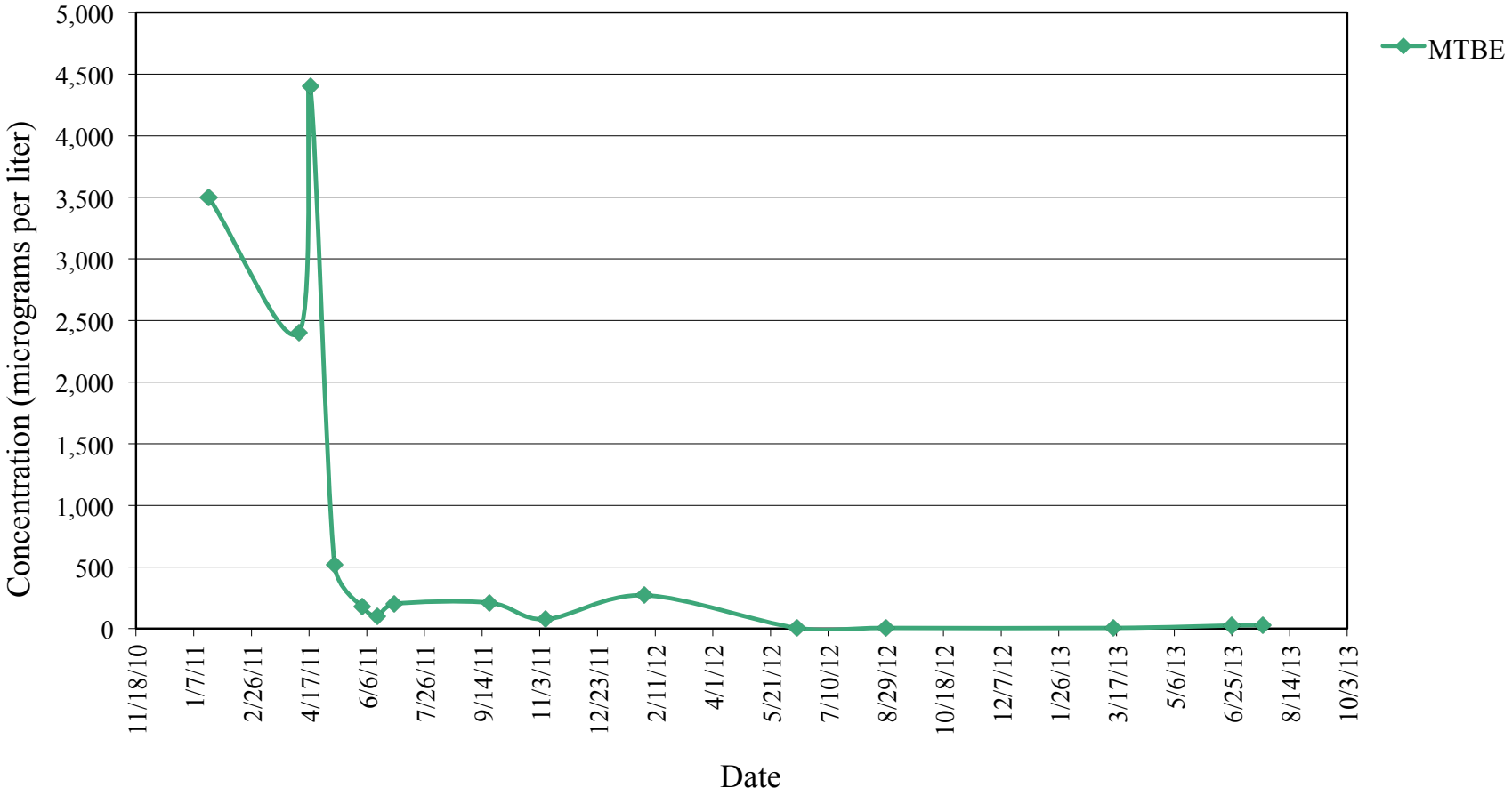


MW-1A TBA Concentrations in Groundwater Over Time

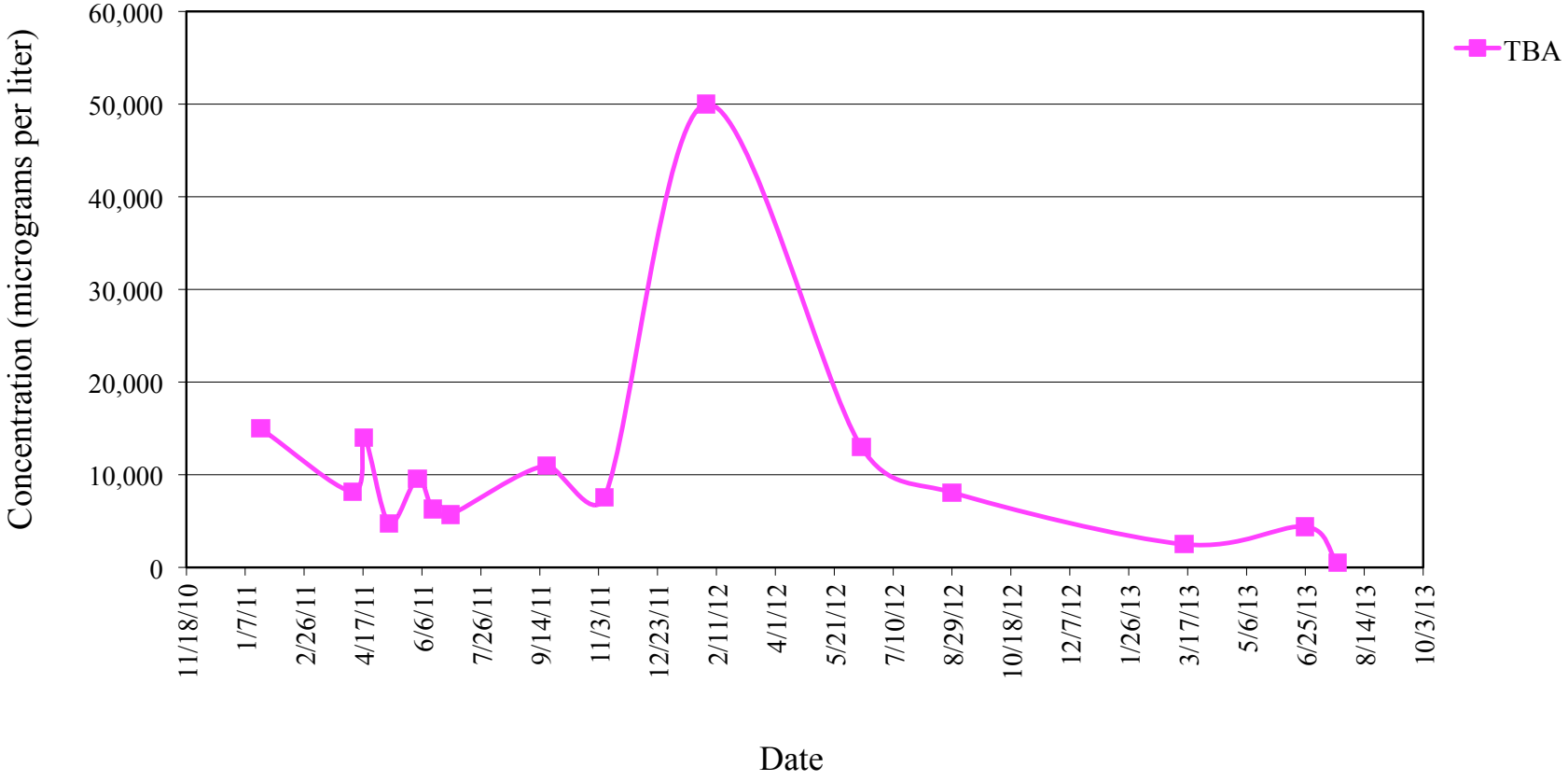



EW-1 TPHg Concentrations in Groundwater Over Time
Concentration (micrograms per liter)
600
500
400
300
200
100
0
11/18/10
1/7/11
2/26/11
4/17/11
6/6/11
7/26/11
9/14/11
11/3/11
12/23/11
2/11/12
4/1/12
5/21/12
7/10/12
8/29/12
10/18/12
12/7/12
1/26/13
3/17/13
5/6/13
6/25/13
8/14/13
10/3/13
Date
TPHg

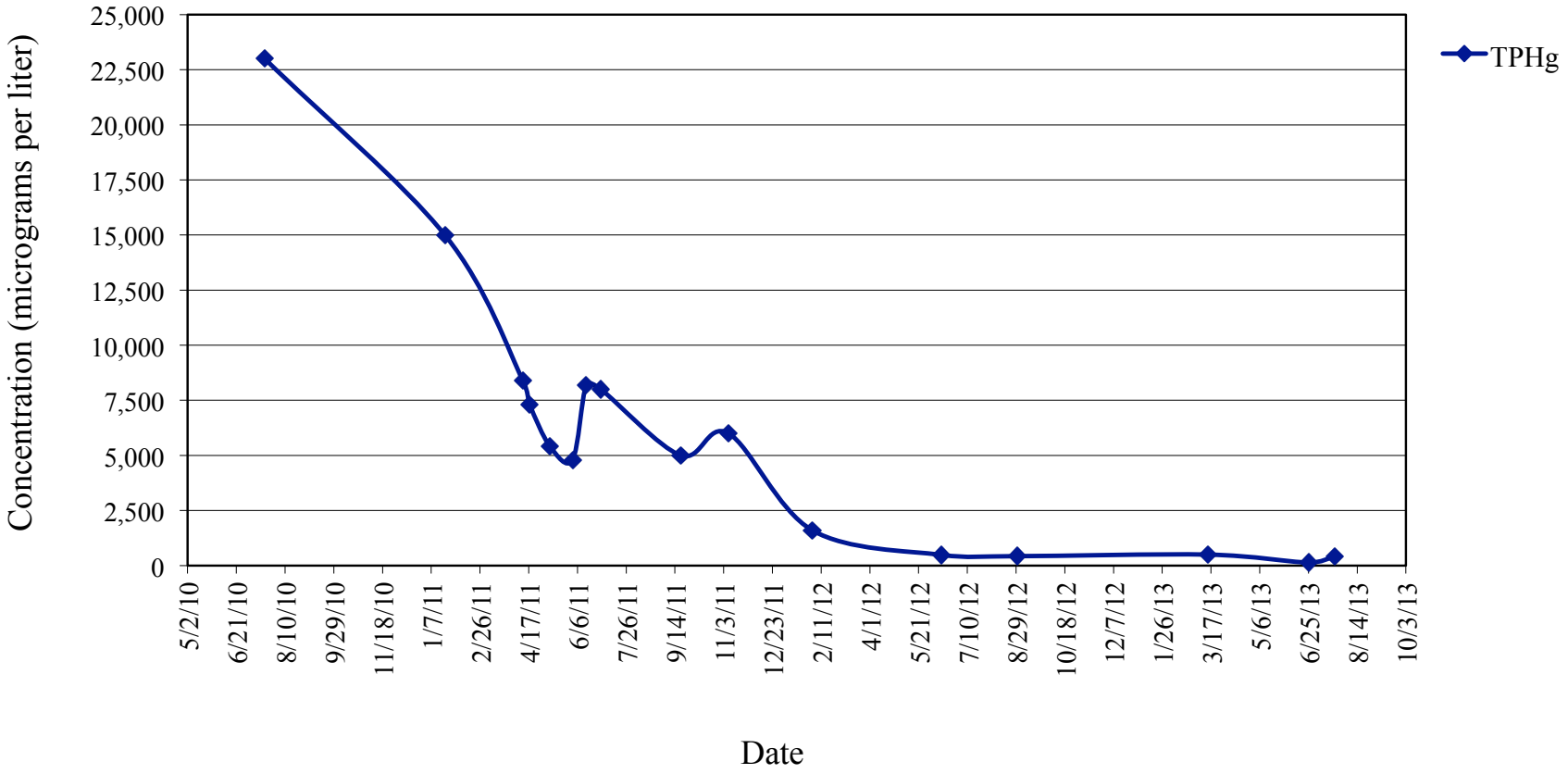
EW-1 MTBE Concentrations in Groundwater Over Time



EW-1 TBA Concentrations in Groundwater Over Time



EW-3 TPHg Concentrations in Groundwater Over Time



EW-3 MTBE and TBA Concentrations in Groundwater Over Time