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MCG Investments, LLC  
c/o Kay & Merkle  
100 The Embarcadero – Penthouse  
San Francisco, CA 94105  
(415) 357-1200

January 10, 2014

Mr. Mark Detterman  
Hazardous Materials Specialist  
Alameda County Environmental Health Services  
Environmental Protection, Local Oversight Program  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Subject: Letter of Transmittal for Fourth Quarter 2013 Groundwater Monitoring Report, Former McGrath Steel, 6655 Hollis Street, Emeryville, California 94608, ACEH Fuel Leak Case No. RO0000063, GeoTracker Global ID No. T0600102099**

Dear Mr. Detterman:

As required in your letters of November 8, 2013 and November 8, 2012 and proposed in the AllWest Environmental, Inc. *Additional Site Characterization Workplan Addendum* dated July 31, 2012, we submit this transmittal letter and accompanying *Fourth Quarter 2013 Groundwater Monitoring Report*.

I declare under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Sincerely,

MCG Investments LLC,  
A California Limited Liability  
Company



Walter F. Merkle  
Authorized Agent



**AllWest Environmental, Inc.**

Specialists in Physical Due  
Diligence and Remedial Services

2141 Mission Street, Suite 100  
San Francisco, CA 94110  
Tel 415.391.2510  
www.AllWest1.com

**FOURTH QUARTER 2013  
GROUNDWATER MONITORING REPORT**

*Former McGrath Steel  
6655 Hollis Street and 1471 67<sup>th</sup> Street  
Emeryville, California*

*Alameda County Fuel Leak Case # RO0000063  
GeoTracker Facility Global ID # T0600102099*

PREPARED FOR:

Mr. Walter F. Merkle  
MCG Investments, LLC  
c/o Kay & Merkle  
100 The Embarcadero – Penthouse  
San Francisco, California 94105

ALLWEST PROJECT 13166.28  
January 8, 2014

PREPARED BY:

Christopher Houlihan  
Project Manager

REVIEWED BY:

Leonard P. Niles, PG, CHG  
Senior Project Manager





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## **FOURTH QUARTER 2013 GROUNDWATER MONITORING REPORT**

*Former McGrath Steel  
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*Alameda County Fuel Leak Case # RO0000063  
GeoTracker Facility Global ID # T0600102099*

### **I. INTRODUCTION**

AllWest conducted quarterly groundwater monitoring on November 6, 2013 at the property referenced above (“the subject site”, Figure 1). The monitoring was performed to evaluate potential free product and concentrations of petroleum hydrocarbons and volatile organic compounds (VOCs) in groundwater at the subject site.

### **II. PROJECT BACKGROUND**

The subject property is located at the southwest corner of the intersection of Hollis and 67<sup>th</sup> Streets in a commercial and industrial district of the City of Emeryville, Alameda County, California. A site vicinity map is included as Figure 1.

The subject property consists of two parcels (Assessor’s Parcel Numbers 049-1511-01 and 049-1511-014). Parcel 01, on the southwest corner of Hollis and 67<sup>th</sup> Streets at the 6655 Hollis Street address, is developed with an approximately 4,100 square foot two-story commercial office building constructed in 1947, and a smaller metal tool shed building. Parcel 14, to the west of Parcel 1 at the 1471 67<sup>th</sup> Street address, is developed with an approximately 15,246 square foot light industrial warehouse building constructed circa 1946 [Stellar Environmental Solutions, Inc., (Stellar) *Phase I Environmental Site Assessment, 6655 Hollis Street, Emeryville, California*, June 2011 (Stellar, 2011)].

The subject property was last occupied by CMC Rebar. The property currently appears to be vacant, although a neighboring painting contracting business, Giampolini & Co.,

appears to be using the Parcel 14 structure. Two USTs formerly present under the sidewalk in front of the warehouse at 1471 67<sup>th</sup> Street were removed in 1996. A site plan with former UST locations and historical and current boring and monitoring well locations is included as Figure 2.

Site location and description, background information, and a summary of previous investigations, remedial actions and monitoring activities have been summarized in our *Additional Site Characterization and Interim Remedial Action Workplan* (AllWest, 2011), *Additional Site Characterization Workplan Addendum* (AllWest, 2012a), *Third Quarter 2012 Groundwater Monitoring* (AllWest, 2012b), *Fourth Quarter 2012 Groundwater Monitoring* (AllWest, 2013a), *Subsurface Investigation* (AllWest, 2013b), *First Quarter 2013 Groundwater Monitoring* (AllWest, 2013c), and *Second Quarter 2013 Groundwater Monitoring* (AllWest, 2013d).

AllWest conducted a subsurface assessment at the subject property in January 2013 and August 2013 consisting of the advancement of eleven (11) soil borings (B15 through B25), three (3) groundwater monitoring well installations (AMW-1, AMW-2 and AMW-3), and the collection of soil and groundwater data. The results of this investigation are detailed in AllWest's *Additional Site Characterization and Monitoring Well Installation Report* dated August 30, 2013 (AllWest, 2013e).

### **III. PURPOSE AND SCOPE OF WORK**

The purpose of this investigation was the monitoring and evaluation of the extent of LNAPL, adsorbed and dissolved-phase petroleum hydrocarbons in soil and groundwater in the vicinity of the former UST and dispenser source area at the subject property, and in the hydraulically down-gradient and cross-gradient directions. The scope of work, as proposed, consisted of the following tasks:

1. Measured groundwater levels and potential free product thickness, purged a minimum of three casing volumes and collected groundwater samples from groundwater monitoring wells AMW-1, AMW-2 and AMW-3, and MW-3;
2. Maintained groundwater samples under chain-of-custody and transported them to a Department of Health Services (DHS) certified analytical laboratory for chemical analyses. Analyzed one groundwater sample from each monitoring well AMW-1, AMW-2, AMW-3 and MW-3 for total petroleum hydrocarbons as gasoline (TPH-g) and total petroleum hydrocarbons as mineral spirits (TPH-ms) by analytical method SW8021B/8015Bm, for total petroleum hydrocarbons as diesel (TPH-d) by analytical method 8015 with silica gel cleanup, for VOCs by analytical method SW8260B (full scan) and for polynuclear aromatic hydrocarbons (PNAs/PAHs) by analytical method SW8270C-SIM;
3. Arranged for profiling, transport and disposal of investigative-derived waste groundwater at an appropriate disposal facility;

4. Prepared a written report for the monitoring well installation and previous subsurface investigation describing the field activities, summarizing the laboratory analytical data, presenting investigation findings, and providing conclusions and recommendations. Uploaded the report to the ACEH FTP site and GeoTracker database.

#### **IV. FIELD ACTIVITIES**

On November 6, 2013, prior to well purging, an electric oil/water interface sounding probe was lowered into the well casings to measure the depth to the water and thickness of any potential floating free product to the nearest 0.01 feet below top of casing (TOC). Depth to groundwater ranged from 9.30 feet below TOC in AMW-3 to 10.36 feet below TOC in AMW-2. No product or sheen were detected or observed in any of the new monitoring wells AMW-1, AMW-2 or AMW-3. Approximately 0.15 foot of free product (LNAPL) was detected in monitoring well MW-3 by the electric oil/water interface probe. Depth to groundwater and free product thickness data are included in Table 2.

A new, disposable polyethylene bailer was lowered into the well casing and partially submerged. Upon bailer retrieval, the surface water was retained and examined for any floating product or product sheen. After all initial measurements were completed and recorded, a minimum of three well casing volumes of groundwater were purged with a new, disposable polyethylene bailer. Groundwater characteristics, temperature, pH and conductivity were monitored at each well volume interval. Purging was continued until groundwater parameters stabilized to within 10%.

Groundwater sampling was conducted after water levels recovered to at least 80% of initial level, recorded prior to purging. Groundwater samples were collected from each well with new, disposable polyethylene bailers. Upon bailer retrieval, the water was transferred to appropriate sample bottles furnished by the analytical laboratory. 40-milliliter (ml) volatile organic analysis (VOA) glass vials preserved with hydrochloric acid (HCl) were used for TPH-g, TPH-ms, and VOC analysis. Samples for TPH-d analysis were collected in one 1-liter amber glass bottle preserved with HCl solution. Samples for PNAs/PAHs analysis were collected in one 1-liter unpreserved amber glass bottle. All sample bottles for VOA had Teflon lined septum/caps and were filled so that no headspace was present. The sample bottles were then labeled and placed in an iced cooler for transport under chain-of-custody control to the analytical laboratory.

To help prevent cross-contamination, all groundwater sampling equipment that came into contact with groundwater was decontaminated prior to sampling. To minimize the possibility of cross-contamination, a new disposable bailer was used to collect each groundwater sample. Well purge water was temporarily stored at the property in a 55-gallon drum, awaiting test results to determine the proper disposal method.

On December 31, 2013, a Geotech PRC 1-liter capacity product recovery canister-type passive skimming device was placed in well MW-3. Prior to skimmer installation, depth to water was measured at 9.16 feet below TOC with a thin product film of less than 0.01 feet thickness.

Standard groundwater sampling procedures are included in Appendix A. Groundwater purging and sampling field logs are included in Appendix B.

## **V. QUALITY ASSURANCE/QUALITY CONTROL PROGRAM**

### **A. Sample Preservation, Storage and Handling**

To prevent the loss of constituents of interest, all groundwater samples were preserved by storing in an ice chest cooled to 4°C with crushed ice immediately after their collection and during transportation to the laboratory. Samples were stored within the cooler in separate zip-lock plastic bags to avoid cross-contamination.

### **B. Chain-Of-Custody Program**

All samples collected for this project were transported under chain-of-custody protocol. The chain-of-custody program allows for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The document includes the signature of the collector, date and time of collection, sample number, number and type of sample containers including preservatives, parameters requested for analysis, signatures of persons and inclusive dates involved in the chain of possession. Upon delivery to the laboratory the document also includes the name of the person receiving the samples, and date and time samples were received. Copies of chain-of-custody documentation are included in Appendix C.

## **VI. ANALYTICAL METHODS**

Groundwater samples from the monitoring wells AMW-1, AMW-2, AMW-3 and MW-3 were analyzed for TPH-g and TPH-ms by analytical method SW8021B/8015Bm, for TPH-d by analytical method SW8015B with silica gel cleanup, for VOCs by analytical method 8260B, and for PNAs/PAHs by analytical method SW8270C-SIM.

All samples were analyzed by a State of California certified independent analytical laboratory, McCampbell Analytical, Inc., of Pittsburg, California. All samples were analyzed on standard five-day turn-around time. Chain of custody documents and laboratory analytical reports are included in Appendix C.



## VII. ASSESSMENT FINDINGS

### A. Groundwater Observations

Approximately 0.15 feet of free product (LNAPL) was measured in monitoring well MW-3 on the November 6, 2013 groundwater sampling event. Depths to groundwater ranged from 9.30 feet below TOC in MW-3 to 10.36 feet below TOC in AMW-2. The well with the highest groundwater elevation was MW-3 at 16.36 feet above NAVD 1988 datum (corrected for free product thickness); the well with the lowest groundwater elevation was AMW-1 at 12.47 feet above NAVD 1988 datum.

The wellhead elevation data along with depth to water measurements were used to calculate local groundwater flow direction and gradient. The direction of groundwater flow was to the southwest at a gradient of 0.0158 feet per foot. A groundwater elevation contour map is included as Figure 3.

Depth to groundwater in well MW-3 prior to the installation of the product skimmer on December 31, 2013 was 9.16 feet below TOC with a free product thickness of less than 0.01 feet.

### B. Groundwater Analytical Data

TPH-g was detected in groundwater samples from AMW-2, AMW-3 and MW-3 at a maximum concentration of 49,000 micrograms per liter ( $\mu\text{g/L}$ ) in monitoring well MW-3. TPH-ms was detected at a maximum concentration of 19,000  $\mu\text{g/L}$  in the groundwater sample from monitoring well MW-3; however, this concentration probably represents TPH-g within the TPH-ms (C9-C12) range, since gasoline-range compounds were characterized as significant, and mineral spirits were not historically stored in the McGrath USTs. TPH-d with gasoline range compounds characterized as significant was detected in groundwater samples from AMW-2, AMW-3 and MW-3 at a maximum concentration of 6,400  $\mu\text{g/L}$  in the groundwater sample from MW-3. Benzene toluene, ethylbenzene and total xylenes (BTEX) were detected in AMW-2 and MW-3 at maximum concentrations of 3,200  $\mu\text{g/L}$ , 4,900  $\mu\text{g/L}$ , 2,100  $\mu\text{g/L}$  and 11,000  $\mu\text{g/L}$ , all in the groundwater sample collected from monitoring well MW-3. MTBE was detected in AMW-1, AMW-2 and MW-3 at a maximum concentration of 2,600  $\mu\text{g/L}$  in the groundwater sample from MW-3.

Other VOCs detected in groundwater samples during this investigation included tertiary butyl alcohol (TBA), n-butyl benzene, isopropylbenzene, naphthalene, n-propyl benzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,1-dichloroethane, 1,1-dichloroethene, trichloroethene (TCE), and 1,1,1-trichloroethane at maximum respective concentrations of 700  $\mu\text{g/L}$ , 140  $\mu\text{g/L}$ , 130  $\mu\text{g/L}$ , 690  $\mu\text{g/L}$ , 460  $\mu\text{g/L}$ , 3,200  $\mu\text{g/L}$ , 1,000  $\mu\text{g/L}$ , 5.4  $\mu\text{g/L}$ , 180  $\mu\text{g/L}$ , 22  $\mu\text{g/L}$ ,

and 6.1 µg/L. Groundwater analytical results for total petroleum hydrocarbons and VOCs are summarized in Table 3 and Figures 4, 5 and 6.

PNA/PAHs were detected in groundwater samples collected during this investigation including 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene at maximum respective concentrations of 330 µg/L, 620 µg/L, and 1,100 µg/L. PNA/PAH groundwater analytical results are summarized in Table 4. No other COCs were detected at or above laboratory reporting limits in any groundwater samples analyzed during this investigation. Laboratory analytical reports and chain of custody documents are included in Appendix C.

### **C. Laboratory QA/QC**

A review of groundwater laboratory internal quality assurance/quality control (QA/QC) reports indicates the method blank and sample spike data for all analyses were within the laboratory recovery limits. The samples were also analyzed within the acceptable EPA holding times. The data from the McCampbell Laboratories are considered to be of good quality. Laboratory analytical reports and chain-of-custody records are included in this report as Appendix C.

## **VIII. DISCUSSION**

Groundwater elevations decreased by an average of approximately 0.32 feet between the third and fourth quarter 2013 monitoring events (Table 2). Groundwater flow direction and gradient were consistent between the third and fourth quarter 2013 monitoring events (Figure 3).

Approximately 0.15 feet of light non-aqueous phase liquid (LNAPL) hydrocarbons (free product) was measured in monitoring well MW-3 in the former UST vicinity during the November 6, 2013 groundwater sampling event. The lateral extent of free product appears to be limited to monitoring well MW-3.

A thin free product film of less than 0.01 feet thickness was observed in well MW-3 on December 31, 2013 prior to installation of a passive product skimmer.

To assess if the identified constituents of concern (COCs) in soil and groundwater pose a risk to human health and the environment, concentrations were compared with ESLs for commercial/industrial land use where groundwater is not a potential drinking water resource compiled by the SFRWQCB in *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, Interim Final, May 2013. Although the SFRWQCB *Basin Plan* has designated groundwater in the site vicinity as a potential drinking water resource (SFRWQCB, June 2013), groundwater in the subject site vicinity is not currently used as a drinking water resource. According to the City of Emeryville

Public Works Department, a City ordinance prohibits use of groundwater for drinking water purposes due to widespread regional contamination, and no plans exist for future beneficial use.

AllWest compared groundwater sample analytical results to the SFRWQCB ESLs from *Table F-1b, Groundwater Screening Levels, Groundwater is not a Current or Potential Source of Drinking Water*; and *Table E-1, Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion, Commercial/Industrial Land Use* (RWQCB, Interim Final – May 2013).

TPH-g was detected in concentrations exceeding its non-drinking water ESL of 500 µg/L in two groundwater samples collected during this monitoring event at a maximum concentration of 49,000 µg/L in monitoring well MW-3. TPH-ms was detected in concentrations exceeding its non-drinking water ESL of 500 µg/L in two groundwater samples collected during this investigation at a maximum concentration of 19,000 µg/L in monitoring well MW-3; however, this probably represents TPH-g within the TPH-ms range. TPH-d was detected in concentrations exceeding its non-drinking water ESL of 640 µg/L in one groundwater sample collected during this investigation at a concentration of 6,400 µg/L in monitoring well MW-3. Groundwater vapor intrusion ESLs have not been established for TPH-g, TPH-ms or TPH-d.

Benzene was detected at concentrations exceeding its non-drinking water ESL of 27 µg/L in two groundwater samples, and exceeding its vapor intrusion ESL of 270 µg/L in one sample at a concentration of 3,200 µg/L in MW-3. Toluene was detected at a concentration exceeding its non-drinking ESL of 130 µg/L in one groundwater sample, at a concentration of 4,900 µg/L in MW-3. The commercial/industrial vapor intrusion ESL has not been established for toluene; however, it was not detected at a concentration exceeding its residential vapor intrusion ESL of 95,000 µg/L. Ethylbenzene was detected at concentrations exceeding its non-drinking water ESL of 43 µg/L in two groundwater samples, and its vapor intrusion ESL of 3,100 µg/L in two samples, at a maximum concentration of 2,100 µg/L in monitoring well MW-3. Total xylenes were detected at concentrations exceeding its non-drinking water ESL of 100 µg/L in two groundwater samples, at a maximum concentration of 11,000 µg/L in monitoring well MW-3. The commercial/industrial vapor intrusion ESL has not been established for xylenes; however, it was not detected at a concentration exceeding its residential vapor intrusion ESL of 37,000 µg/L. MTBE was detected at concentrations exceeding its non-drinking ESL of 1,800 µg/L in one groundwater sample at a concentration of 2,600 in MW-3. MTBE did not exceed its vapor intrusion ESL of 100,000 µg/L in any of the groundwater samples collected.

2-methylnaphthalene was detected at concentrations exceeding its non-drinking water ESL of 2.1 µg/L in two groundwater samples, at a maximum concentration of 620 µg/L in MW-3. Vapor intrusion ESLs have not been established for 2-methylnaphthalene. Naphthalene was detected at concentrations exceeding its non-drinking water ESL of 24 µg/L in two groundwater samples; naphthalene did not exceed its vapor intrusion ESL of

1,600 µg/L in any of the groundwater samples collected. No other COCs were detected in groundwater samples analyzed in this investigation at concentrations exceeding established applicable ESLs. Groundwater analytical data and drinking water, non-drinking water and vapor intrusion ESLs are summarized in Tables 3 and 4. TPH-g, TPH-d and benzene isoconcentration maps are shown as Figures 4, 5 and 6, respectively.

## **IX. CONCLUSIONS AND RECOMMENDATIONS**

AllWest conducted quarterly monitoring of four groundwater monitoring wells (AMW-1, AMW-2, AMW-3 and MW-3) at the subject site to further assess the extent of LNAPL, adsorbed and dissolved-phase petroleum hydrocarbons in groundwater in the vicinity of the former UST and dispenser source area at the subject property, and in the hydraulically down-gradient and cross-gradient directions.

TPH-g, TPH-ms, TPH-d, BTEX, MTBE, 2-methylnaphthalene and naphthalene were identified in groundwater samples at concentrations exceeding corresponding and applicable SFRWQCB commercial/industrial non-drinking water ESL values. Benzene and naphthalene were detected in groundwater samples exceeding corresponding commercial/industrial vapor intrusion ESLs. Therefore, a potential soil vapor intrusion impact to indoor air quality may occur within the former McGrath Steel warehouse building at 1471 67<sup>th</sup> Street and the MetalCo building at 1475 67<sup>th</sup> Street, located adjacent to the areas of COC concentrations.

The down-gradient extent of the adsorbed and dissolved phase petroleum hydrocarbon plume in soil and groundwater is largely defined and extends from the vicinity of the former McGrath Steel USTs to the west along 67<sup>th</sup> Street to the vicinity of monitoring well AMW-1 west of the former Clearprint Paper Company USTs. The highest COC concentrations occur in monitoring well MW-3 in the vicinity of the former McGrath Steel USTs. The cross-gradient extent of the adsorbed and dissolved phase hydrocarbon plume has not been fully defined, particularly south of 67<sup>th</sup> Street. Additionally, 0.15 feet of LNAPL (free product) was observed in monitoring well MW-3 during the November 6, 2013 groundwater sampling event, and less than 0.01 feet prior to skimmer installation on December 31, 2013.

AllWest recommends continuing quarterly groundwater monitoring at the subject site in the monitoring wells AMW-1, AMW-2, AMW-3, and MW-3. AllWest also recommends continuing interim remedial action of free product in monitoring well MW-3 following the installation of a passive product skimming device placed in the well on December 31, 2013. AllWest recommends inspecting the passive skimmer on a monthly basis, and emptying it of product if necessary. Depending on product recovery rates, this may be reduced to a quarterly interval if warranted. Recovered product will be contained in a drum onsite pending profiling for transport to an off-site disposal facility.

In their letter of November 8, 2013, the Alameda County Health Care Services Agency (ACHCSA) required submittal of a Focused Site Conceptual Model and Data Gap Investigation Work Plan by January 10, 2014, and an Interim Remedial Action Plan by January 17, 2014.

## **X. LIMITATIONS**

The work described in this report is performed in accordance with the Environmental Consulting Agreement between MCG Investments, LLC (Client) and AllWest Environmental, Inc, dated November 2013. AllWest has prepared this report for the exclusive use of the Client for this particular project and in accordance with generally accepted practices at the time of the work. No other warranties, certifications or representations, either expressed or implied are made as to the professional advice offered. The services provided for the Client were limited to their specific requirements; the limited scope allows for AllWest to form no more than an opinion of the actual site conditions. No matter how much research and sampling may be performed, the only way to know about the actual composition and condition of the subsurface of a site is through excavation.

The conclusions and recommendations contained in this report are made based on observed conditions existing at the site, laboratory test results of the submitted samples, and interpretation of a limited data set. It must be recognized that changes can occur in subsurface conditions due to site use or other reasons. Furthermore, the distribution of chemical concentrations in the subsurface can vary spatially and over time. The results of chemical analysis are valid as of the date and at the sampling location only. AllWest is not responsible for the accuracy of the test data from an independent laboratory, or for any analyte quantities falling below the recognized standard detection limits or for the method utilized by the independent laboratories.

Background information that AllWest has used in preparing this report, including but not limited to previous field measurements, analytical results, site plans, and other data, has been furnished to AllWest by the Client, its previous consultants, and/or third parties. AllWest has relied on this information as furnished. AllWest is not responsible for nor has it confirmed the accuracy of this information.

## **XI. REFERENCES**

Alameda County Environmental Health Services, 2005. *Fuel Leak Site Case Closure, Clearprint Paper Co.* June 27.

AllWest Environmental, Inc. (AllWest), 2011. *Additional Site Characterization and Interim Remedial Action Workplan, Former McGrath Steel, 6655 Hollis Street, and 1471 67<sup>th</sup> Street, Emeryville, California, 94608.* September 27.

AllWest, 2012a. *Additional Site Characterization Workplan Addendum, Former McGrath Steel, 6655 Hollis Street, and 1471 67<sup>th</sup> Street, Emeryville, California, 94608.* July 31.

AllWest, 2012b. *Third Quarter 2012 Groundwater Monitoring, Former McGrath Steel, 6655 Hollis Street, Emeryville, California 94608.* August 23.

AllWest, 2013a *Fourth Quarter 2012 Groundwater Monitoring, Former McGrath Steel, 6655 Hollis Street, Emeryville, California 94608.* January 9.

AllWest, 2013b. *Subsurface Investigation, Former McGrath Steel, 6655 Hollis Street, Emeryville, California.* February 4.

AllWest, 2013c. *First Quarter 2013 Groundwater Monitoring, Former McGrath Steel, 6655 Hollis Street, Emeryville, California 94608.* April 18.

AllWest, 2013d. *Second Quarter 2013 Groundwater Monitoring, Former McGrath Steel, 6655 Hollis Street, Emeryville, California 94608.* July 11.

AllWest, 2013e. *Additional Site Characterization and Monitoring Well Installation Report, Former McGrath Steel, 6655 Hollis Street, Emeryville, California,* August 30.

California Regional Groundwater Quality Control Board, San Francisco Bay Region (SFRWQCB), 1999. *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report.* June.

SFRWQCB, 2013. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final – May 2013*

SFRWQCB, 2013. *Water Quality Control Plan (Basin Plan),* June 29.

Environmental Strategies Consulting, Inc. (ESC), 2005. *Groundwater Well Destruction at Former Clearprint Paper Company, Inc. Located at 1482 67<sup>th</sup> Street in Emeryville, California,* June 23.

Stellar Environmental Solutions, Inc. (Stellar), 2011. *Phase I Environmental Site Assessment, 6655 Hollis Street, Emeryville, California.* June.

Subsurface Environmental Corp., 1996. *Tank Removal Closure Report.* September 16.

Weiss Associates (WA), 1998. *Subsurface Investigation Report.* August 5.

WA, 2006. *Site Characterization Report.* March 2.

# TABLES

**TABLE 1**  
**Summary of Well Construction Details**  
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 13019.23

<b>Well Number</b>	<b>Casing Diameter (inches)</b>	<b>Borehole Diameter (inches)</b>	<b>Total Depth of Well (feet bgs)</b>	<b>Top-Bottom of Screen (feet bgs)</b>	<b>Screen Length (feet)</b>	<b>Top-Bottom of Filter Pack (feet bgs)</b>
<b>MW-3</b>	2	8	29	9-29	20	7-29.5
<b>AMW-1</b>	2	8	24	9-24	15	7-24
<b>AMW-2</b>	2	8	24	9-24	15	7-24
<b>AMW-3</b>	2	8	23	8-23	15	6-23

**Notes:**

bgs            below ground surface



**TABLE 2**  
**Summary of Groundwater Elevation Data**

Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 13019.23

Well Number	Date	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Depth to Groundwater (feet below TOC)	Product Thickness (feet)	Groundwater Surface Elevation (feet msl) <sup>a</sup>
MW-3	10/17/1995	22.73	23.17	9.42	0.00	13.31
MW-3	11/21/1995	22.73	23.17	9.85	0.00	12.88
MW-3	12/23/1995	22.73	23.17	8.52	0.00	14.21
MW-3	1/15/1996	22.73	23.17	8.72	0.00	14.01
MW-3	2/16/1996	22.73	23.17	7.08	0.04	15.68
MW-3	3/28/1996	22.73	23.17	6.78	0.03	15.97
MW-3	8/22/2005	22.73	23.17	12.36	0.00	10.37
MW-3	12/20/2005	22.73	23.17	10.82	0.00	11.91
MW-3	9/14/2011*	22.73	23.17	11.05	3	13.93
MW-3	7/30/2012	22.73	23.17	11.52	2.65	13.20
MW-3	8/2/2012	22.73	23.17	9.22	1.12	14.35
MW-3	12/18/2012	22.73	23.17	8.91	0.00	13.82
MW-3	3/27/2013	22.73	23.17	8.57	0.20	14.31
MW-3	6/27/2013	22.73	23.17	9.90	0.00	12.83
MW-3	8/7/2013	25.55	26.00	9.09	0.41	16.77
<b>MW-3</b>	<b>11/6/2013</b>	<b>25.55</b>	<b>26.00</b>	<b>9.30</b>	<b>0.15</b>	<b>16.36</b>
<b>MW-3</b>	<b>12/31/2013*</b>	<b>25.55</b>	<b>26.00</b>	<b>9.16</b>	<b>0.01</b>	<b>16.40</b>
AMW-1	8/7/2013	22.09	22.54	9.54	0.00	12.55
<b>AMW-1</b>	<b>11/6/2013</b>	<b>22.09</b>	<b>22.54</b>	<b>9.62</b>	<b>0.00</b>	<b>12.47</b>
AMW-2	8/7/2013	23.43	23.73	9.96	0.00	13.47
<b>AMW-2</b>	<b>11/6/2013</b>	<b>23.43</b>	<b>23.73</b>	<b>10.36</b>	<b>0.00</b>	<b>13.07</b>
AMW-3	8/7/2013	25.16	25.50	8.94	0.00	16.22
<b>AMW-3</b>	<b>11/6/2013</b>	<b>25.16</b>	<b>25.50</b>	<b>9.34</b>	<b>0.00</b>	<b>15.82</b>

**Notes:**

\* Groundwater level measurement only, no sampling

TOC Top of Well Casing

**TABLE 2**  
**Summary of Groundwater Elevation Data**

Former McGrath Steel  
 6655 Hollis Street  
 Emeryville, California  
 AllWest Project No. 13019.23

Well Number	Date	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Depth to Groundwater (feet below TOC)	Product Thickness (feet)	Groundwater Surface Elevation (feet msl) <sup>a</sup>
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Well MW-3 ground surface and TOC elevations surveyed to feet above mean sea level (msl) per City of Emeryville Datum, BM#5 by Triad/Holmes Associates October 17, 1995. All ground surface and TOC elevations re-surveyed to NAD 1983 and NAVD 1988 datum by Morrow Surveying, Inc., August 13, 2013.

a Groundwater elevation corrected for free product thickness, assuming density of 0.75 for gasoline.

NM Not Measured

**TABLE 3**  
**Summary of Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons and VOCs**  
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 13166.28

Sample / Field Point Name	Date Sampled	TPH-g (µg/L)	TPH-ms (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)
MW-3	10/17/1995	8,600	ND <100	220	NA	730	2,100	270	1,400	NA	NA
MW-3 qualifiers	8/22/2005	39,000	NA	2,500 L,Y	NA	3,100	3,800	1,100	4,700	7,200	Oxygenates - ND (varies)
MW-3 qualifiers	12/20/2005	54,000	NA	2,600 L,Y	NA	6,000	10,000	1,700	9,600	12,000	Oxygenates - ND (varies)
MW-3 qualifiers	8/2/2012	27,000	14,000	33,000	680	1,300	3,800	400	4,500	630	400 (TBA), 110 (trans-1,3-dichloropropene), 250 (naphthalene), 1,100 (1,2,4-trimethylbenzene), 280 (1,3,5-trimethylbenzene), ND (others - varies)
MW-3 qualifiers	12/18/2012	21,000	12,000	2,600	ND <250	830	1,400	450	2,600	840	140 (naphthalene), 630 (1,2,4-trimethylbenzene), 78 (n-propyl benzene), 190 (1,3,5-trimethylbenzene), ND (others - varies)
MW-3 qualifiers	6/27/2013	18,000	NA	2,300	NA	1,900	2,000	540	2,700	1,900	520 (TBA), 170 (naphthalene), 650 (1,2,4-trimethylbenzene), 84 (n-propyl benzene), 200 (1,3,5-trimethylbenzene), ND, reporting limits vary (others)
MW-3 qualifiers	8/7/2013	130,000	54,000	24,000	NA	9,800	16,000	4,200	24,000	6,300	1,100 (naphthalene), 5,200 (1,2,4-trimethylbenzene), 620 (n-propyl benzene), 1,500 (1,3,5-trimethylbenzene), others ND, reporting limits vary
MW-3 qualifiers	11/6/2013	49,000	19,000	6,400	NA	3,200	4,900	2,100	11,000	2,600	700 (TBA), 140 (n-butyl benzene), 130 (isopropylbenzene), 690 (naphthalene), 460 (n-propyl benzene), 3,200 (1,2,4-trimethylbenzene) 1,000 (1,3,5-trimethylbenzene), others ND, reporting limits vary
AMW-1 qualifiers	8/7/2013	ND <50	ND <50	110	NA	ND <1.2	ND <1.2	ND <1.2	ND <1.2	2.5	2.0 (1,1-dichloroethane), 39 (1,1-dichloroethene), 7.3 (TCE), ND (others, reporting limits vary)
AMW-1 qualifiers	11/6/2013	ND <50	ND <50	ND <50	NA	ND <1.0	ND <1.0	ND <1.0	ND <1.0	2.4	2.0 (1,1-dichloroethane), 50 (1,1-dichloroethene), 7.6 (TCE), ND (others, reporting limits vary)

**TABLE 3**  
**Summary of Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons and VOCs**  
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 13166.28

Sample / Field Point Name	Date Sampled	TPH-g (µg/L)	TPH-ms (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)
AMW-2 qualifiers	8/7/2013	1,300 d1, b1	550 d1, b1	210 e4, e2, b1	NA	66 b1	74 b1	48 b1	280 b1	350 b1	22 (naphthalene), 46 (1,2,4-trimethylbenzene), 6,4 (n-propyl benzene), 29 (1,3,5-trimethylbenzene), ND (others, reporting limits vary) b1
AMW-2 qualifiers	11/6/2013	2,200 d1	1,400 d1	330 e4	NA	130	16	120	270	330	7.2 (n-butyl benzene), 7.2 (isopropylbenzene), 54 (naphthalene), 23 (n-propyl benzene), 150 (1,2,4-trimethylbenzene), 49 (1,3,5-trimethylbenzene), ND (others, reporting limits vary)
AMW-3 qualifiers	8/7/2013	2,000 d1, b1	1,000 d1, b1	340 e4, e2, b1	NA	17	72	83	360	ND <5.0	7.4 (n-butyl benzene), 18 (naphthalene), 76 (1,2,4-trimethylbenzene), 5.2 (1,1-dichloroethane), 140 (1,1-dichloroethane), 18 (n-propyl benzene), 5.3 (1,1,1-trichloroethane), 20 (TCE), 39 (1,3,5-trimethylbenzene), ND (others, reporting limits vary)
AMW-3 qualifiers	11/6/2013	110 d1, c4	99 d1, c4	130 e4	NA	ND <5.0 c8	ND <5.0 c8	ND <5.0 c8	ND <5.0 c8	ND <5.0 c8	5.4 (1,1-dichloroethane), 180 (1,1-dichloroethane), 6.1 (1,1,1-trichloroethane), 22 (TCE), ND (others, reporting limits vary) c8
RWQCB Commercial/Industrial ESLs, drinking water*		100	100	100	100	1.0	40	30	20	5.0	0.5 (1,2-DCA), 12 (TBA), 5.0 (TCE), 0.5 (1,3-dichloropropene) 6.2 (naphthalene) NE or varies (others)
RWQCB Commercial/Industrial ESLs, non-drinking water*		500	500	640	640	27	130	43	100	1,800	100 (1,2-DCA), 18,000 (TBA), 130 (TCE), 24 (1,3-dichloropropene) 24 (naphthalene) NE or vary (others)
RWQCB Commercial/Industrial ESLs, vapor intrusion		NE	NE	NE	NE	270	NE (95,000**)	3,100	NE (37,000**)	100,000	1,000 (1,2-DCA), 1,300 (TCE), 260 (1,3-dichloropropene) 1,600 (naphthalene) NE or vary (others)

**Notes:**

All results are reported in micrograms per liter (µg/L) except where noted.

1,2-DCA 1,2-dichloroethane, Analytical Method SW8260B

TCE trichloroethene, Analytical Method SW8260B

TPH-g Total petroleum hydrocarbons as gasoline, Analytical Method SW8260B, except samples collected on 10/17/95, 8/22/05 and 12/20/05 Analytical

**TABLE 3**  
**Summary of Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons and VOCs**  
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 13166.28

Sample / Field Point Name	Date Sampled	TPH-g (µg/L)	TPH-ms (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)
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Method SW8015Bm

TPH-ms	Total petroleum hydrocarbons Mineral Spirits Range (C9-C12), Analytical Method SW8015Bm
TPH-d	Total petroleum hydrocarbons as diesel, C10-C23, Analytical Method SW8015B with silica gel cleanup
TPH-mo	Total petroleum hydrocarbons as motor oil, C18-C36, Analytical Method SW8015B with silica gel cleanup
MTBE	Methyl tertiary butyl ether, Analytical Method SW8260B
TBA	Tertiary butyl alcohol, Analytical Method SW8260B
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes, Analytical Method SW8021B on 10/17/95 only; Analytical Method SW8260B on all other dates
VOCs	Volatile organic compounds, Analytical Method SW8260B
ND <100	Not detected at or above listed reporting limit
NE	Not established
NA	Not analyzed

San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) for groundwater where groundwater is a potential drinking water resource from Table F-1a, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. RWQCB, Interim Final - May 2013.

San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) for groundwater where groundwater is not a potential drinking water resource from Table F-1b, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. RWQCB, Interim Final - May 2013.

San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion (Volatile Chemicals Only), commercial/industrial land use, fine-coarse mix from Table E-1, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. RWQCB, Interim Final - May 2013.

\* The subject site lies within the City of Emeryville, where groundwater use as a drinking water resource is currently prohibited by City ordinance due to widespread regional contamination, and no plans exist for future beneficial groundwater use.

\*\* Residential vapor intrusion ESL - commercial ESL for vapor intrusion not established, soil gas sampling recommended.

Laboratory Qualifiers:

- L - lighter hydrocarbons contributed to the quantitation
- Y - sample exhibits chromatographic pattern which does not resemble standard
- b1 - aqueous sample that contains greater than ~1 vol. % sediment
- b6 - lighter than water immiscible sheen/product is present
- c4 - surrogate recovery outside of the control limits due to coelution with another peak(s)/cluttered chromatogram.
- c8 - sample pH is greater than 2
- d1 - weakly modified or unmodified gasoline is significant
- d2 - heavier gasoline range compounds are significant (aged gasoline?)
- e2 - diesel range compounds are significant; no recognizable pattern
- e4 - gasoline-range compounds are significant
- e7 - oil range compounds are significant

**TABLE 4**  
**Summary of Groundwater Analytical Data**  
**PNAs/PAHs**

Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 13166.28

Sample / Field Point Name	Date Sampled	Benzo (a) anthracene (µg/L)	Fluoranthene (µg/L)	1-Methylnaphthalene (µg/L)	2-Methylnaphthalene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)	Other PNAs/PAHs (µg/L)
MW-3 qualifiers b6	8/7/2013	ND <50	ND <50	390	710	890	ND <50	ND <50	ND <50
MW-3 qualifiers c1	11/6/2013	ND <25	ND <25	330	620	1,100	ND <25	ND <25	ND <25
AMW-1 qualifiers b1	8/7/2013	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5
AMW-1	11/6/2013	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50	ND <0.50
AMW-2 qualifiers b1	8/7/2013	ND <0.5	ND <0.5	1.5	1.6	7.7	ND <0.5	ND <0.5	ND <0.5
AMW-2	11/6/2013	ND <0.50	ND <0.50	5.4	9.2	26	ND <0.50	ND <0.50	ND <0.50
AMW-3 qualifiers b1	8/7/2013	ND <0.5	ND <0.5	3.2	ND <0.5	ND <0.5	ND <0.5	ND <0.5	ND <0.5
AMW-3	11/6/2013	ND <0.50	ND <0.50	1.5	2.6	7.5	ND <0.50	ND <0.50	ND <0.50
RWQCB Commercial/Industrial ESLs, drinking water*		0.027	8.0	NE	2.1	6.2	4.6	2.0	Vary
RWQCB Commercial/Industrial ESLs, non-drinking water*		0.027	8.0	NE	2.1	24	4.6	2.0	Vary
RWQCB Commercial/Industrial ESLs, vapor intrusion		NE	NE	NE	NE	1,600	NE	NE	Vary

**Notes:** All results are reported in micrograms per liter (µg/L) [equivalent to parts per billion (ppb)], except where noted.  
All samples analyzed by McCampbell Analytical, Inc., Pittsburg, California  
PNAs/PAHs = Polynuclear Aromatic Hydrocarbons/Polycyclic Aromatic Hydrocarbons by analytical method SW8270C-SIM  
ND <0.50 - Not detected at or above listed reporting limit  
NE - Not established

San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) for groundwater where groundwater is a potential drinking water resource from Table F-1a, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. RWQCB, Interim Final - May 2013.

San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) for groundwater where groundwater is not a potential drinking water resource from Table F-1b, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. RWQCB, Interim Final - May 2013.

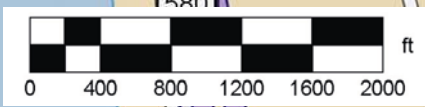
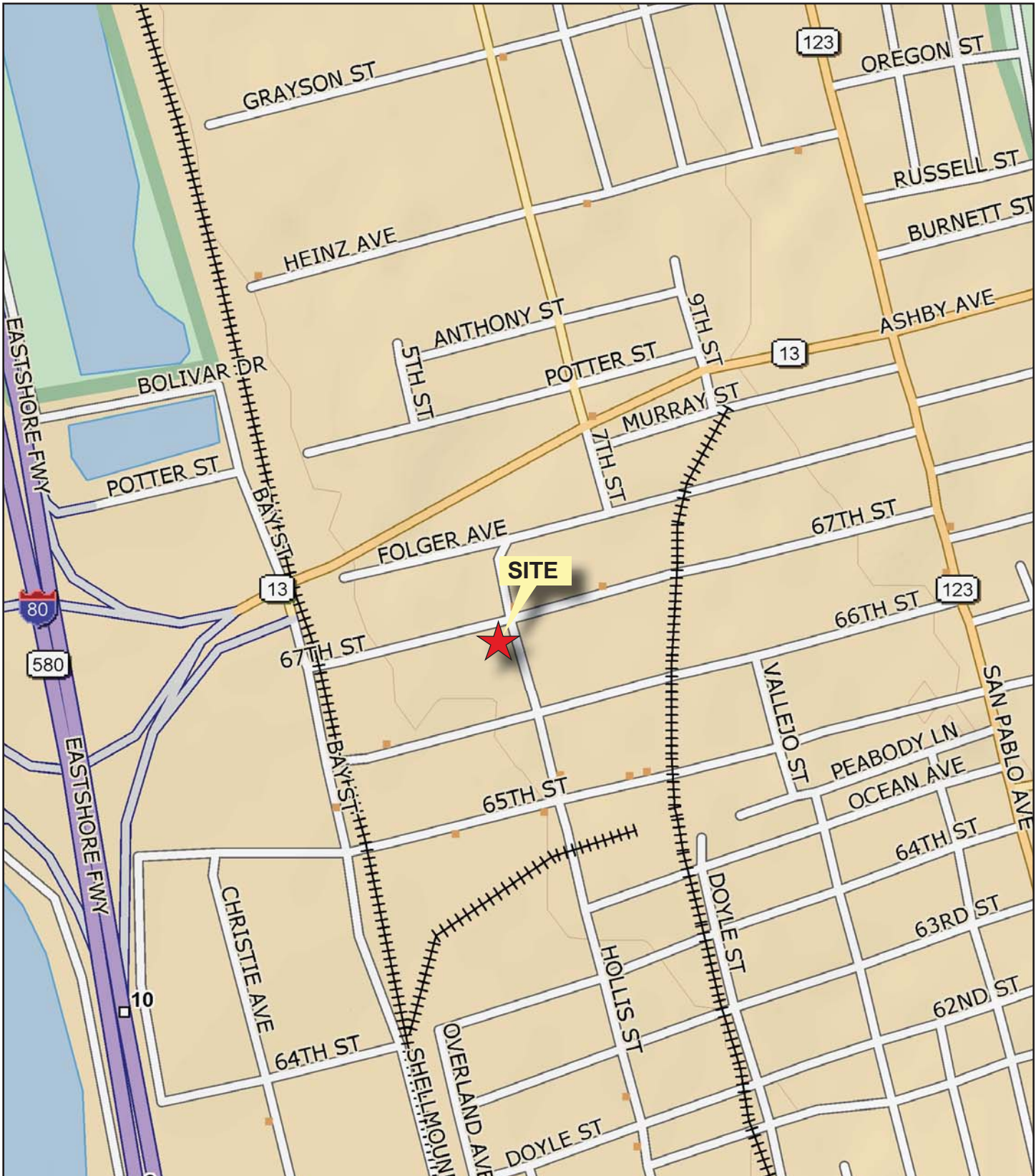
San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) for evaluation of potential vapor intrusion, commercial/industrial land use, fine-coarse mix from Table E-1, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*. RWQCB, Interim Final - May 2013.

Laboratory Qualifiers:

- b1 - Aqueous sample that contains greater than ~1 vol. % sediment
- b6 - Lighter than water immiscible sheen/product is present.
- c1 - surrogate recovery outside of the control limits due to the dilution of the sample.

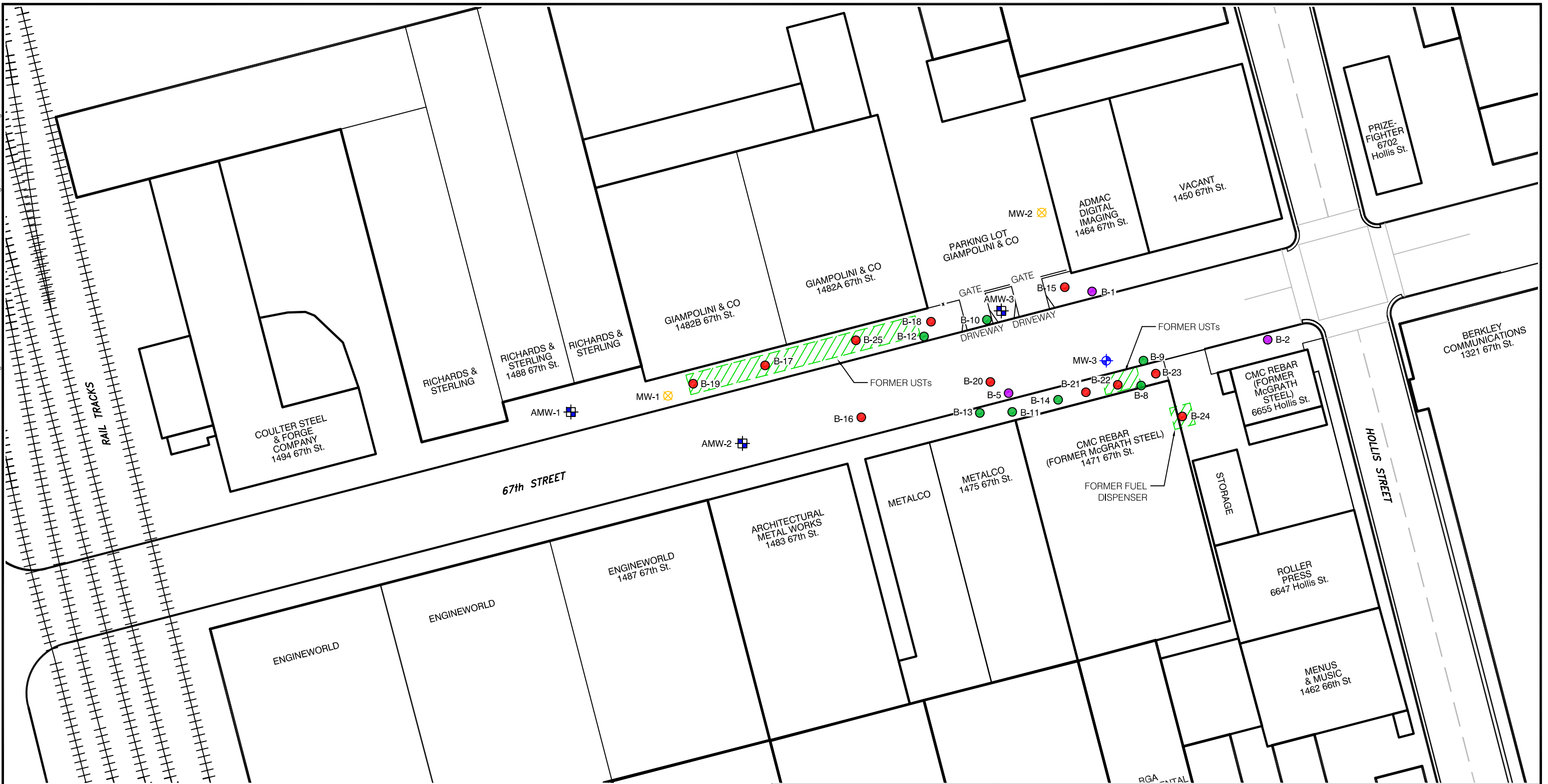
# FIGURES





 MN (12.5° E)		VICINITY MAP
		FIGURE 1
	6655 HOLLIS STREET	
	EMERYVILLE, CALIFORNIA 94608	
	SOURCE: DELORME TOPO	
	PROJECT NO. 13166.28	PREPARED BY: D. CAMACHO
		DATE: 12/23/13

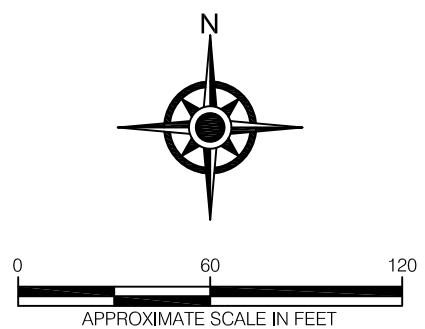




**LEGEND**

- MW-2 ☒ MONITORING WELL (CLEARPRINT/ESC - DESTROYED, 2005)
- MW-3 ⊕ MONITORING WELL (ESC, 1995)
- AMW-3 ⊕ MONITORING WELL (ALLWEST, 2013)
- B-5 ● SOIL BORING (WEISS ASSOCIATES, 1998)
- B-14 ● SOIL BORING (WEISS ASSOCIATES, 2005)
- B-25 ● SOIL BORING (JANUARY 16, 17, & 18, 2013)

- FORMER USTs, FUEL DISPENSERS (REMOVED 1994 & 1996)
- FENCE



**AllWest**

PROJECT NO.  
13166.28

**FIGURE 2**

**SITE PLAN WITH BORING AND MONITORING WELL LOCATIONS**

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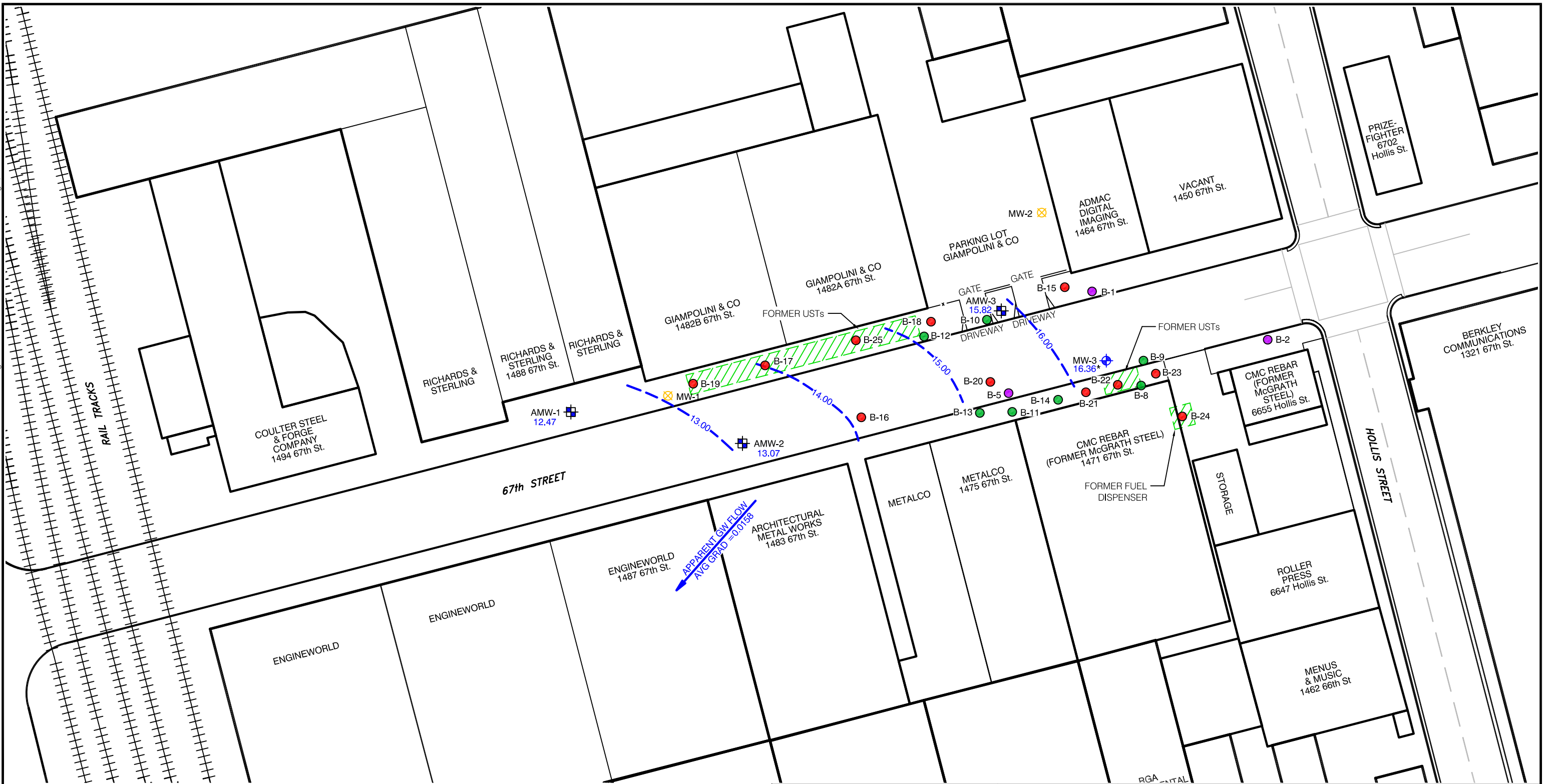
Former McGrath Steel  
6655 Hollis Street, Emeryville, California

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SOURCE: Morrow Surveying and Google Earth

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DRAWN BY: CM (12/20/2013)



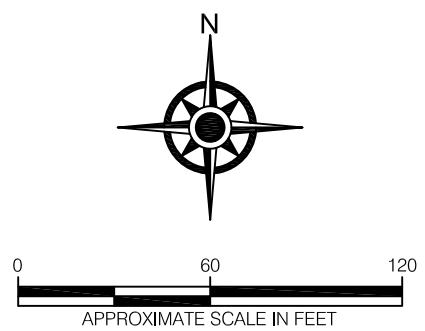
**LEGEND**

- MW-2 ☒ MONITORING WELL (CLEARPRINT/ESC - DESTROYED, 2005)
- MW-3 ⊕ MONITORING WELL (ESC, 1995)
- AMW-3 ⊕ MONITORING WELL (ALLWEST, 2013) AND GROUNDWATER ELEVATION (ft.) NAVD 88 DATUM  
15.82
- B-5 ● SOIL BORING (WEISS ASSOCIATES, 1998)
- B-14 ● SOIL BORING (WEISS ASSOCIATES, 2005)
- B-25 ● SOIL BORING (JANUARY 16, 17, & 18, 2013)

- ← GROUNDWATER FLOW DIRECTION IN FEET PER FOOT
- ▨ FORMER USTs, FUEL DISPENSERS (REMOVED 1994 & 1996)
- x - FENCE

**NOTE:**

\* - Groundwater elevation corrected for presence of free product



**PROJECT NO.**  
13166.28

**FIGURE 3**  
**GROUNDWATER ELEVATION CONTOURS**  
**NOVEMBER 6, 2013**

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Former McGrath Steel  
6655 Hollis Street, Emeryville, California

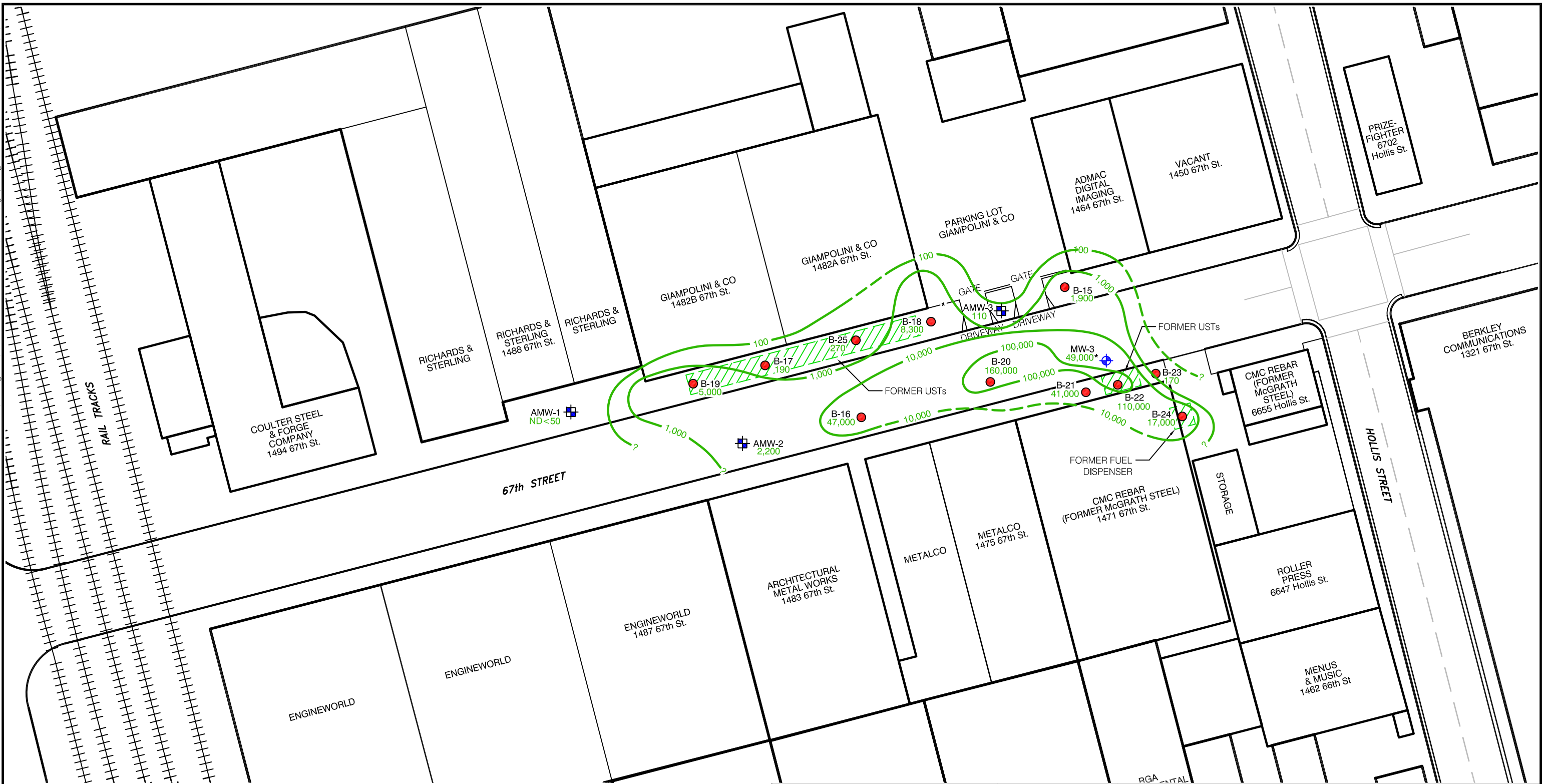
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**SOURCE:** Morrow Surveying and Google Earth

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**DRAWN BY:** CM (12/20/2013)

C:\Drawing Files\AllWest Environmental\13166.28\2013\04\Fig 4. TPH-g Iso-Contours In GW 11-06-2013 - 12/20/2013



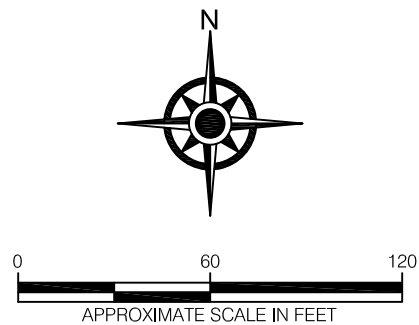
**LEGEND**

- MW-3 49,000\* MONITORING WELL (ESC, 1995) WITH TPH-g CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
- AMW-3 130 MONITORING WELL (ALLWEST, 2013) WITH TPH-g CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
- B-25 270 SOIL BORING (JANUARY 16, 17, & 18, 2013) WITH TPH-g CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED

- FORMER USTs, FUEL DISPENSERS (REMOVED 1994 & 1996)
- FENCE

**NOTE:**

- \* - Free product present
- TPH-g - Total Petroleum Hydrocarbons as Gasoline



**AllWest**

PROJECT NO.  
13166.28

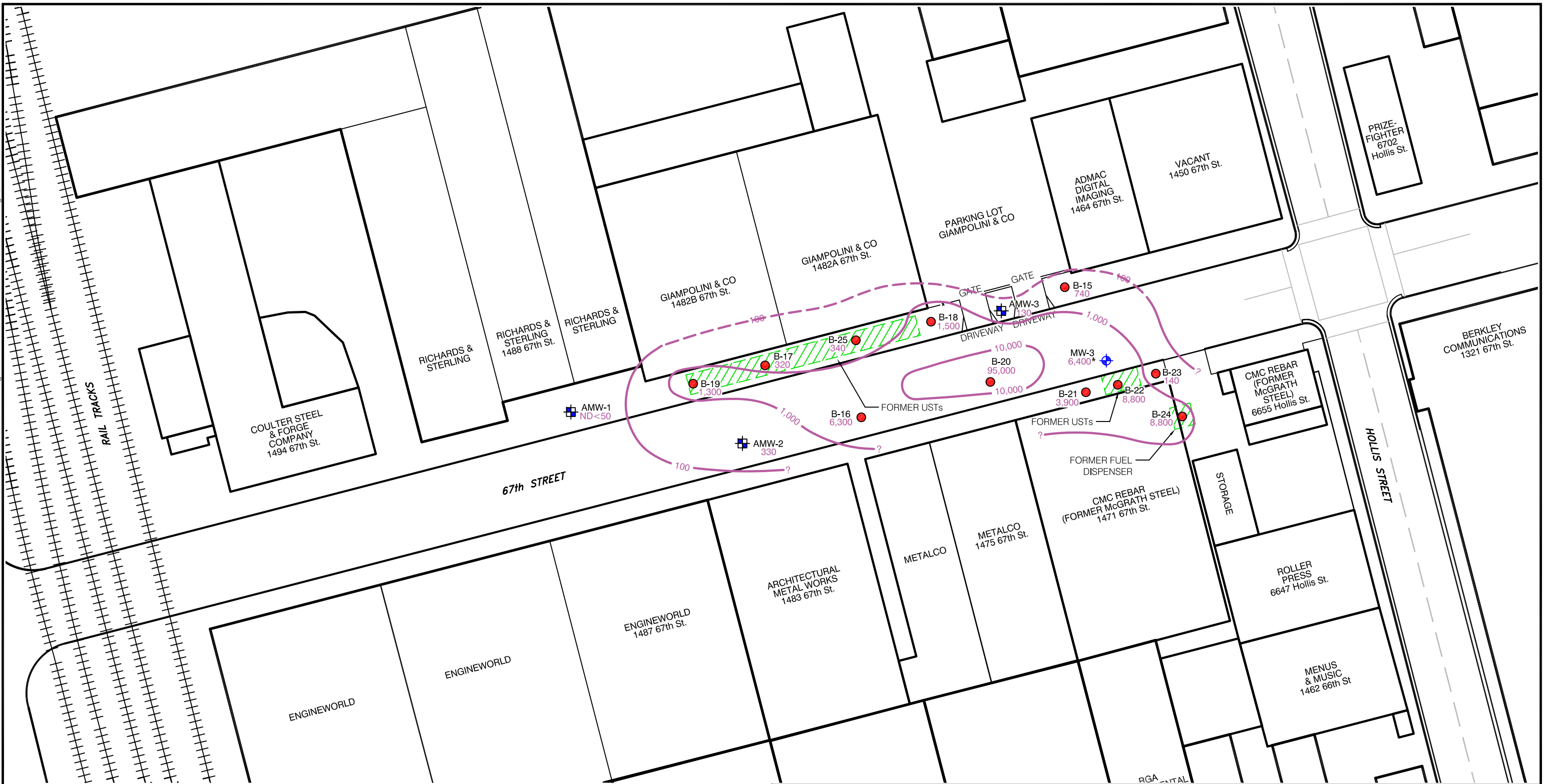
**FIGURE 4  
TPH-g ISOCONCENTRATION  
CONTOURS IN GROUNDWATER  
NOVEMBER 6, 2013**

Former McGrath Steel  
 6655 Hollis Street, Emeryville, California

SOURCE: Morrow Surveying and Google Earth

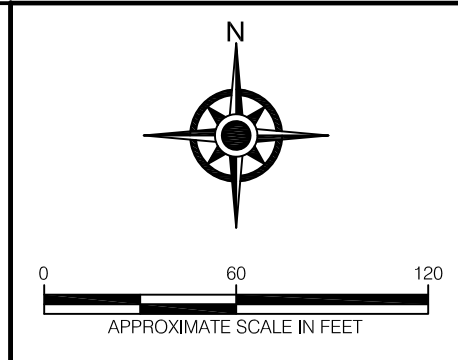
DRAWN BY: CM (12/20/2013)





LEGEND	
MW-3 6,400*	MONITORING WELL (ESC, 1995) WITH TPH-d CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
AMW-3 130	MONITORING WELL (ALLWEST, 2013) WITH TPH-d CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
B-25 340	SOIL BORING (JANUARY 16, 17, & 18, 2013) WITH TPH-d CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED

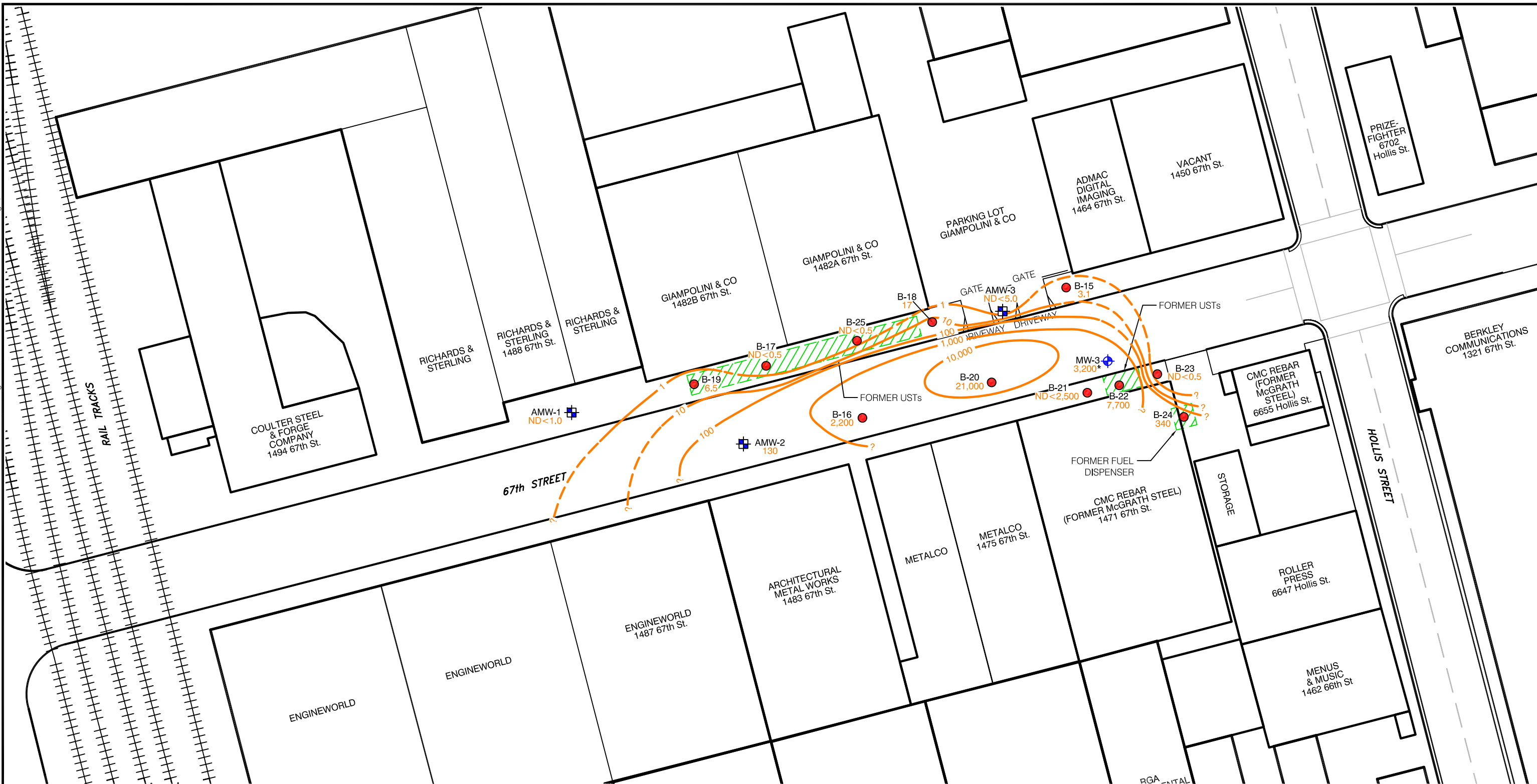
	FORMER USTs, FUEL DISPENSERS (REMOVED 1994 & 1996)
	FENCE
NOTE: * Groundwater elevation corrected for presence of free product	
NOTE: * - Free product present TPH-d - Total Petroleum Hydrocarbons as Diesel	




**AllWest**

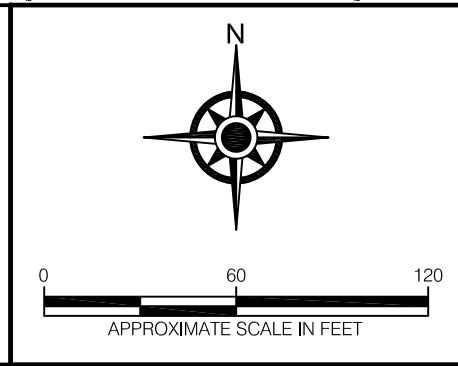
PROJECT NO.  
13166.28

FIGURE 5 TPH-d ISOCONCENTRATION CONTOURS IN GROUNDWATER NOVEMBER 6, 2013	
Former McGrath Steel	
6655 Hollis Street, Emeryville, California	
SOURCE: Morrow Surveying and Google Earth	
DRAWN BY: CM	(12/20/2013)



LEGEND	
MW-3 3,200*	MONITORING WELL (ESC, 1995) WITH BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
AMW-3 ND<5.0	MONITORING WELL (ALLWEST, 2013) WITH BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
B-25 ND<0.5	SOIL BORING (JANUARY 16, 17, & 18, 2013) WITH BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED

	FORMER USTs, FUEL DISPENSERS (REMOVED 1994 & 1996)
	FENCE
<b>NOTE:</b>	
* - Free product present	



**AllWest**

FIGURE 6 BENZENE ISOCONCENTRATION CONTOURS IN GROUNDWATER NOVEMBER 6, 2013	
Former McGrath Steel	
6655 Hollis Street, Emeryville, California	
SOURCE: Morrow Surveying and Google Earth	
DRAWN BY: CM	(12/20/2013)

PROJECT NO.  
13166.28

# APPENDIX A



## **Groundwater Monitoring Well Development and Sampling**

Groundwater monitoring wells will be developed with the combination of surging and pumping actions. The wells will be alternately surged with a surging block for five minutes and pumped with a submersible pump for two minutes. The physical characteristics of the groundwater, such as water color and clarity, pH, temperature, and conductivity, will be monitored during well development. Well development will be considered complete when the groundwater is relatively sediment-free and groundwater characteristic indicators are stabilized (consecutive readings within 10% of each other).

Groundwater will be sampled from the developed wells no sooner than 48 hours after well development to allow stabilization of groundwater conditions. Prior to groundwater sampling, a proper purging process will be performed at each well. The purpose of well purging is to remove fine grained materials from the well casing and to allow fresh and more representative water to recharge the well. Prior to well purging, an electric water depth sounder will be lowered into the well casing to measure the depth to the water to the nearest 0.01 feet. A clear poly bailer will then be lowered into the well casing and partially submerged. Upon retrieval of the clear bailer, the surface of the water column retained in the bailer will be carefully examined for any floating product or product sheen.

After all initial measurements are completed and recorded, the well will be purged by an electrical submersible pump or a bailer. A minimum of 3 well volumes of groundwater will be purged and groundwater characteristics (temperature, pH, and conductivity) monitored at each well volume interval. Purging is considered complete when indicators are stabilized (consecutive readings within 10% of each other) and the purged water is relatively free of sediments.

Groundwater sampling will be conducted after the water level has recovered to at least 80% of the initial level, recorded prior to purging. The groundwater sample will be collected by a disposable bailer. Upon retrieval of the bailer, the retained water will be carefully transferred to appropriate sample bottle furnished by the analytical laboratory. All sample bottles will have a Teflon lined septum/cap and be filled such that no headspace is present. Then the sample bottles will be labeled and immediately placed on ice to preserve the chemical characteristics of its content.

To prevent cross contamination, all groundwater sampling equipment that comes in contact with the groundwater will be thoroughly decontaminated prior to sampling. A disposable bailer will be used to collect the groundwater samples. Sample handling, storage, and transport procedures described in the following sections will be employed. All well development and purging water will be temporarily stored on-site in 55-gallon drums awaiting test results to determine the proper disposal method.

# APPENDIX B





AllWest

PURGE TABLE

WELL ID: AMW-1  
Page 1 of 1

SITE NAME: <u>Hollis - Emeryville</u>	LOCATION: <u>Emeryville, CA</u>
PROJECT NO: <u>13166-281</u>	DATE PURGED: <u>11/6/13</u>
PURGED/SAMPLED BY: <u>C. Houlihan</u>	DATE SAMPLED: <u>11/6/13</u>
TIME SAMPLED: <u>1030</u>	DEPTH TO BOTTOM (feet): <u>23.45</u>
DEPTH TO WATER (feet): <u>9.62</u>	WATER COLUMN HEIGHT (feet): <u>13.83</u>
CALCULATED PURGE (gallons): <u>6.63</u>	CASING VOLUME (gallons):
ACTUAL PURGE (gallons) <u>7</u>	

DEVELOPMENT \_\_\_\_\_ QUARTERLY  BIANNUAL \_\_\_\_\_ OTHER \_\_\_\_\_

SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER: 2"  3" \_\_\_\_\_ 4" \_\_\_\_\_  
Casing Volume (0.16) (0.38) (0.66)

(gallons per foot):  $(13.83)(0.16) = 2.2128 \times 3 = 6.63$

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	pH	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
<u>2</u>	<u>0950</u>	<u>22.6</u>	<u>6.37</u>	<u>1996</u>		<u>Silty</u>
<u>4</u>	<u>1010</u>	<u>22.5</u>	<u>6.26</u>	<u>1292</u>		<u>Silty</u>
<u>6</u>	<u>1020</u>	<u>22.6</u>	<u>6.34</u>	<u>1298</u>		<u>Silty</u>

SAMPLE INFORMATION TPH - g, ms by 8015, TPH-d

SAMPLE DEPTH TO WATER (feet): 9.76 Analyses: by 8015 w/s.g., VOCs 8260, PAHs 8276  
80% RECHARGE: Y/N SAMPLE TURBIDITY: Silty  
ODOR: None SAMPLE BOTTLE/PRESERVATIVE: 4 VOCs/HCl, 1 LA/HCl, 1 LA/none

PURGING EQUIPMENT

\_\_\_\_ Centrifugal Pump      \_\_\_\_\_ Bailer (Teflon)  
\_\_\_\_ Submersible Pump     Bailer (PVC or disposable)  
\_\_\_\_ Peristaltic Pump      \_\_\_\_\_ Bailer (Stainless Steel)  
\_\_\_\_ Purge Pump  
Other: \_\_\_\_\_

SAMPLING EQUIPMENT

\_\_\_\_ Centrifugal Pump      \_\_\_\_\_ Bailer (Teflon)  
\_\_\_\_ Submersible Pump     Bailer (PVC or disposable)  
\_\_\_\_ Peristaltic Pump      \_\_\_\_\_ Bailer (Stainless Steel)  
\_\_\_\_ Purge Pump  
Other: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



AllWest

PURGE TABLE

WELL ID: AMW-2  
Page 1 of 1

SITE NAME: <u>Hollis - Emergyville</u>	LOCATION: <u>Emergyville, CA</u>
PROJECT NO: <u>13166-28</u>	DATE PURGED: <u>11/6/13</u>
PURGED/SAMPLED BY: <u>C. Houlihan</u>	DATE SAMPLED: <u>11/6/13</u>
TIME SAMPLED: <u>1405</u>	DEPTH TO BOTTOM (feet): <u>23.94</u>
DEPTH TO WATER (feet): <u>10.36</u>	WATER COLUMN HEIGHT (feet): <u>13.58</u>
CALCULATED PURGE (gallons): <u>6.5</u>	CASING VOLUME (gallons): <u>2.17</u>
ACTUAL PURGE (gallons) <u>7</u>	

DEVELOPMENT \_\_\_\_\_ QUARTERLY  BIENNIAL \_\_\_\_\_ OTHER \_\_\_\_\_

SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER: 2"  3" \_\_\_\_\_ 4" \_\_\_\_\_  
 Casing Volume (0.16) (0.38) (0.66)  
 (gallons per foot): 0.16 (13.58) = 2.1728 x 3 = 6.5

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	PH (units)	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
<u>2</u>	<u>1321</u>	<u>22.2</u>	<u>6.23</u>	<u>1974</u>		<u>Clear</u>
<u>4</u>	<u>1330</u>	<u>21.6</u>	<u>6.22</u>	<u>1666</u>		<u>Silty</u>
<u>6</u>	<u>1348</u>	<u>21.2</u>	<u>6.21</u>	<u>1671</u>		<u>Silty</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER (feet): 12.19 Analyses: TPH-g, ms 8015, TPH-d  
80% RECHARGE: Y/N SAMPLE TURBIDITY: Silty  
 ODOR: slight HC SAMPLE BOTTLE/PRESERVATIVE: 4 vials HCL, 1 LA/HCL, 1 LA/none

PURGING EQUIPMENT

\_\_\_\_ Centrifugal Pump      \_\_\_\_ Bailer (Teflon)  
 \_\_\_\_ Submersible Pump     Bailer (PVC or disposable)  
 \_\_\_\_ Peristaltic Pump      \_\_\_\_ Bailer (Stainless Steel)  
 \_\_\_\_ Purge Pump  
 Other: \_\_\_\_\_

SAMPLING EQUIPMENT

\_\_\_\_ Centrifugal Pump      \_\_\_\_ Bailer (Teflon)  
 \_\_\_\_ Submersible Pump     Bailer (PVC or disposable)  
 \_\_\_\_ Peristaltic Pump      \_\_\_\_ Bailer (Stainless Steel)  
 \_\_\_\_ Purge Pump  
 Other: \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





AllWest

PURGE TABLE

WELL ID: AMLW-3  
Page 1 of 1

SITE NAME: <u>Hollis - Emeryville</u>	LOCATION: <u>Emeryville, CA</u>
PROJECT NO: <u>13166.23</u>	DATE PURGED:
PURGED/SAMPLED BY: <u>C. Houlahan</u>	DATE SAMPLED:
TIME SAMPLED: <u>1528</u>	DEPTH TO BOTTOM (feet): <u>22.23</u>
DEPTH TO WATER (feet): <u>9.34</u>	WATER COLUMN HEIGHT (feet): <u>12.89</u>
CALCULATED PURGE (gallons): <u>6.19</u>	CASING VOLUME (gallons):
ACTUAL PURGE (gallons) <u>6.5</u>	

DEVELOPMENT \_\_\_\_\_ QUARTERLY  BIANNUAL \_\_\_\_\_ OTHER \_\_\_\_\_

SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER: 2"  3" \_\_\_\_\_ 4" \_\_\_\_\_  
Casing Volume (0.16) (0.38) (0.66)

(gallons per foot):  $0.16(12.89) = 2.06 \times 3 = 6.19$

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	PH (units)	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
<u>2</u>	<u>1418</u>	<u>21.4</u>	<u>6.33</u>	<u>1205</u>		<u>Silty</u>
<u>4</u>	<u>1443</u>	<u>20.7</u>	<u>6.28</u>	<u>1132</u>		<u>Silty</u>
<u>6</u>	<u>1505</u>	<u>20.5</u>	<u>6.34</u>	<u>1032</u>		<u>Silty</u>

SAMPLE INFORMATION TPH-g, ms 8015, TPH-d 8015

SAMPLE DEPTH TO WATER (feet): 9.50 Analyses: w/s.g., VOCs 8260, PATTs 8270  
80% RECHARGE: Y/N SAMPLE TURBIDITY: Silty  
ODOR: None SAMPLE BOTTLE/PRESERVATIVE: 4 VOA/He1, 1 LA/HCl, 1 LA/None

PURGING EQUIPMENT

\_\_\_\_ Centrifugal Pump      \_\_\_\_ Bailer (Teflon)  
\_\_\_\_ Submersible Pump     Bailer (PVC or disposable)  
\_\_\_\_ Peristaltic Pump      \_\_\_\_ Bailer (Stainless Steel)  
\_\_\_\_ Purge Pump  
Other: \_\_\_\_\_

SAMPLING EQUIPMENT

\_\_\_\_ Centrifugal Pump      \_\_\_\_ Bailer (Teflon)  
\_\_\_\_ Submersible Pump     Bailer (PVC or disposable)  
\_\_\_\_ Peristaltic Pump      \_\_\_\_ Bailer (Stainless Steel)  
\_\_\_\_ Purge Pump  
Other: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



AllWest

PURGE TABLE

WELL ID: MW-3  
Page 1 of 1

SITE NAME: Hollis - Emeryville	LOCATION: Emeryville, CA
PROJECT NO: 131 (16-23)	DATE PURGED: 11/6/13
PURGED/SAMPLED BY: C. Houlihan	DATE SAMPLED: 11/6/13
TIME SAMPLED: 1230	DEPTH TO BOTTOM (feet): 29.11
DEPTH TO WATER (feet): 9.30	WATER COLUMN HEIGHT (feet): 19.81
CALCULATED PURGE (gallons): 9.5	CASING VOLUME (gallons):
ACTUAL PURGE (gallons) 1A	

DEVELOPMENT \_\_\_\_\_ QUARTERLY  BIANNUAL \_\_\_\_\_ OTHER \_\_\_\_\_

SAMPLE TYPE: Groundwater  Surface Water \_\_\_\_\_ Other \_\_\_\_\_

CASING DIAMETER: 2"  3" \_\_\_\_\_ 4" \_\_\_\_\_

Casing Volume (gallons per foot): (0.16) (0.38) (0.66)

$0.16 (19.81) = 3.17$   $\times 3 = 9.5$

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	PH (units)	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
3	1105	20.1	6.12	1873		clear
6	1130	19.7	6.14	1607		clear
9	1150	19.5	6.11	1599		silty

SAMPLE INFORMATION TPH-g, ms by 8015

SAMPLE DEPTH TO WATER (feet): 10.35 Analyses: TPH-g 8015 w/s.g. VOCs 8260, PAHs 8270

80% RECHARGE: Y/N SAMPLE TURBIDITY: Silty

ODOR: Strong HC SAMPLE BOTTLE/PRESERVATIVE: 1 VOA<sub>2</sub>/HCl, 1 LA/HCl, 1 LA/none

PURGING EQUIPMENT

\_\_\_ Centrifugal Pump      \_\_\_ Bailer (Teflon)

\_\_\_ Submersible Pump     Bailer (PVC or disposable)

\_\_\_ Peristaltic Pump      \_\_\_ Bailer (Stainless Steel)

\_\_\_ Purge Pump

Other: \_\_\_\_\_

SAMPLING EQUIPMENT

\_\_\_ Centrifugal Pump      \_\_\_ Bailer (Teflon)

\_\_\_ Submersible Pump     Bailer (PVC or disposable)

\_\_\_ Peristaltic Pump      \_\_\_ Bailer (Stainless Steel)

\_\_\_ Purge Pump

Other: \_\_\_\_\_

Comments: Depth to product 9.15 ft  
 Depth to water 9.30 ft      0.15 ft. product layer  
 Skimmed, bailed LNAPL before sampling

# APPENDIX C



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1311246

**Report Created for:** All West Environmental, Inc  
2141 Mission Street, Ste 100  
San Francisco, CA 94110

**Project Contact:** Christopher Houlihan  
**Project P.O.:**  
**Project Name:** #13166.28; Hollis-Emeryville

**Project Received:** 11/07/2013

Analytical Report reviewed & approved for release on 11/14/2013 by:

*Question about  
your data?*

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

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







## Glossary of Terms & Qualifier Definitions

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**WorkOrder:** 1311246

<u>Glossary Abbreviation</u>	<u>Description</u>
95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
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.
RD	Relative Difference
RL	Reporting Limit
RPD	Relative Percent Deviation
SPK Val	Spike Value
SPKRef Val	Spike Reference Value

### Analytical Qualifier

S	spike recovery outside accepted recovery limits
b6	lighter than water immiscible sheen/product is present
c1	surrogate recovery outside of the control limits due to the dilution of the sample.
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
c8	sample pH is greater than 2
d1	weakly modified or unmodified gasoline is significant
e4	gasoline range compounds are significant.



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-1	1311246-001A	Water	11/06/2013 10:30	GC18	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		20	2	11/12/2013 17:25
tert-Amyl methyl ether (TAME)	ND		1.0	2	11/12/2013 17:25
Benzene	ND		1.0	2	11/12/2013 17:25
Bromobenzene	ND		1.0	2	11/12/2013 17:25
Bromochloromethane	ND		1.0	2	11/12/2013 17:25
Bromodichloromethane	ND		1.0	2	11/12/2013 17:25
Bromoform	ND		1.0	2	11/12/2013 17:25
Bromomethane	ND		1.0	2	11/12/2013 17:25
2-Butanone (MEK)	ND		4.0	2	11/12/2013 17:25
t-Butyl alcohol (TBA)	ND		4.0	2	11/12/2013 17:25
n-Butyl benzene	ND		1.0	2	11/12/2013 17:25
sec-Butyl benzene	ND		1.0	2	11/12/2013 17:25
tert-Butyl benzene	ND		1.0	2	11/12/2013 17:25
Carbon Disulfide	ND		1.0	2	11/12/2013 17:25
Carbon Tetrachloride	ND		1.0	2	11/12/2013 17:25
Chlorobenzene	ND		1.0	2	11/12/2013 17:25
Chloroethane	ND		1.0	2	11/12/2013 17:25
Chloroform	ND		1.0	2	11/12/2013 17:25
Chloromethane	ND		1.0	2	11/12/2013 17:25
2-Chlorotoluene	ND		1.0	2	11/12/2013 17:25
4-Chlorotoluene	ND		1.0	2	11/12/2013 17:25
Dibromochloromethane	ND		1.0	2	11/12/2013 17:25
1,2-Dibromo-3-chloropropane	ND		0.40	2	11/12/2013 17:25
1,2-Dibromoethane (EDB)	ND		1.0	2	11/12/2013 17:25
Dibromomethane	ND		1.0	2	11/12/2013 17:25
1,2-Dichlorobenzene	ND		1.0	2	11/12/2013 17:25
1,3-Dichlorobenzene	ND		1.0	2	11/12/2013 17:25
1,4-Dichlorobenzene	ND		1.0	2	11/12/2013 17:25
Dichlorodifluoromethane	ND		1.0	2	11/12/2013 17:25
1,1-Dichloroethane	<b>2.0</b>		1.0	2	11/12/2013 17:25
1,2-Dichloroethane (1,2-DCA)	ND		1.0	2	11/12/2013 17:25
1,1-Dichloroethene	<b>50</b>		1.0	2	11/12/2013 17:25
cis-1,2-Dichloroethene	ND		1.0	2	11/12/2013 17:25
trans-1,2-Dichloroethene	ND		1.0	2	11/12/2013 17:25
1,2-Dichloropropane	ND		1.0	2	11/12/2013 17:25
1,3-Dichloropropane	ND		1.0	2	11/12/2013 17:25
2,2-Dichloropropane	ND		1.0	2	11/12/2013 17:25
1,1-Dichloropropene	ND		1.0	2	11/12/2013 17:25

(Cont.)





## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-1	1311246-001A	Water	11/06/2013 10:30	GC18	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.0	2	11/12/2013 17:25
trans-1,3-Dichloropropene	ND		1.0	2	11/12/2013 17:25
Diisopropyl ether (DIPE)	ND		1.0	2	11/12/2013 17:25
Ethylbenzene	ND		1.0	2	11/12/2013 17:25
Ethyl tert-butyl ether (ETBE)	ND		1.0	2	11/12/2013 17:25
Freon 113	ND		1.0	2	11/12/2013 17:25
Hexachlorobutadiene	ND		1.0	2	11/12/2013 17:25
Hexachloroethane	ND		1.0	2	11/12/2013 17:25
2-Hexanone	ND		1.0	2	11/12/2013 17:25
Isopropylbenzene	ND		1.0	2	11/12/2013 17:25
4-Isopropyl toluene	ND		1.0	2	11/12/2013 17:25
Methyl-t-butyl ether (MTBE)	2.4		1.0	2	11/12/2013 17:25
Methylene chloride	ND		1.0	2	11/12/2013 17:25
4-Methyl-2-pentanone (MIBK)	ND		1.0	2	11/12/2013 17:25
Naphthalene	ND		1.0	2	11/12/2013 17:25
n-Propyl benzene	ND		1.0	2	11/12/2013 17:25
Styrene	ND		1.0	2	11/12/2013 17:25
1,1,1,2-Tetrachloroethane	ND		1.0	2	11/12/2013 17:25
1,1,2,2-Tetrachloroethane	ND		1.0	2	11/12/2013 17:25
Tetrachloroethene	ND		1.0	2	11/12/2013 17:25
Toluene	ND		1.0	2	11/12/2013 17:25
1,2,3-Trichlorobenzene	ND		1.0	2	11/12/2013 17:25
1,2,4-Trichlorobenzene	ND		1.0	2	11/12/2013 17:25
1,1,1-Trichloroethane	ND		1.0	2	11/12/2013 17:25
1,1,2-Trichloroethane	ND		1.0	2	11/12/2013 17:25
Trichloroethene	7.6		1.0	2	11/12/2013 17:25
Trichlorofluoromethane	ND		1.0	2	11/12/2013 17:25
1,2,3-Trichloropropane	ND		1.0	2	11/12/2013 17:25
1,2,4-Trimethylbenzene	ND		1.0	2	11/12/2013 17:25
1,3,5-Trimethylbenzene	ND		1.0	2	11/12/2013 17:25
Vinyl Chloride	ND		1.0	2	11/12/2013 17:25
Xylenes, Total	ND		1.0	2	11/12/2013 17:25
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	103		70-130		11/12/2013 17:25
Toluene-d8	95		70-130		11/12/2013 17:25
4-BFB	97		70-130		11/12/2013 17:25

(Cont.)



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-2	1311246-002A	Water	11/06/2013 14:05	GC18	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	11/11/2013 16:20
tert-Amyl methyl ether (TAME)	ND		5.0	10	11/11/2013 16:20
Benzene	<b>130</b>		5.0	10	11/11/2013 16:20
Bromobenzene	ND		5.0	10	11/11/2013 16:20
Bromochloromethane	ND		5.0	10	11/11/2013 16:20
Bromodichloromethane	ND		5.0	10	11/11/2013 16:20
Bromoform	ND		5.0	10	11/11/2013 16:20
Bromomethane	ND		5.0	10	11/11/2013 16:20
2-Butanone (MEK)	ND		20	10	11/11/2013 16:20
t-Butyl alcohol (TBA)	ND		20	10	11/11/2013 16:20
n-Butyl benzene	<b>7.2</b>		5.0	10	11/11/2013 16:20
sec-Butyl benzene	ND		5.0	10	11/11/2013 16:20
tert-Butyl benzene	ND		5.0	10	11/11/2013 16:20
Carbon Disulfide	ND		5.0	10	11/11/2013 16:20
Carbon Tetrachloride	ND		5.0	10	11/11/2013 16:20
Chlorobenzene	ND		5.0	10	11/11/2013 16:20
Chloroethane	ND		5.0	10	11/11/2013 16:20
Chloroform	ND		5.0	10	11/11/2013 16:20
Chloromethane	ND		5.0	10	11/11/2013 16:20
2-Chlorotoluene	ND		5.0	10	11/11/2013 16:20
4-Chlorotoluene	ND		5.0	10	11/11/2013 16:20
Dibromochloromethane	ND		5.0	10	11/11/2013 16:20
1,2-Dibromo-3-chloropropane	ND		2.0	10	11/11/2013 16:20
1,2-Dibromoethane (EDB)	ND		5.0	10	11/11/2013 16:20
Dibromomethane	ND		5.0	10	11/11/2013 16:20
1,2-Dichlorobenzene	ND		5.0	10	11/11/2013 16:20
1,3-Dichlorobenzene	ND		5.0	10	11/11/2013 16:20
1,4-Dichlorobenzene	ND		5.0	10	11/11/2013 16:20
Dichlorodifluoromethane	ND		5.0	10	11/11/2013 16:20
1,1-Dichloroethane	ND		5.0	10	11/11/2013 16:20
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	11/11/2013 16:20
1,1-Dichloroethene	ND		5.0	10	11/11/2013 16:20
cis-1,2-Dichloroethene	ND		5.0	10	11/11/2013 16:20
trans-1,2-Dichloroethene	ND		5.0	10	11/11/2013 16:20
1,2-Dichloropropane	ND		5.0	10	11/11/2013 16:20
1,3-Dichloropropane	ND		5.0	10	11/11/2013 16:20
2,2-Dichloropropane	ND		5.0	10	11/11/2013 16:20
1,1-Dichloropropene	ND		5.0	10	11/11/2013 16:20

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-2	1311246-002A	Water	11/06/2013 14:05	GC18	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		5.0	10	11/11/2013 16:20
trans-1,3-Dichloropropene	ND		5.0	10	11/11/2013 16:20
Diisopropyl ether (DIPE)	ND		5.0	10	11/11/2013 16:20
Ethylbenzene	120		5.0	10	11/11/2013 16:20
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	11/11/2013 16:20
Freon 113	ND		5.0	10	11/11/2013 16:20
Hexachlorobutadiene	ND		5.0	10	11/11/2013 16:20
Hexachloroethane	ND		5.0	10	11/11/2013 16:20
2-Hexanone	ND		5.0	10	11/11/2013 16:20
Isopropylbenzene	7.2		5.0	10	11/11/2013 16:20
4-Isopropyl toluene	ND		5.0	10	11/11/2013 16:20
Methyl-t-butyl ether (MTBE)	330		5.0	10	11/11/2013 16:20
Methylene chloride	ND		5.0	10	11/11/2013 16:20
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	11/11/2013 16:20
Naphthalene	54		5.0	10	11/11/2013 16:20
n-Propyl benzene	23		5.0	10	11/11/2013 16:20
Styrene	ND		5.0	10	11/11/2013 16:20
1,1,1,2-Tetrachloroethane	ND		5.0	10	11/11/2013 16:20
1,1,2,2-Tetrachloroethane	ND		5.0	10	11/11/2013 16:20
Tetrachloroethene	ND		5.0	10	11/11/2013 16:20
Toluene	16		5.0	10	11/11/2013 16:20
1,2,3-Trichlorobenzene	ND		5.0	10	11/11/2013 16:20
1,2,4-Trichlorobenzene	ND		5.0	10	11/11/2013 16:20
1,1,1-Trichloroethane	ND		5.0	10	11/11/2013 16:20
1,1,2-Trichloroethane	ND		5.0	10	11/11/2013 16:20
Trichloroethene	ND		5.0	10	11/11/2013 16:20
Trichlorofluoromethane	ND		5.0	10	11/11/2013 16:20
1,2,3-Trichloropropane	ND		5.0	10	11/11/2013 16:20
1,2,4-Trimethylbenzene	150		5.0	10	11/11/2013 16:20
1,3,5-Trimethylbenzene	49		5.0	10	11/11/2013 16:20
Vinyl Chloride	ND		5.0	10	11/11/2013 16:20
Xylenes, Total	270		5.0	10	11/11/2013 16:20
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	95		70-130		11/11/2013 16:20
Toluene-d8	95		70-130		11/11/2013 16:20
4-BFB	94		70-130		11/11/2013 16:20

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-3	1311246-003A	Water	11/06/2013 15:28	GC28	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	11/12/2013 17:37
tert-Amyl methyl ether (TAME)	ND		5.0	10	11/12/2013 17:37
Benzene	ND		5.0	10	11/12/2013 17:37
Bromobenzene	ND		5.0	10	11/12/2013 17:37
Bromochloromethane	ND		5.0	10	11/12/2013 17:37
Bromodichloromethane	ND		5.0	10	11/12/2013 17:37
Bromoform	ND		5.0	10	11/12/2013 17:37
Bromomethane	ND		5.0	10	11/12/2013 17:37
2-Butanone (MEK)	ND		20	10	11/12/2013 17:37
t-Butyl alcohol (TBA)	ND		20	10	11/12/2013 17:37
n-Butyl benzene	ND		5.0	10	11/12/2013 17:37
sec-Butyl benzene	ND		5.0	10	11/12/2013 17:37
tert-Butyl benzene	ND		5.0	10	11/12/2013 17:37
Carbon Disulfide	ND		5.0	10	11/12/2013 17:37
Carbon Tetrachloride	ND		5.0	10	11/12/2013 17:37
Chlorobenzene	ND		5.0	10	11/12/2013 17:37
Chloroethane	ND		5.0	10	11/12/2013 17:37
Chloroform	ND		5.0	10	11/12/2013 17:37
Chloromethane	ND		5.0	10	11/12/2013 17:37
2-Chlorotoluene	ND		5.0	10	11/12/2013 17:37
4-Chlorotoluene	ND		5.0	10	11/12/2013 17:37
Dibromochloromethane	ND		5.0	10	11/12/2013 17:37
1,2-Dibromo-3-chloropropane	ND		2.0	10	11/12/2013 17:37
1,2-Dibromoethane (EDB)	ND		5.0	10	11/12/2013 17:37
Dibromomethane	ND		5.0	10	11/12/2013 17:37
1,2-Dichlorobenzene	ND		5.0	10	11/12/2013 17:37
1,3-Dichlorobenzene	ND		5.0	10	11/12/2013 17:37
1,4-Dichlorobenzene	ND		5.0	10	11/12/2013 17:37
Dichlorodifluoromethane	ND		5.0	10	11/12/2013 17:37
1,1-Dichloroethane	<b>5.4</b>		5.0	10	11/12/2013 17:37
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	11/12/2013 17:37
1,1-Dichloroethene	<b>180</b>		5.0	10	11/12/2013 17:37
cis-1,2-Dichloroethene	ND		5.0	10	11/12/2013 17:37
trans-1,2-Dichloroethene	ND		5.0	10	11/12/2013 17:37
1,2-Dichloropropane	ND		5.0	10	11/12/2013 17:37
1,3-Dichloropropane	ND		5.0	10	11/12/2013 17:37
2,2-Dichloropropane	ND		5.0	10	11/12/2013 17:37
1,1-Dichloropropene	ND		5.0	10	11/12/2013 17:37

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-3	1311246-003A	Water	11/06/2013 15:28	GC28	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		5.0	10	11/12/2013 17:37
trans-1,3-Dichloropropene	ND		5.0	10	11/12/2013 17:37
Diisopropyl ether (DIPE)	ND		5.0	10	11/12/2013 17:37
Ethylbenzene	ND		5.0	10	11/12/2013 17:37
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	11/12/2013 17:37
Freon 113	ND		5.0	10	11/12/2013 17:37
Hexachlorobutadiene	ND		5.0	10	11/12/2013 17:37
Hexachloroethane	ND		5.0	10	11/12/2013 17:37
2-Hexanone	ND		5.0	10	11/12/2013 17:37
Isopropylbenzene	ND		5.0	10	11/12/2013 17:37
4-Isopropyl toluene	ND		5.0	10	11/12/2013 17:37
Methyl-t-butyl ether (MTBE)	ND		5.0	10	11/12/2013 17:37
Methylene chloride	ND		5.0	10	11/12/2013 17:37
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	11/12/2013 17:37
Naphthalene	ND		5.0	10	11/12/2013 17:37
n-Propyl benzene	ND		5.0	10	11/12/2013 17:37
Styrene	ND		5.0	10	11/12/2013 17:37
1,1,1,2-Tetrachloroethane	ND		5.0	10	11/12/2013 17:37
1,1,2,2-Tetrachloroethane	ND		5.0	10	11/12/2013 17:37
Tetrachloroethene	ND		5.0	10	11/12/2013 17:37
Toluene	ND		5.0	10	11/12/2013 17:37
1,2,3-Trichlorobenzene	ND		5.0	10	11/12/2013 17:37
1,2,4-Trichlorobenzene	ND		5.0	10	11/12/2013 17:37
1,1,1-Trichloroethane	6.1		5.0	10	11/12/2013 17:37
1,1,2-Trichloroethane	ND		5.0	10	11/12/2013 17:37
Trichloroethene	22		5.0	10	11/12/2013 17:37
Trichlorofluoromethane	ND		5.0	10	11/12/2013 17:37
1,2,3-Trichloropropane	ND		5.0	10	11/12/2013 17:37
1,2,4-Trimethylbenzene	ND		5.0	10	11/12/2013 17:37
1,3,5-Trimethylbenzene	ND		5.0	10	11/12/2013 17:37
Vinyl Chloride	ND		5.0	10	11/12/2013 17:37
Xylenes, Total	ND		5.0	10	11/12/2013 17:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	106		70-130		11/12/2013 17:37
Toluene-d8	106		70-130		11/12/2013 17:37
4-BFB	91		70-130		11/12/2013 17:37

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-3	1311246-004A	Water	11/06/2013 12:30	GC18	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		2500	250	11/12/2013 00:46
tert-Amyl methyl ether (TAME)	ND		120	250	11/12/2013 00:46
Benzene	<b>3200</b>		120	250	11/12/2013 00:46
Bromobenzene	ND		120	250	11/12/2013 00:46
Bromochloromethane	ND		120	250	11/12/2013 00:46
Bromodichloromethane	ND		120	250	11/12/2013 00:46
Bromoform	ND		120	250	11/12/2013 00:46
Bromomethane	ND		120	250	11/12/2013 00:46
2-Butanone (MEK)	ND		500	250	11/12/2013 00:46
t-Butyl alcohol (TBA)	<b>700</b>		500	250	11/12/2013 00:46
n-Butyl benzene	<b>140</b>		120	250	11/12/2013 00:46
sec-Butyl benzene	ND		120	250	11/12/2013 00:46
tert-Butyl benzene	ND		120	250	11/12/2013 00:46
Carbon Disulfide	ND		120	250	11/12/2013 00:46
Carbon Tetrachloride	ND		120	250	11/12/2013 00:46
Chlorobenzene	ND		120	250	11/12/2013 00:46
Chloroethane	ND		120	250	11/12/2013 00:46
Chloroform	ND		120	250	11/12/2013 00:46
Chloromethane	ND		120	250	11/12/2013 00:46
2-Chlorotoluene	ND		120	250	11/12/2013 00:46
4-Chlorotoluene	ND		120	250	11/12/2013 00:46
Dibromochloromethane	ND		120	250	11/12/2013 00:46
1,2-Dibromo-3-chloropropane	ND		50	250	11/12/2013 00:46
1,2-Dibromoethane (EDB)	ND		120	250	11/12/2013 00:46
Dibromomethane	ND		120	250	11/12/2013 00:46
1,2-Dichlorobenzene	ND		120	250	11/12/2013 00:46
1,3-Dichlorobenzene	ND		120	250	11/12/2013 00:46
1,4-Dichlorobenzene	ND		120	250	11/12/2013 00:46
Dichlorodifluoromethane	ND		120	250	11/12/2013 00:46
1,1-Dichloroethane	ND		120	250	11/12/2013 00:46
1,2-Dichloroethane (1,2-DCA)	ND		120	250	11/12/2013 00:46
1,1-Dichloroethene	ND		120	250	11/12/2013 00:46
cis-1,2-Dichloroethene	ND		120	250	11/12/2013 00:46
trans-1,2-Dichloroethene	ND		120	250	11/12/2013 00:46
1,2-Dichloropropane	ND		120	250	11/12/2013 00:46
1,3-Dichloropropane	ND		120	250	11/12/2013 00:46
2,2-Dichloropropane	ND		120	250	11/12/2013 00:46
1,1-Dichloropropene	ND		120	250	11/12/2013 00:46

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/11/13-11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-3	1311246-004A	Water	11/06/2013 12:30	GC18	83937
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		120	250	11/12/2013 00:46
trans-1,3-Dichloropropene	ND		120	250	11/12/2013 00:46
Diisopropyl ether (DIPE)	ND		120	250	11/12/2013 00:46
Ethylbenzene	2100		120	250	11/12/2013 00:46
Ethyl tert-butyl ether (ETBE)	ND		120	250	11/12/2013 00:46
Freon 113	ND		120	250	11/12/2013 00:46
Hexachlorobutadiene	ND		120	250	11/12/2013 00:46
Hexachloroethane	ND		120	250	11/12/2013 00:46
2-Hexanone	ND		120	250	11/12/2013 00:46
Isopropylbenzene	130		120	250	11/12/2013 00:46
4-Isopropyl toluene	ND		120	250	11/12/2013 00:46
Methyl-t-butyl ether (MTBE)	2600		120	250	11/12/2013 00:46
Methylene chloride	ND		120	250	11/12/2013 00:46
4-Methyl-2-pentanone (MIBK)	ND		120	250	11/12/2013 00:46
Naphthalene	690		120	250	11/12/2013 00:46
n-Propyl benzene	460		120	250	11/12/2013 00:46
Styrene	ND		120	250	11/12/2013 00:46
1,1,1,2-Tetrachloroethane	ND		120	250	11/12/2013 00:46
1,1,2,2-Tetrachloroethane	ND		120	250	11/12/2013 00:46
Tetrachloroethene	ND		120	250	11/12/2013 00:46
Toluene	4900		120	250	11/12/2013 00:46
1,2,3-Trichlorobenzene	ND		120	250	11/12/2013 00:46
1,2,4-Trichlorobenzene	ND		120	250	11/12/2013 00:46
1,1,1-Trichloroethane	ND		120	250	11/12/2013 00:46
1,1,2-Trichloroethane	ND		120	250	11/12/2013 00:46
Trichloroethene	ND		120	250	11/12/2013 00:46
Trichlorofluoromethane	ND		120	250	11/12/2013 00:46
1,2,3-Trichloropropane	ND		120	250	11/12/2013 00:46
1,2,4-Trimethylbenzene	3200		120	250	11/12/2013 00:46
1,3,5-Trimethylbenzene	1000		120	250	11/12/2013 00:46
Vinyl Chloride	ND		120	250	11/12/2013 00:46
Xylenes, Total	11,000		120	250	11/12/2013 00:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	<u>Analytical Comments:</u> c8	
Dibromofluoromethane	98		70-130	11/12/2013 00:46	
Toluene-d8	96		70-130	11/12/2013 00:46	
4-BFB	97		70-130	11/12/2013 00:46	



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/8/13

**WorkOrder:** 1311246  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C-SIM  
**Unit:** µg/L

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-1	1311246-001D	Water	11/06/2013 10:30	GC35	83866
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		0.50	1	11/12/2013 13:49
Acenaphthylene	ND		0.50	1	11/12/2013 13:49
Anthracene	ND		0.50	1	11/12/2013 13:49
Benzo (a) anthracene	ND		0.50	1	11/12/2013 13:49
Benzo (b) fluoranthene	ND		0.50	1	11/12/2013 13:49
Benzo (k) fluoranthene	ND		0.50	1	11/12/2013 13:49
Benzo (g,h,i) perylene	ND		0.50	1	11/12/2013 13:49
Benzo (a) pyrene	ND		0.50	1	11/12/2013 13:49
Chrysene	ND		0.50	1	11/12/2013 13:49
Dibenzo (a,h) anthracene	ND		0.50	1	11/12/2013 13:49
Fluoranthene	ND		0.50	1	11/12/2013 13:49
Fluorene	ND		0.50	1	11/12/2013 13:49
Indeno (1,2,3-cd) pyrene	ND		0.50	1	11/12/2013 13:49
1-Methylnaphthalene	ND		0.50	1	11/12/2013 13:49
2-Methylnaphthalene	ND		0.50	1	11/12/2013 13:49
Naphthalene	ND		0.50	1	11/12/2013 13:49
Phenanthrene	ND		0.50	1	11/12/2013 13:49
Pyrene	ND		0.50	1	11/12/2013 13:49
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
1-Fluoronaphthalene	119		30-130		11/12/2013 13:49
2-fluorobiphenyl	111		30-130		11/12/2013 13:49

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/8/13

**WorkOrder:** 1311246  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C-SIM  
**Unit:** µg/L

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-2	1311246-002D	Water	11/06/2013 14:05	GC35	83866
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		0.50	1	11/12/2013 14:14
Acenaphthylene	ND		0.50	1	11/12/2013 14:14
Anthracene	ND		0.50	1	11/12/2013 14:14
Benzo (a) anthracene	ND		0.50	1	11/12/2013 14:14
Benzo (b) fluoranthene	ND		0.50	1	11/12/2013 14:14
Benzo (k) fluoranthene	ND		0.50	1	11/12/2013 14:14
Benzo (g,h,i) perylene	ND		0.50	1	11/12/2013 14:14
Benzo (a) pyrene	ND		0.50	1	11/12/2013 14:14
Chrysene	ND		0.50	1	11/12/2013 14:14
Dibenzo (a,h) anthracene	ND		0.50	1	11/12/2013 14:14
Fluoranthene	ND		0.50	1	11/12/2013 14:14
Fluorene	ND		0.50	1	11/12/2013 14:14
Indeno (1,2,3-cd) pyrene	ND		0.50	1	11/12/2013 14:14
1-Methylnaphthalene	<b>5.4</b>		0.50	1	11/12/2013 14:14
2-Methylnaphthalene	<b>9.2</b>		0.50	1	11/12/2013 14:14
Naphthalene	<b>26</b>		0.50	1	11/12/2013 14:14
Phenanthrene	ND		0.50	1	11/12/2013 14:14
Pyrene	ND		0.50	1	11/12/2013 14:14
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
1-Fluoronaphthalene	114		30-130		11/12/2013 14:14
2-fluorobiphenyl	108		30-130		11/12/2013 14:14

(Cont.)



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/8/13

**WorkOrder:** 1311246  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C-SIM  
**Unit:** µg/L

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-3	1311246-003D	Water	11/06/2013 15:28	GC35	83866
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		0.50	1	11/12/2013 14:39
Acenaphthylene	ND		0.50	1	11/12/2013 14:39
Anthracene	ND		0.50	1	11/12/2013 14:39
Benzo (a) anthracene	ND		0.50	1	11/12/2013 14:39
Benzo (b) fluoranthene	ND		0.50	1	11/12/2013 14:39
Benzo (k) fluoranthene	ND		0.50	1	11/12/2013 14:39
Benzo (g,h,i) perylene	ND		0.50	1	11/12/2013 14:39
Benzo (a) pyrene	ND		0.50	1	11/12/2013 14:39
Chrysene	ND		0.50	1	11/12/2013 14:39
Dibenzo (a,h) anthracene	ND		0.50	1	11/12/2013 14:39
Fluoranthene	ND		0.50	1	11/12/2013 14:39
Fluorene	ND		0.50	1	11/12/2013 14:39
Indeno (1,2,3-cd) pyrene	ND		0.50	1	11/12/2013 14:39
1-Methylnaphthalene	<b>1.5</b>		0.50	1	11/12/2013 14:39
2-Methylnaphthalene	<b>2.6</b>		0.50	1	11/12/2013 14:39
Naphthalene	<b>7.5</b>		0.50	1	11/12/2013 14:39
Phenanthrene	ND		0.50	1	11/12/2013 14:39
Pyrene	ND		0.50	1	11/12/2013 14:39
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
1-Fluoronaphthalene	120		30-130		11/12/2013 14:39
2-fluorobiphenyl	107		30-130		11/12/2013 14:39

(Cont.)



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/8/13

**WorkOrder:** 1311246  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C-SIM  
**Unit:** µg/L

### Polynuclear Aromatic Hydrocarbons (PAHs / PNAs) using SIM Mode by GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-3	1311246-004D	Water	11/06/2013 12:30	GC35	83866
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		25	50	11/12/2013 15:04
Acenaphthylene	ND		25	50	11/12/2013 15:04
Anthracene	ND		25	50	11/12/2013 15:04
Benzo (a) anthracene	ND		25	50	11/12/2013 15:04
Benzo (b) fluoranthene	ND		25	50	11/12/2013 15:04
Benzo (k) fluoranthene	ND		25	50	11/12/2013 15:04
Benzo (g,h,i) perylene	ND		25	50	11/12/2013 15:04
Benzo (a) pyrene	ND		25	50	11/12/2013 15:04
Chrysene	ND		25	50	11/12/2013 15:04
Dibenzo (a,h) anthracene	ND		25	50	11/12/2013 15:04
Fluoranthene	ND		25	50	11/12/2013 15:04
Fluorene	ND		25	50	11/12/2013 15:04
Indeno (1,2,3-cd) pyrene	ND		25	50	11/12/2013 15:04
1-Methylnaphthalene	<b>330</b>		25	50	11/12/2013 15:04
2-Methylnaphthalene	<b>620</b>		25	50	11/12/2013 15:04
Naphthalene	<b>1100</b>		25	50	11/12/2013 15:04
Phenanthrene	ND		25	50	11/12/2013 15:04
Pyrene	ND		25	50	11/12/2013 15:04
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: c1	
1-Fluoronaphthalene	147	S	30-130	11/12/2013 15:04	
2-fluorobiphenyl	118		30-130	11/12/2013 15:04	



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>AMW-1</b>	<b>1311246-001B</b>	<b>Water</b>	<b>11/06/2013 10:30</b>	<b>GC3</b>	<b>83940</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	11/12/2013 04:47
TPH(mineral spirits)	ND		50	1	11/12/2013 04:47
MTBE	---		5.0	1	11/12/2013 04:47
Benzene	---		0.50	1	11/12/2013 04:47
Toluene	---		0.50	1	11/12/2013 04:47
Ethylbenzene	---		0.50	1	11/12/2013 04:47
Xylenes	---		0.50	1	11/12/2013 04:47
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: c4	
aaa-TFT	151	S	70-130		11/12/2013 04:47
<b>AMW-2</b>	<b>1311246-002B</b>	<b>Water</b>	<b>11/06/2013 14:05</b>	<b>GC3</b>	<b>83940</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>2200</b>		250	5	11/12/2013 21:11
TPH(mineral spirits)	<b>1400</b>		250	5	11/12/2013 21:11
MTBE	---		25	5	11/12/2013 21:11
Benzene	---		2.5	5	11/12/2013 21:11
Toluene	---		2.5	5	11/12/2013 21:11
Ethylbenzene	---		2.5	5	11/12/2013 21:11
Xylenes	---		2.5	5	11/12/2013 21:11
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: d1	
aaa-TFT	114		70-130		11/12/2013 21:11
<b>AMW-3</b>	<b>1311246-003B</b>	<b>Water</b>	<b>11/06/2013 15:28</b>	<b>GC3</b>	<b>83940</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>110</b>		50	1	11/12/2013 20:41
TPH(mineral spirits)	<b>99</b>		50	1	11/12/2013 20:41
MTBE	---		5.0	1	11/12/2013 20:41
Benzene	---		0.50	1	11/12/2013 20:41
Toluene	---		0.50	1	11/12/2013 20:41
Ethylbenzene	---		0.50	1	11/12/2013 20:41
Xylenes	---		0.50	1	11/12/2013 20:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d1,c4	
aaa-TFT	240	S	70-130		11/12/2013 20:41

(Cont.)



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/12/13

**WorkOrder:** 1311246  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-3	1311246-004B	Water	11/06/2013 12:30	GC3	83940
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	49,000		2500	50	11/12/2013 04:17
TPH(mineral spirits)	19,000		2500	50	11/12/2013 04:17
MTBE	---		250	50	11/12/2013 04:17
Benzene	---		25	50	11/12/2013 04:17
Toluene	---		25	50	11/12/2013 04:17
Ethylbenzene	---		25	50	11/12/2013 04:17
Xylenes	---		25	50	11/12/2013 04:17
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: d1,b6	
aaa-TFT	127		70-130		11/12/2013 04:17



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #13166.28; Hollis-Emeryville  
**Date Received:** 11/7/13 21:45  
**Date Prepared:** 11/7/13-11/13/13

**WorkOrder:** 1311246  
**Extraction Method:** SW3510C/3630C  
**Analytical Method:** SW8015B  
**Unit:** µg/L

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>AMW-1</b>	<b>1311246-001C</b>	<b>Water</b>	<b>11/06/2013 10:30</b>	<b>GC6B</b>	<b>83831</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	11/13/2013 00:24
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	115		70-130		11/13/2013 00:24
<b>AMW-2</b>	<b>1311246-002C</b>	<b>Water</b>	<b>11/06/2013 14:05</b>	<b>GC6B</b>	<b>83831</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>330</b>		50	1	11/12/2013 21:59
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e4	
C9	114		70-130		11/12/2013 21:59
<b>AMW-3</b>	<b>1311246-003C</b>	<b>Water</b>	<b>11/06/2013 15:28</b>	<b>GC11A</b>	<b>83975</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>130</b>		50	1	11/13/2013 23:09
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e4	
C9	102		70-130		11/13/2013 23:09
<b>MW-3</b>	<b>1311246-004C</b>	<b>Water</b>	<b>11/06/2013 12:30</b>	<b>GC11A</b>	<b>83831</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>6400</b>		50	1	11/14/2013 12:03
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e4	
C9	105		70-130		11/14/2013 12:03





# Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 11/11/13  
**Date Analyzed:** 11/11/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #13166.28; Hollis-Emeryville

**WorkOrder:** 1311246  
**BatchID:** 83937  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83937  
 1311249-002AMS/MSD

## QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	21.18	0.50	20	-	106	70-130
Benzene	ND	20.43	0.50	20	-	102	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	87.99	2.0	80	-	110	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	20.76	0.50	20	-	104	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	21.84	0.50	20	-	109	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	22.16	0.50	20	-	111	70-130
1,1-Dichloroethene	ND	21.6	0.50	20	-	108	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 11/11/13  
**Date Analyzed:** 11/11/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #13166.28; Hollis-Emeryville

**WorkOrder:** 1311246  
**BatchID:** 83937  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83937  
 1311249-002AMS/MSD

## QC SUMMARY REPORT FOR SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	20.56	0.50	20	-	103	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	21.63	0.50	20	-	108	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	21.61	0.50	20	-	108	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	20.39	0.50	20	-	102	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	22.04	0.50	20	-	110	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	26.3	47.45		45	105	105	70-130
Toluene-d8	24.26	41.67		45	97	93	70-130
4-BFB	2.336	4.308		4.5	93	96	70-130

(Cont.)



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 11/11/13  
**Date Analyzed:** 11/11/13  
**Instrument:** GC18  
**Matrix:** Water  
**Project:** #13166.28; Hollis-Emeryville

**WorkOrder:** 1311246  
**BatchID:** 83937  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83937  
 1311249-002AMS/MSD

### QC SUMMARY REPORT FOR SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	20.11	20.75	20	ND	101	104	70-130	3.15	20
Benzene	18.26	18.57	20	ND	91.3	92.8	70-130	1.67	20
t-Butyl alcohol (TBA)	83.4	93.46	80	ND	104	117	70-130	11.4	20
Chlorobenzene	18.17	18.39	20	ND	90.8	92	70-130	1.24	20
1,2-Dibromoethane (EDB)	19.3	19.98	20	ND	96.5	99.9	70-130	3.48	20
1,2-Dichloroethane (1,2-DCA)	16.82	17.18	20	ND	84.1	85.9	70-130	2.10	20
1,1-Dichloroethene	18.41	18.58	20	ND	92.1	92.9	70-130	0.918	20
Diisopropyl ether (DIPE)	17.89	18.22	20	ND	89.5	91.1	70-130	1.82	20
Ethyl tert-butyl ether (ETBE)	19.13	19.57	20	ND	95.7	97.9	70-130	2.28	20
Methyl-t-butyl ether (MTBE)	19.07	19.67	20	ND	95.4	98.4	70-130	3.10	20
Toluene	18.05	18.23	20	ND	86	86.9	70-130	1.04	20
Trichloroethene	18.52	18.64	20	ND	92.6	93.2	70-130	0.690	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	40.9	41.3	45		91	92	70-130	0.975	20
Toluene-d8	38.58	38.44	45		86	85	70-130	0.358	20
4-BFB	3.949	3.995	4.5		88	89	70-130	1.16	20



# Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 11/8/13  
**Date Analyzed:** 11/11/13  
**Instrument:** GC35  
**Matrix:** Water  
**Project:** #13166.28; Hollis-Emeryville

**WorkOrder:** 1311246  
**BatchID:** 83866  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C-SIM  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83866

## QC SUMMARY REPORT FOR SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	-	0.50	-	-	-	-
Acenaphthylene	ND	-	0.50	-	-	-	-
Anthracene	ND	-	0.50	-	-	-	-
Benzo (a) anthracene	ND	-	0.50	-	-	-	-
Benzo (b) fluoranthene	ND	-	0.50	-	-	-	-
Benzo (k) fluoranthene	ND	-	0.50	-	-	-	-
Benzo (g,h,i) perylene	ND	-	0.50	-	-	-	-
Benzo (a) pyrene	ND	8.271	0.50	10	-	82.7	30-130
Chrysene	ND	7.429	0.50	10	-	74.3	30-130
Dibenzo (a,h) anthracene	ND	-	0.50	-	-	-	-
Fluoranthene	ND	-	0.50	-	-	-	-
Fluorene	ND	-	0.50	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	0.50	-	-	-	-
1-Methylnaphthalene	ND	8.569	0.50	10	-	85.7	30-130
2-Methylnaphthalene	ND	7.536	0.50	10	-	75.4	30-130
Naphthalene	ND	-	0.50	-	-	-	-
Phenanthrene	ND	7.503	0.50	10	-	75	30-130
Pyrene	ND	7.267	0.50	10	-	72.7	30-130
<b>Surrogate Recovery</b>							
1-Fluoronaphthalene	29.37	29.9		25	117	120	30-130
2-fluorobiphenyl	29.38	29.07		25	118	116	30-130



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 11/11/13  
**Date Analyzed:** 11/11/13  
**Instrument:** GC3  
**Matrix:** Water  
**Project:** #13166.28; Hollis-Emeryville

**WorkOrder:** 1311246  
**BatchID:** 83940  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83940  
 1311282-003AMS/MSD

### QC SUMMARY REPORT FOR SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	63.56	40	60	-	106	70-130
MTBE	ND	11.08	5.0	10	-	111	70-130
Benzene	ND	11.1	0.50	10	-	111	70-130
Toluene	ND	11.08	0.50	10	-	111	70-130
Ethylbenzene	ND	10.93	0.50	10	-	109	70-130
Xylenes	ND	33.05	0.50	30	-	110	70-130

**Surrogate Recovery**

aaa-TFT	9.883	10.46		10	99	105	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	63.1	63.49	60	ND	105	106	70-130	0.618	20
MTBE	10.6	10.43	10	ND	106	104	70-130	1.59	20
Benzene	10.47	10.99	10	ND	105	110	70-130	4.79	20
Toluene	10.45	10.51	10	ND	105	105	70-130	0	20
Ethylbenzene	10.49	10.51	10	ND	105	105	70-130	0	20
Xylenes	31.89	32.03	30	ND	106	107	70-130	0.415	20

**Surrogate Recovery**

aaa-TFT	9.818	9.955	10		98	100	70-130	1.38	20
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## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 11/7/13  
**Date Analyzed:** 11/11/13  
**Instrument:** GC11B  
**Matrix:** Water  
**Project:** #13166.28; Hollis-Emeryville

**WorkOrder:** 1311246  
**BatchID:** 83831  
**Extraction Method:** SW3510C/3630C  
**Analytical Method:** SW8015B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83831

### QC SUMMARY REPORT FOR SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	781.5	50	1000	-	78.2	70-130
<b>Surrogate Recovery</b>							
C9	644.1	665.2		625	103	106	70-130



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 11/12/13  
**Date Analyzed:** 11/13/13  
**Instrument:** GC6A  
**Matrix:** Water  
**Project:** #13166.28; Hollis-Emeryville

**WorkOrder:** 1311246  
**BatchID:** 83975  
**Extraction Method:** SW3510C/3630C  
**Analytical Method:** SW8015B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-83975

### QC SUMMARY REPORT FOR SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	972.8	50	1000	-	97.3	70-130
<b>Surrogate Recovery</b>							
C9	531	528.8		625	85	85	70-130





1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1311246

ClientCode: AWE

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQUIS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**  
 Christopher Houlihan  
 All West Environmental, Inc  
 2141 Mission Street, Ste 100  
 San Francisco, CA 94110  
 (415) 391-2510    FAX: (415) 391-2008

Email: choulihan@allwest1.com  
 cc:  
 PO:  
 ProjectNo: #13166.28; Hollis-Emeryville

**Bill to:**  
 Carol Ramelb  
 All West Environmental, Inc  
 2141 Mission Street, Ste 100  
 San Francisco, CA 94110  
 darlene@allwest1.com

**Requested TAT: 5 days**  
  
*Date Received: 11/07/2013*  
*Date Printed: 11/07/2013*

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
1311246-001	AMW-1	Water	11/6/2013 10:30	<input type="checkbox"/>	A	D	B	A	C							
1311246-002	AMW-2	Water	11/6/2013 14:05	<input type="checkbox"/>	A	D	B		C							
1311246-003	AMW-3	Water	11/6/2013 15:28	<input type="checkbox"/>	A	D	B		C							
1311246-004	MW-3	Water	11/6/2013 12:30	<input type="checkbox"/>	A	D	B		C							

**Test Legend:**

1	8260B_W	2	8270D-PNA_W	3	G-MBTX_W	4	PREFD REPORT	5	TPH(D)WSG_W
6		7		8		9		10	
11		12							

Prepared by: Daniel Loa

**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.









### Sample Receipt Checklist

Client Name: **All West Environmental, Inc** Date and Time Received: **11/7/2013 9:45:32 PM**  
 Project Name: **#13166.28; Hollis-Emeryville** LogIn Reviewed by: **Daniel Loa**  
 WorkOrder N°: **1311246** Matrix: Water Carrier: Rob Pringle (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: 4.2°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 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.

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 Comments:

# APPENDIX D



**APPLICATION FOR AUTHORIZATION TO USE**

**REPORT TITLE:** 4Q 2013GROUNDWATER MONITORING REPORT  
FORMER MCGRATH STEEL  
6655 HOLLIS STREET AND 1471 67TH STREET  
EMERYVILLE, CALIFORNIA

**PROJECT NUMBER:** 13166.28

To: AllWest Environmental, Inc.  
2141 Mission Street, Suite 100  
San Francisco, CA 94110

From (Applicant): \_\_\_\_\_  
\_\_\_\_\_

*(Please clearly identify name and address of person/entity  
applying for permission to use or copy this document)*

Ladies and Gentlemen:

Applicant states they have thoroughly reviewed the report and had the opportunity to discuss with AllWest the report’s methodology, findings and conclusion(s).

Applicant hereby applies for permission to rely upon AllWest’s work product, as described above, for the purpose of (state here the purpose for which you wish to rely upon the work product):

Applicant only can accept and rely upon AllWest work product under the strict understanding that Applicant is bound by all provisions in the Terms and Conditions attached to the report. Every report, recommendation, finding, or conclusion issued by AllWest shall be subject to the limitations stated in the Agreement and subject report(s). If this is agreeable, please sign below and return one copy of this letter to us along with the applicable fees. Upon receipt and if acceptable, our signed letter will be returned. AllWest may withhold permission at its sole discretion or require additional re-use fees or terms.

**FEES:** A \$1,500 coordination and reliance fee, payable in advance, will apply. If desired, for an additional \$150 report reproduction fee, we will reissue the report in the name of the Applicant; the report date, however, will remain the same. All checks will be returned if your request for reliance is not approved.

**REQUESTED BY**

**APPROVED BY**

\_\_\_\_\_  
Applicant Company

**AllWest Environmental, Inc.**

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Signature and Date

\_\_\_\_\_  
Signature and Date

## **GENERAL CONDITIONS TO THE WORK AUTHORIZATION AGREEMENT**

It is hereby agreed that the Client retains AllWest to provide services as set forth in the Work Authorization attached hereto (the "Work"). This contract shall be controlled by the following terms and conditions, and these terms and conditions shall also control any further assignments performed pursuant to this Work Authorization. Client's signature on this Work Authorization constitutes Client's agreement to the all terms to this contract, including these General Conditions.

### **FEES AND COSTS**

1. AllWest shall charge for work performed by its personnel at the rates identified in the Work Authorization. These rates are subject to reasonable increases by AllWest upon giving Client 30 days advance notice. Reimbursable Costs will be charged to the Client in addition to the fees for the basic services under this Agreement and all Additional Services (defined below) under the Agreement. Reimbursable Costs include, but are not limited to, expenses for travel, including transportation, meals, lodging, long distance telephone and other related expenses, as well as the costs of reproduction of all drawings for the Client's use, costs for specifications and type-written reports, permit and approval fees, automobile travel reimbursement, costs and fees of subcontractors, and soil and other materials testing. No overtime is accrued for time spent in travel. All costs incurred which relate to the services or materials provided by a contractor or subcontractor to AllWest shall be invoiced by AllWest on the basis of cost plus twenty percent (20%). Automobile travel reimbursement shall be at the rate of fifty- eight cents (\$0.58) per mile. All other reimbursable costs shall be invoiced and billed by AllWest at the rate of 1.1 times the direct cost to AllWest. Reimbursable costs will be charged to the client only as outlined in the Work Authorization if the scope of work is for Phase I Environmental Site Assessment, Property Condition Assessment, Seismic Assessment or ALTA survey. Invoices for work performed shall be submitted monthly. Payment will be due upon receipt of invoice. Client shall pay interest on the balance of unpaid invoices which are overdue by more than 30 days, at a rate of 18% per annum as well as all attorney fees and costs incurred by AllWest to secure payment of unpaid invoices. AllWest may waive such fees at its sole discretion.

### **STANDARD OF CARE**

2. AllWest will perform its work in accordance with the standard of care of its industry, as it is at the time of the work being performed, and applicable in the locale of the work being performed. AllWest makes no other warranties, express or implied regarding its work.

### **LIMITATION OF REMEDIES**

3. Client expressly agrees that to the fullest extent permitted by law, Client's remedies for any liability incurred by AllWest, and/or its employees or agents, for any and all claims arising from AllWest's services, shall be \$50,000 or its fees, whichever is greater.

Client may request a higher limitation of remedies, but must do so in writing. Upon such written request, AllWest may agree to increase this limit in exchange for a mutually negotiated higher fee commensurate with the increased risk to AllWest. Any such agreed increase in fee and limitation of remedies amount must be memorialized by written agreement which expressly amends the terms of this clause.

As used in this section, the term "limitation of remedies" shall apply to claims of any kind, including, but not limited to, claims brought in contract, tort, strict liability, or otherwise, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to AllWest's services or the services of AllWest's subcontractors, consultants, agents, officers, directors, and employees from any cause(s). AllWest shall not be liable for any claims of loss of profits or any other indirect, incidental, or consequential damages of any nature whatsoever. Client & AllWest have specifically negotiated this limitation.

### **INDEMNIFICATION**

4. Notwithstanding any other provision of this Agreement, Client agrees, to the fullest extent permitted by law, to waive any claim against, release from any liability or responsibility for, and , indemnify and hold harmless AllWest, its employees, agents and sub-consultants (collectively, Consultant) from and against any and all damages, liabilities, claims, actions or costs of any kind, including reasonable attorney's fees and defense costs, arising or alleged to arise out of or to be in any way connected with the Project or the performance or non-performance of Consultant of any services under this Agreement, excepting only any such liabilities determined by a court or other forum of competent jurisdiction to have been caused by the negligence or willful misconduct of Consultant. This provision shall be in addition to any rights of indemnity that Consultant may have under the law and shall survive and remain in effect following the termination of this Agreement for any reason. Should any part of this provision be determined to be unenforceable, AllWest and Client agree that the rest of the provision shall apply to the maximum extent permitted by law. The Client's duty to defend AllWest shall arise immediately upon tender of any matter potentially covered by the above obligations to indemnify and hold harmless.

### **MEDIATION & JUDICIAL REFERENCE**

5. In an effort to resolve any conflicts or disputes that arise regarding the performance of this agreement, the Client & AllWest agree that all such disputes shall be submitted to non-binding mediation, using a mutually agreed upon mediation service experienced in the resolution of construction disputes. Unless the parties mutually agree otherwise, such mediation shall be a condition precedent to the initiation of any other adjudicative proceedings. It is further agreed that any dispute that is not settled pursuant to such mediation shall be adjudicated by a court appointed referee in accordance with the Judicial Reference procedures as set forth in California Code of Civil Procedure Section 638 et seq. The parties hereby mutually agree to waive any right to a trial by jury regarding any dispute arising out of this agreement.

The parties further agree to include a similar mediation, Judicial Reference & waiver of jury trial provision in their agreements with other independent contractors & consultants retained for the project and require them to similarly agree to these dispute resolution procedures. The cost of said Mediation shall be split equally between the parties. This agreement to mediate shall be specifically enforceable under the prevailing law of the jurisdiction in which this agreement was signed.

### **HAZARDOUS WASTE**

6. Client acknowledges that AllWest and its sub-contractors have played no part in the creation of any hazardous waste, pollution sources, nuisance, or chemical or industrial disposal problem, which may exist, and that AllWest has been retained for the sole purpose of performing the services set out in the scope of work within this Agreement, which may include, but is not necessarily limited to such services as assisting the Client in assessing any problem which may exist and in assisting the



Client in formulating a remedial program. Client acknowledges that while necessary for investigations, commonly used exploration methods employed by AllWest may penetrate through contaminated materials and serve as a connecting passageway between the contaminated material and an uncontaminated aquifer or groundwater, possibly inducing cross contamination. While back-filling with grout or other means, according to a state of practice design is intended to provide a seal against such passageway, it is recognized that such a seal may be imperfect and that there is an inherent risk in drilling borings of performing other exploration methods in a hazardous waste site.

AllWest will not sign or execute hazardous waste manifests or other waste tracking documents on behalf of Client unless Client specifically establishes AllWest as an express agent of Client under a written agency agreement approved by AllWest. In addition, Client agrees that AllWest shall not be required to sign any documents, no matter requested by whom, that would have the effect of AllWest providing any form of certification, guarantee, or warranty as to any matter or to opine on conditions for which the existence AllWest cannot ascertain. Client also agrees that it shall never seek or otherwise attempt to have AllWest provide any form of such certification, guarantee or warranty in exchange for resolution of any disputes between Client and AllWest, or as a condition precedent to making payment to AllWest for fees and costs owing under this Agreement.

Client understands and agrees that AllWest is not, and has no responsibility as, a generator, operator, treater, storer, transporter, arranger or disposer of hazardous or toxic substances found or identified at the site, including investigation-derived waste. The Client shall undertake and arrange for the removal, treatment, storage, disposal and/or treatment of hazardous material and investigation derived waste (such as drill cuttings) and further, assumes full responsibility for such wastes to the complete exclusion of any responsibility, duty or obligation upon AllWest. AllWest's responsibilities shall be limited to recommendations regarding such matters and assistance with appropriate arrangements if authorized by Client.

## **FORCE MAJUERE**

7. Neither party shall be responsible for damages or delays in performance under this Agreement caused by acts of God, strikes, lockouts, accidents or other events or condition (other than financial inability) beyond the other Party's reasonable control.

## **TERMINATION**

8. This Agreement may be terminated by either party upon ten (10) days' written notice should the other party substantially fail to perform in accordance with its duties and responsibilities as set forth in this Agreement and such failure to perform is through no fault of the party initiating the termination. Client agrees that if it chooses to terminate AllWest for convenience, and AllWest has otherwise satisfactorily performed its obligations under this Agreement to that point, AllWest shall be paid no less than eighty percent (80%) of the contract price, provided, however, that if AllWest shall have completed more than eighty percent of the Work at the time of said termination, AllWest shall be compensated as provided in the Work Authorization for all services performed prior to the termination date which fall within the scope of work described in the Work Authorization and may as well, at its sole discretion and in accordance with said Schedule of Fees, charge Client, and Client agrees to pay AllWest's reasonable costs and labor in winding up its files and removing equipment and other materials from the Project.

Upon notice of termination by Client to AllWest, AllWest may issue notice of such termination to other consultants, contractors, subcontractors and to governing agencies having jurisdiction over the Project, and take such other actions as are reasonably necessary in order to give notice that AllWest is no longer associated with the Project and to protect AllWest from claims of liability from the work of others.

## **DOCUMENTS**

9. Any documents prepared by AllWest, including, but not limited to proposals, project specifications, drawings, calculations, plans and maps, and any ideas and designs incorporated therein, as well as any reproduction of the above are instruments of service and shall remain the property of AllWest and AllWest retains copyrights to these instruments of service. AllWest grants to Client a non-exclusive license to use these instruments of service for the purpose of completing and maintaining the Project. The Client shall be permitted to retain a copy of any instruments of service, but Client expressly agrees and acknowledges that the instruments of service may not be used by the Client on other projects, or for any other purpose, except the project for which they were prepared, unless Client first obtains a written agreement expanding the license to such use from AllWest, and with appropriate compensation to AllWest. Client further agrees that such instruments of service shall not be provided to any third parties without the express written permission of AllWest.

Client shall furnish, or cause to be furnished to AllWest all documents and information known to Client that relate to the identity, location, quantity, nature, or characteristics of any asbestos, PCBs, or any other hazardous materials or waste at, on or under the site. In addition, Client will furnish or cause to be furnished such reports, data, studies, plans, specifications, documents and other information on surface or subsurface site conditions, e.g., underground tanks, pipelines and buried utilities, required by AllWest for proper performance of its services. IF Client fails to provide AllWest with all hazardous material subject matter reports including geotechnical assessments in its possession during the period that AllWest is actively providing its services (including up to 30 days after its final invoice), Client shall release AllWest from any and all liability for risks and damages the Client incurs resulting from its reliance on AllWest's professional opinion. AllWest shall be entitled to rely upon Client - provided documents and information in performing the services required in this Agreement; however, AllWest assumes no responsibility or liability for the accuracy or completeness of Client-provided documents. Client-provided documents will remain the property of the Client.

## **ACCESS TO PROJECT**

10. Client grants to AllWest the right of access and entry to the Project at all times necessary for AllWest to perform the Work. If Client is not the owner of the Project, then Client represents that Client has full authority to grant access and right of entry to AllWest for the purpose of AllWest's performance of the Work. This right of access and entry extends fully to any agents, employees, contractors or subcontractors of AllWest upon reasonable proof of association with AllWest. Client's failure to provide such timely access and permission shall constitute a material breach of this Agreement excusing AllWest from performance of its duties under this Agreement.

## **CONFIDENTIAL INFORMATION**

11. Both Client and AllWest understand that in conjunction with AllWest's performance of the Work on the project, both Client and AllWest may receive or be exposed to Proprietary Information of the other. As used herein, the term "Proprietary Information" refers to any and all information of a confidential, proprietary or secret nature which may be either applicable to, or relate in any way to: (a) the personal, financial or other affairs of the business of each of the Parties, or (b) the

research and development or investigations of each of the Parties. Proprietary Information includes, for example and without limitation, trade secrets, processes, formulas, data, know-how, improvements, inventions, techniques, software technical data, developments, research projects, plans for future development, marketing plans and strategies. Each of the Parties agrees that all Proprietary Information of the other party is and shall remain exclusively the property of that other party. The parties further acknowledge that the Proprietary Information of the other party is a special, valuable and unique asset of that party, and each of the Parties agrees that at all times during the terms of this Agreement and thereafter to keep in confidence and trust all Proprietary Information of the other party, whether such Proprietary Information was obtained or developed by the other party before, during or after the term of this Agreement. Each of the Parties agrees not to sell, distribute, disclose or use in any other unauthorized manner the Proprietary Information of the other party. AllWest further agrees that it will not sell, distribute or disclose information or the results of any testing obtained by AllWest during the performance of the Work without the prior written approval of Client unless required to do so by federal, state or local statute, ordinance or regulation.

### **INDEPENDENT CONTRACTOR**

12. Both Client and AllWest agree that AllWest is an independent contractor in the performance of the Work under this Agreement. All persons or parties employed by AllWest in connection with the Work are the agents, employees or subcontractors of AllWest and not of Client. Accordingly, AllWest shall be responsible for payment of all taxes arising out of AllWest's activities in performing the Work under this Agreement.

### **ENTIRE AGREEMENT**

13. This Agreement contains the entire agreement between the Parties pertaining to the subject matter contained in it and supersedes and replaces in its entirety all prior and contemporaneous proposals, agreements, representations and understandings of the Parties. The Parties have carefully read and understand the contents of this Agreement and sign their names to the same as their own free act.

### **INTEGRATION**

14. This is a fully integrated Agreement. The terms of this Agreement may be modified only by a writing signed by both Parties. The terms of this Agreement were fully negotiated by the Parties and shall not be construed for or against the Client or AllWest but shall be interpreted in accordance with the general meaning of the language in an effort to reach the intended result.

### **MODIFICATION / WAIVER / PARTIAL INVALIDITY**

15. Failure on the part of either party to complain of any act or omission of the other, or to declare the other party in default, shall not constitute a waiver by such party of its rights hereunder. If any provision of this Agreement or its application be unenforceable to any extent, the Parties agree that the remainder of this Agreement shall not be affected and shall be enforced to the greatest extent permitted by law.

### **INUREMENT / TITLES**

16. Subject to any restrictions on transfers, assignments and encumbrances set forth herein, this Agreement shall inure to the benefit of and be binding upon the undersigned Parties and their respective heirs, executors, legal representatives, successors and assigns. Paragraph titles or captions contained in this Agreement are inserted only as a matter of convenience, and for reference only, and in no way limit, define or extend the provisions of any paragraph. , et al., incurred in that action or proceeding, in addition to any other relief to which it or they may be entitled.

### **AUTHORITY**

17. Each of the persons executing this Agreement on behalf of a corporation does hereby covenant and warrant that the corporation is duly authorized and existing under the laws of its respective state of incorporation, that the corporation has and is qualified to do business in its respective state of incorporation, that the corporation has the full right and authority to enter into this Agreement, and that each person signing on behalf of the corporation is authorized to do so. If the Client is a joint venture, limited liability company or a partnership, the signatories below warrant that said entity is properly and duly organized and existing under the laws of the state of its formation and pursuant to the organizational and operating document of the entity, and the laws of the state of its formation, said signatory has authority act on behalf of and commit the entity to this Agreement.

### **COUNTERPARTS**

18. This Agreement may be signed in counterparts by each of the Parties hereto and, taken together, the signed counterparts shall constitute a single document.

### **THIRD PARTY BENEFICIARIES / CONTROLLING LAW**

19. There are no intended third party beneficiaries of this Agreement. The services, data & opinions expressed by AllWest are for the sole use of the client, are for a particular project and may not be relied upon by anyone other than the client. This Agreement shall be controlled by the laws of the State of California and any action by either party to enforce this Agreement shall be brought in San Francisco County, California.

### **TIME BAR TO LEGAL ACTION**

20. Any legal actions by either party against the other related to this Agreement, shall be barred after one year has passed from the time the claimant knew or should have known of its claim, and under no circumstances shall be initiated after two years have passed from the date by which AllWest completes its services.