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July 21, 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 Second Quarter 2014 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 *Second Quarter 2014 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

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**SECOND QUARTER 2014  
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:

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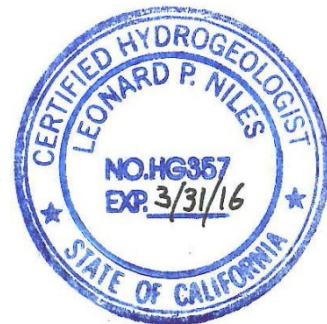
ALLWEST PROJECT 14011.28  
July 21, 2014

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## **SECOND QUARTER 2014 GROUNDWATER MONITORING REPORT**

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### **I. INTRODUCTION**

AllWest conducted quarterly groundwater monitoring on June 20, 2014 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, 2011).

The subject property was last occupied by CMC Rebar and is currently vacant. 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), *Subsurface Investigation* (AllWest, 2013b), *Additional Site Characterization and Monitoring Well Installation Report* (AllWest, 2013e), and *First Quarter 2014 Groundwater Monitoring* (AllWest, 2014b).

On December 31, 2013, a Geotech PRC 1-liter capacity product recovery canister-type passive skimming device was placed in well MW-3 (AllWest, 2014a).

### **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. Monitored and emptied the passive skimming device in monitoring well MW-3 on a monthly basis;
2. Measured groundwater levels and potential free product (LNAPL) 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;
3. 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 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;
4. Prepared a written report describing the sampling event, laboratory data, investigation findings, conclusions and recommendations.

### **IV. FIELD ACTIVITIES**

On April 22, 2014 and May 29, 2014, AllWest monitored the passive skimming device in monitoring well MW-3. It is not possible to measure depth to water or free product in

MW-3 with the passive skimming device in place. After removing the skimmer from the well, an electric oil/water interface sounding probe was lowered into the well casing to measure the depth to water and thickness of any potential floating free product to the nearest 0.01 feet below top of casing (TOC). The depth to water in the well was measured at 7.75 feet below TOC on April 22 and 8.28 feet below TOC on May 29. A sheen and droplets were observed in the skimmer. No free product layer was measured in the well casing on either date. One liter of groundwater containing product droplets and sheen was removed from the skimmer canister during each event, and contained in a 55-gallon drum onsite.

On June 20, 2014, prior to well purging, an electric oil/water interface sounding probe was lowered into all well casings to measure the depth to the water and thickness of any potential floating free product to the nearest 0.01 feet below TOC. Depth to groundwater ranged from 8.37 feet below TOC in AMW-3 to an initial measurement of 9.70 feet below TOC in MW-3. The passive skimming device in MW-3 displaces approximately one liter of water; approximately 45 minutes after removing the device, depth to water in MW-3 rose to 8.45 feet below TOC in MW-3. No product or sheen were detected or observed in any of the monitoring wells AMW-1, AMW-2 or AMW-3. No floating free product (LNAPL) was detected in monitoring well MW-3 by the electric oil/water interface probe; however, a sheen and droplets were observed in the passive skimming device. One liter of groundwater containing product droplets and sheen was removed from the skimmer canister during each event, and contained in a 55-gallon drum onsite. Depth to groundwater and free product thickness data are included in Table 2.

A new, disposable polyethylene bailer was lowered into each 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, with the exception of MW-3. Because of vigorous reaction of water from well MW-3 with the HCl in the preserved VOAs, unpreserved 40 ml VOAs were used for the TPH-g, TPH-ms, and VOC samples collected from MW-3. Each sample for TPH-d analysis was collected in one 1-liter amber glass bottle preserved with HCl solution. Each sample for PNAs/PAHs analysis was 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.

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**

No floating free product (LNAPL) was measured or observed in monitoring well MW-3 on April 22, May 29, or June 20, 2014 events; however, sheen and droplets were observed in the passive skimming device. Depth to water in well MW-3 after the removal of the product skimmer on June 20, 2014 was initially measured at 9.70 feet below TOC due to displacement from the skimming device, but rose to a static level of 8.45 feet below TOC after equilibrating for approximately 45 minutes.

On June 20, 2014, depths to groundwater ranged from 8.37 feet below TOC in AMW-3 to a static measurement of 8.45 feet below TOC in MW-3, after equilibrating for approximately 45 minutes after the removal of the skimming device. No LNAPL was measured or observed in monitoring well MW-3; sheen and droplets were observed in the passive skimming device. The well with the highest groundwater elevation was MW-3 at 17.10 feet above NAVD 1988 datum (following equilibration); the well with the lowest groundwater elevation was AMW-1 at 16.79 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 0.02 feet per foot. A groundwater elevation contour map is included as Figure 3.

### **B. Groundwater Analytical Data**

TPH-g was detected in groundwater samples from AMW-2, AMW-3 and MW-3 at a maximum concentration of 54,000 micrograms per liter ( $\mu\text{g/L}$ ) in monitoring well MW-3. TPH-ms was detected in groundwater samples from AMW-2, AMW-3 and MW-3 at a maximum concentration of 26,000  $\mu\text{g/L}$  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 was 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 12,000 µg/L in the groundwater sample from MW-3.

Benzene was detected in AMW-2, AMW-3 and MW-3 at a maximum concentration of 1,100 µg/L in the groundwater sample collected from monitoring well MW-3. Ethylbenzene was detected in AMW-2 and AMW-3 at a maximum concentration of 44 µg/L in AMW-3; however, laboratory reporting limits in MW-3 were elevated to 100 µg/L. Total xylenes were detected in AMW-2, AMW-3 and MW-3 at a maximum concentration of 5,700 µg/L in MW-3.

MTBE was detected in AMW-1, AMW-2 and MW-3 at a maximum concentration of 2,700 µg/L in the groundwater sample from MW-3.

Other VOCs detected in groundwater samples from all wells during this investigation included tertiary butyl alcohol (TBA), naphthalene, n-propyl benzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, and trichloroethene (TCE) at maximum respective concentrations of 790 µg/L, 420 µg/L, 7.5 µg/L, 2,300 µg/L, 610 µg/L, 3.4 µg/L, 74 µg/L, 2.8 µg/L, and 9.9 µg/L. Groundwater analytical results for total petroleum hydrocarbons and VOCs are summarized in Table 3 and Figures 4, 5 and 6.

PNAs/PAHs detected in groundwater samples collected during this investigation were 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene from AMW-2, AMW-3 and MW-3 at maximum respective concentrations of 110 µg/L, 210 µg/L and 410 µg/L in MW-3. 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 0.72 feet overall between the first and second quarter 2014 monitoring events; however, the elevation in MW-3 increased by 0.36 feet (Table 2). Groundwater flow direction and gradient were consistent between the first and second quarter 2014 monitoring events (Figure 3).

No free floating layer of light non-aqueous phase liquid (LNAPL) hydrocarbons (free product) was measured in monitoring well MW-3 in the former UST vicinity during the April 22 and May 29 monitoring events or June 20 groundwater sampling event; however, sheen and droplets were observed in the passive product skimmer on all three dates. The lateral extent of free product appears to be limited to monitoring well MW-3.

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 *User's Guide: Derivation and Application of Environmental Screening Levels*, Interim Final – December 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 – December 2013).

TPH-g was detected in concentrations exceeding its non-drinking water ESL of 500 µg/L in one groundwater sample collected during this monitoring event, at a concentration of 54,000 µg/L in monitoring well MW-3. TPH-ms exceeded its non-drinking water ESL of 500 µg/L in one groundwater sample collected during this investigation at a concentration of 26,000 µg/L in monitoring well MW-3; however, this probably represents TPH-g within the TPH-ms range. TPH-d exceeded its non-drinking water ESL of 640 µg/L in one groundwater sample collected during this investigation at a concentration of 12,000 µg/L in monitoring well MW-3. Groundwater vapor intrusion ESLs have not been established for TPH-g, TPH-ms or TPH-d.

Benzene exceeded its non-drinking water ESL of 27 µg/L and exceeded its vapor intrusion ESL of 270 µg/L in one sample, at a concentration of 1,100 µg/L in MW-3. Ethylbenzene was detected at a concentration exceeding its non-drinking water ESL of 43 µg/L in one groundwater sample at a maximum concentration of 44 µg/L in monitoring

well AMW-3, but not exceeding its vapor intrusion ESL of 3,100 µg/L. Total xylenes were detected at concentrations exceeding its non-drinking water ESL of 100 µg/L in one groundwater sample, at a maximum concentration of 5,700 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 a concentration exceeding its non-drinking water ESL of 1,800 µg/L in one groundwater sample at a concentration of 2,700 in MW-3. MTBE did not exceed its vapor intrusion ESL of 100,000 µg/L in any of the groundwater samples collected. 1,1-dichloroethene was detected at a concentration exceeding its non-drinking water ESL of 25 µg/L in one groundwater sample at a concentration of 74 µg/L in AMW-3. 1,1-dichloroethene did not exceed its vapor intrusion ESL of 130,000 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 one groundwater sample at a maximum concentration of 210 µg/L in MW-3. Vapor intrusion ESLs have not been established for 2-methylnaphthalene. Naphthalene was detected at a concentration exceeding its non-drinking water ESL of 24 µg/L in one groundwater sample; 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, benzene, ethylbenzene, total xylenes, MTBE, 2-methylnaphthalene, naphthalene, and 1,1-dichloroethene were identified in groundwater samples at concentrations exceeding corresponding and applicable SFRWQCB commercial/industrial non-drinking water ESL values. Benzene was detected in groundwater sample MW-1 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 elevated COC concentrations. AllWest conducted indoor air sampling within the building at 1475 67<sup>th</sup> Street in June 2014; a report of these sampling activities will be published under separate cover.

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. Measurable free product thickness was not observed in well MW-3 during this quarter, although product droplets and sheen were observed in the passive skimming device.

The chlorinated solvents 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane and trichloroethene, detected in monitoring wells AMW-1 and AMW-3, are unlikely to have originated from the subject site, since they have not been detected in monitoring well MW-3 in the former UST vicinity.

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. AllWest recommends preparation of a Focused Site Conceptual Model and Data Gap Investigation Work Plan, as requested in the ACEH letter dated June 4, 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 February 2014. 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**

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# TABLES



**TABLE 1**  
**Summary of Well Construction Details**  
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 14011.28

<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. 14011.28

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
MW-3	11/6/2013	25.55	26.00	9.30	0.15	16.36
MW-3	12/31/2013*	25.55	26.00	9.16	0.01	16.40
MW-3	2/26/2014*	25.55	26.00	8.92	0.00	16.63
MW-3	3/19/2014	25.55	26.00	8.81	0.00	16.74
<b>MW-3</b>	<b>4/22/2014</b>	<b>25.55</b>	<b>26.00</b>	<b>7.75</b>	<b>0.00</b>	<b>17.80</b>
<b>MW-3</b>	<b>5/29/2014</b>	<b>25.55</b>	<b>26.00</b>	<b>8.28</b>	<b>0.00</b>	<b>17.27</b>
<b>MW-3</b>	<b>6/20/2014</b>	<b>25.55</b>	<b>26.00</b>	<b>8.45</b>	<b>0.00</b>	<b>17.10</b>
AMW-1	8/7/2013	22.09	22.54	9.54	0.00	12.55
AMW-1	11/6/2013	22.09	22.54	9.62	0.00	12.47
AMW-1	3/19/2014	22.09	22.54	7.73	0.00	14.36
<b>AMW-1</b>	<b>6/20/2014</b>	<b>22.09</b>	<b>22.54</b>	<b>8.81</b>	<b>0.00</b>	<b>13.28</b>
AMW-2	8/7/2013	23.43	23.73	9.96	0.00	13.47
AMW-2	11/6/2013	23.43	23.73	10.36	0.00	13.07
AMW-2	3/19/2014	23.43	23.73	8.50	0.00	14.93
<b>AMW-2</b>	<b>6/20/2014</b>	<b>23.43</b>	<b>23.73</b>	<b>9.51</b>	<b>0.00</b>	<b>13.92</b>

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

Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 14011.28

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>
AMW-3	8/7/2013	25.16	25.50	8.94	0.00	16.22
AMW-3	11/6/2013	25.16	25.50	9.34	0.00	15.82
AMW-3	3/19/2014	25.16	25.50	7.25	0.00	17.91
<b>AMW-3</b>	<b>6/20/2014</b>	<b>25.16</b>	<b>25.50</b>	<b>8.37</b>	<b>0.00</b>	<b>16.79</b>

**Notes:**

\* Groundwater level measurement only, no sampling

TOC Top of Well Casing

feet msl 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. 14011.28

Sample / Field Point	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
MW-3 qualifiers	3/19/2014	87,000	40,000	11,000	NA	5,500	7,200	2,000	11,000	4,400	1,500 (TBA), 480 (naphthalene), 340 (n-propyl benzene), 2,600 (1,2,4-trimethylbenzene) 780 (1,3,5-trimethylbenzene), others ND, reporting limits vary
MW-3 qualifiers	6/20/2014	54,000	26,000	12,000	NA	1,100	ND <100	ND <100	5,700	2,700	790 (TBA), 420 (naphthalene), 2,300 (1,2,4-trimethylbenzene) 610 (1,3,5-trimethylbenzene), others ND, 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. 14011.28

Sample / Field Point	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-1	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 varv)
qualifiers		b1	b1	e7, e1, b1		b1	b1	b1	b1	b1	b1
AMW-1	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 varv)
qualifiers		c4	c4								
AMW-1	3/19/2014	ND <50	ND <50	ND <50	NA	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	83 (1,1-dichloroethane), 7.2 (TCE), ND (others, reporting limits varv)
qualifiers		c2, b1	e2, b1	b1		b1	b1	b1	b1	b1	b1
AMW-1	6/20/2014	ND <50	ND <50	ND <100	NA	ND <1.0	ND <1.0	ND <1.0	ND <1.0	2.3	1.8 (1,1-dichloroethane), 21 (1,1-dichloroethene), 5.4 (TCE), ND (others, reporting limits varv)
qualifiers		c2, S	c2, S								
AMW-2	8/7/2013	1,300	550	210	NA	66	74	48	280	350	22 (naphthalene), 46 (1,2,4-trimethylbenzene), 6.4 (n-propyl benzene), 29 (1,3,5-trimethylbenzene), ND (others, reporting limits varv)
qualifiers		d1, b1	d1, b1	e4, e2, b1		b1	b1	b1	b1	b1	b1
AMW-2	11/6/2013	2,200	1,400	330	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 varv)
qualifiers		d1	d1	e4							
AMW-2	3/19/2014	550	430	190	NA	30	ND <5.0	17	19	300	14 (naphthalene), 6.2 (n-propyl benzene), 38 (1,2,4-trimethylbenzene), 6.0 (1,3,5-trimethylbenzene), ND (others, reporting limits varv)
qualifiers		d1	d1	e4							
AMW-2	6/20/2014	370	270	110	NA	22	ND <5.0	11	44	380	8.4 (naphthalene), 40 (1,2,4-trimethylbenzene), ND (others, reporting limits varv)
qualifiers		d1	d1	e4							
AMW-3	8/7/2013	2,000	1,000	340	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-dichloroethene), 18 (n-propyl benzene), 5.3 (1,1,1-trichloroethane), 20 (TCE), 39 (1,3,5-trimethylbenzene), ND (others, reporting limits vary)
qualifiers		d1, b1	d1, b1	e4, e2, b1							
AMW-3	11/6/2013	110	99	130	NA	ND <5.0	ND <5.0	ND <5.0	ND <5.0	ND <5.0	5.4 (1,1-dichloroethane), 180 (1,1-dichloroethene), 6.1 (1,1,1-trichloroethane), 22 (TCE), ND (others, reporting limits varv)
qualifiers		d1, c4	d1, c4	e4		c8	c8	c8	c8	c8	c8
AMW-3	3/19/2014	140	110	130	NA	ND <5.0	ND <5.0	9.3	ND <5.0	ND <5.0	240 (1,1-dichloroethane), 9.0 (naphthalene), 19 (TCE), ND (others, reporting limits varv)
qualifiers		d1, c4	d1, c4	e4							c8

**TABLE 3**  
**Summary of Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons and VOCs**  
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 14011.28

Sample / Field Point	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-3 qualifiers	6/20/2014	320 d1, c4, S	250 d1, c4, S	220 e4	NA	13	ND <2.5	44	2.9	ND <2.5	3.4 (1,1-dichloroethane), 74 (1,1-dichloroethene), 12 (naphthalene), 7.5 (n-propyl benzene), 2.8 (1,1,1-trichloroethane), 9.9 (TCE), 6.8 (1,2,4-trimethylbenzene), ND (others, reporting limits vary)
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) 6.1 (naphthalene), 5.0 (1,1-dichloroethane), 6.0 (1,1-dichloroethene), 62 (1,1,1-trichloroethane), 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), 47 (1,1-dichloroethane), 25 (1,1-dichloroethene), 62 (1,1,1-trichloroethane), 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), 130,000 (1,1-dichloroethene), 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 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, *User's Guide: Derivation and Application of Environmental Screening Levels*, RWQCB, Interim Final - December 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, *User's Guide: Derivation and Application of Environmental Screening Levels*, RWQCB, Interim Final - December 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, *User's Guide: Derivation and Application of Environmental Screening Levels*, RWQCB, Interim Final - December 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.

**TABLE 3**  
**Summary of Groundwater Analytical Data**  
**Total Petroleum Hydrocarbons and VOCs**  
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 14011.28

Sample / Field Point	Date Sampled	TPH-g (µg/L)	TPH-ms (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)
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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
- c2 - low surrogate recovery caused by matrix interference.
- 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
- S - spike recovery outside accepted recovery limits

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

Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 14011.28

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	8/7/2013 b6	ND <50	ND <50	390	710	890	ND <50	ND <50	ND <50
MW-3 qualifiers	11/6/2013 c1	ND <25	ND <25	330	620	1,100	ND <25	ND <25	ND <25
MW-3	3/19/2014	ND <10	ND <10	80	150	360	ND <10	ND <10	ND <10
MW-3	6/20/2014	ND <21	ND <21	110	210	410	ND <21	ND <21	ND <21
AMW-1 qualifiers	8/7/2013 b1	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-1	3/19/2014	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-1	6/20/2014	ND <2.1	ND <2.1	ND <11	ND <2.1	ND <2.1	ND <2.1	ND <2.1	ND <2.1
AMW-2 qualifiers	8/7/2013 b1	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-2	3/19/2014	ND <0.50	ND <0.50	2.3	2.6	13	ND <0.50	ND <0.50	ND <0.50
AMW-2	6/20/2014	ND <2.1	ND <2.1	ND <10	ND <2.1	2.1	ND <2.1	ND <2.1	ND <2.1
AMW-3 qualifiers	8/7/2013 b1	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
AMW-3	3/19/2014	ND <0.50	ND <0.50	2.7	2.8	6.3	ND <0.50	ND <0.50	ND <0.50
AMW-3	6/20/2014	ND <1.5	ND <1.5	ND <7.4	ND <1.5	2.3	ND <1.5	ND <1.5	ND <1.5
RWQCB Commercial/Industrial ESLs, drinking water*		0.027	8.0	NE	2.1	6.1	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) 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, *User's Guide: Derivation and Application of Environmental Screening Levels*, RWQCB, Interim Final - December 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, *User's Guide: Derivation and Application of Environmental Screening Levels*, RWQCB, Interim Final - December 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, *User's Guide: Derivation and Application of Environmental Screening Levels*, RWQCB, Interim Final - December 2013.



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

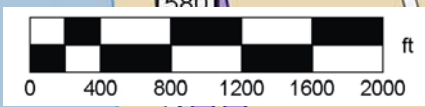
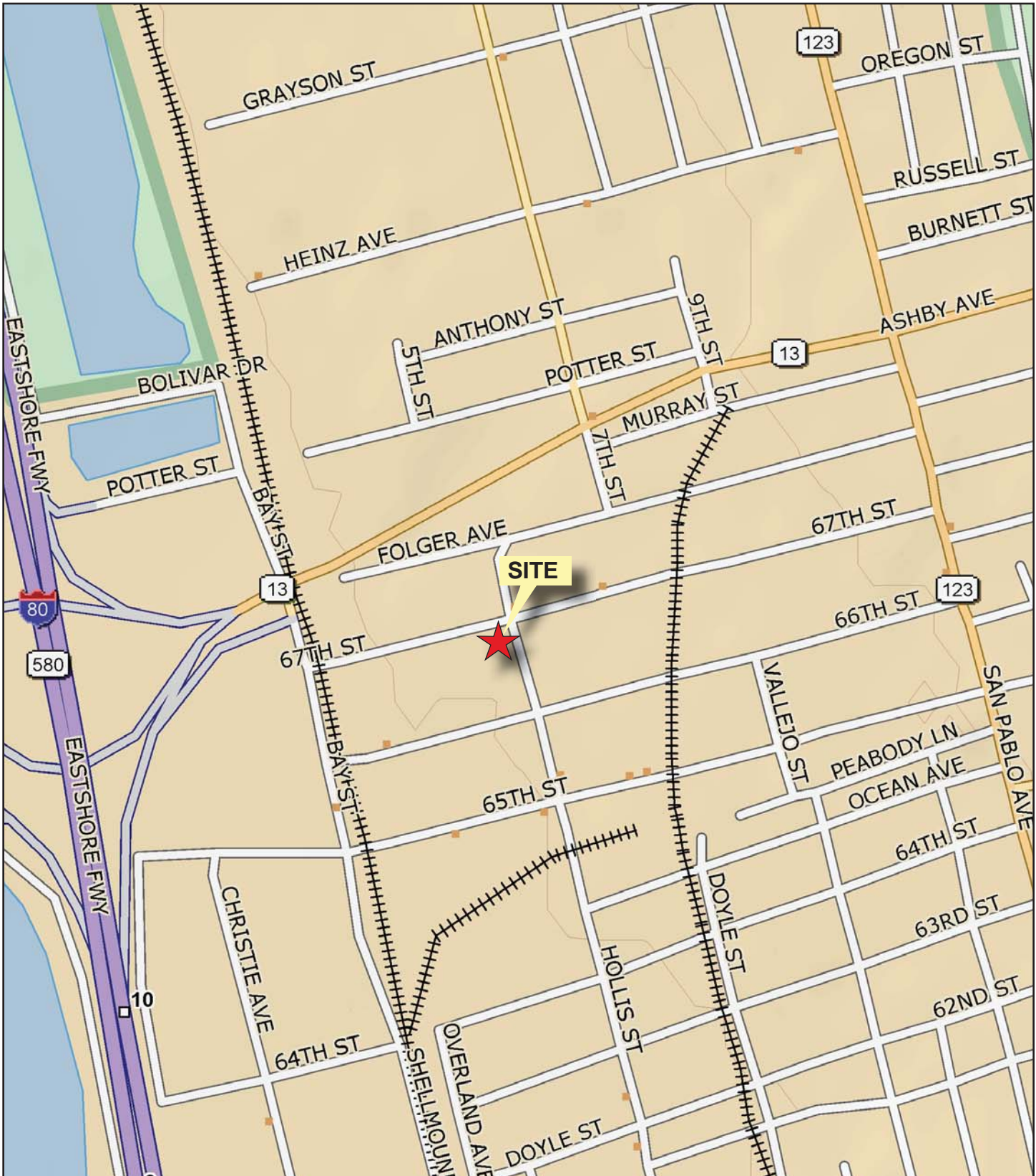
Former McGrath Steel  
6655 Hollis Street  
Emeryville, California  
AllWest Project No. 14011.28


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)
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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





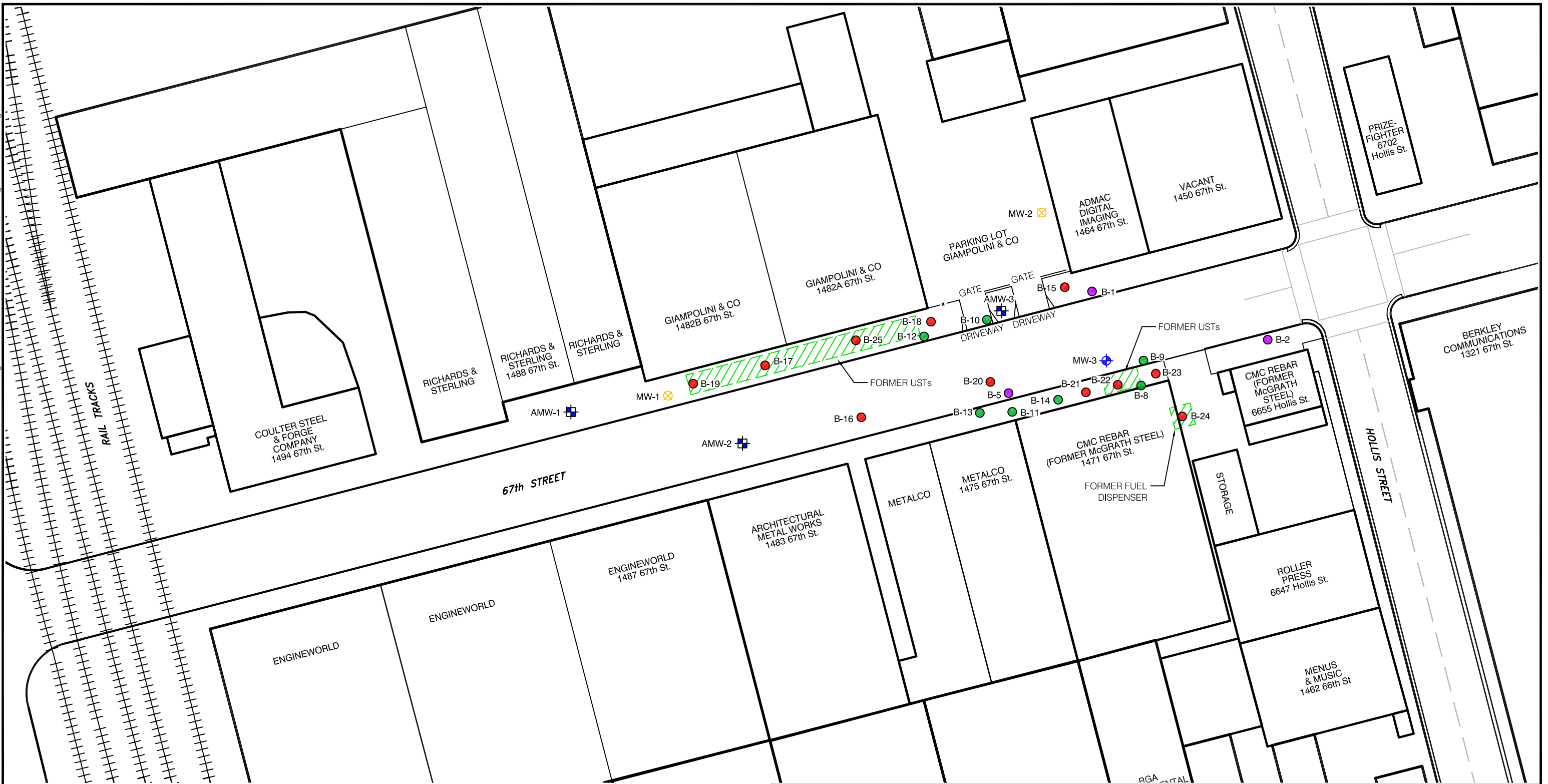
MN (14.0° E)



PROJECT NO.  
14011.28

VICINITY MAP
FIGURE 1
6655 HOLLIS STREET
EMERYVILLE, CALIFORNIA 94608
SOURCE: DELORME TOPO
PREPARED BY: D. CAMACHO
DATE: 7/31/14

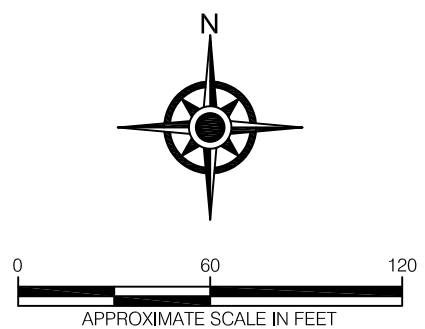
C:\Drawing Files\AllWest Environmental\14011.28\2014-Q1\Fig 2. Site Plan W-Boring & MW Locations - 04/05/2014



**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.  
14011.28

**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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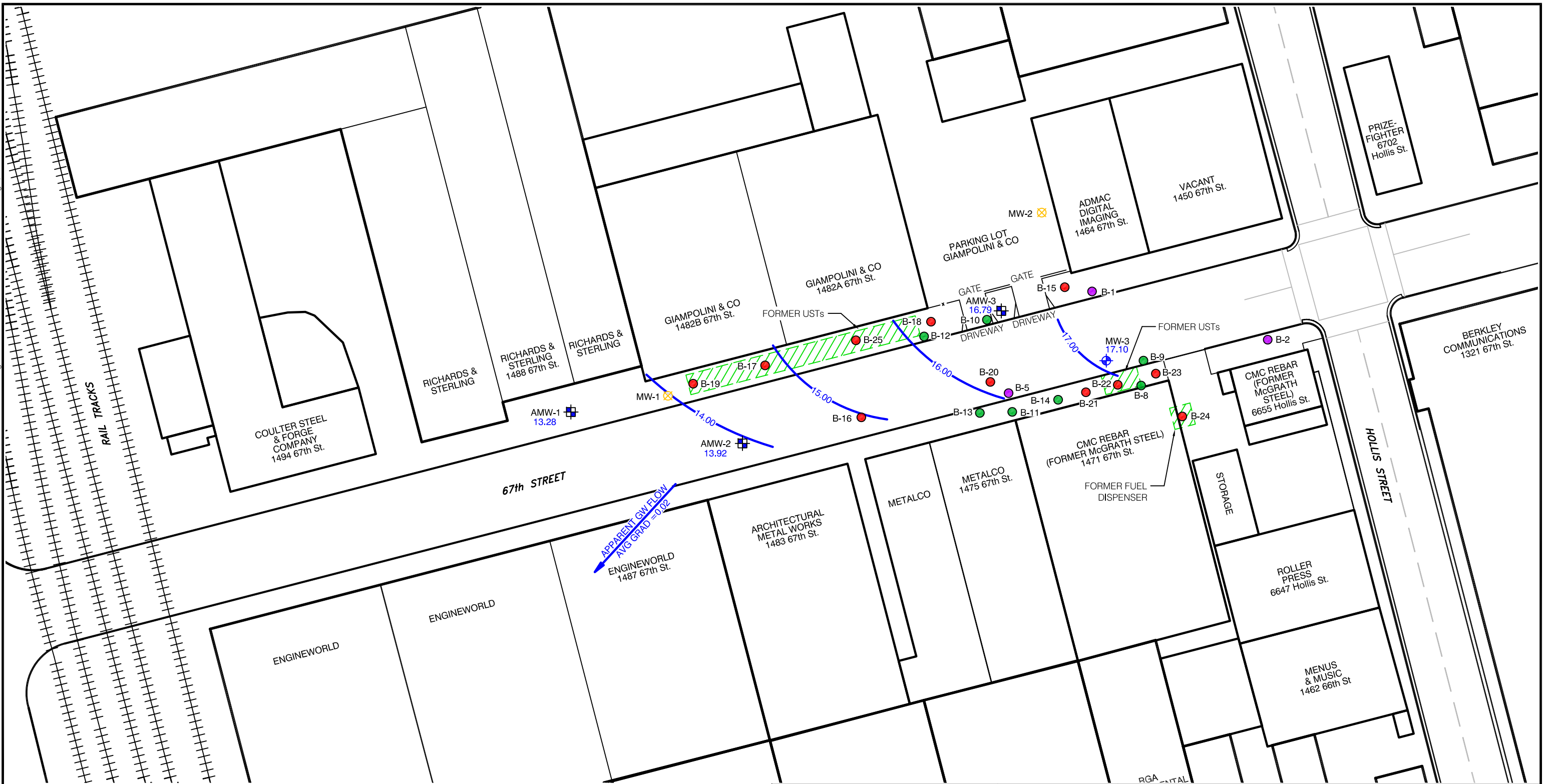
SOURCE: Morrow Surveying and Google Earth

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DRAWN BY: CM (04/07/2014)



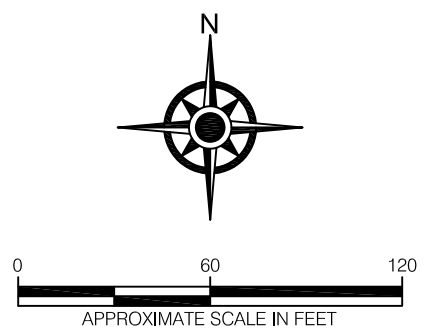
C:\Drawing Files\AllWest Environmental\14011.28\2014-02\Fig 3. GW Elevation Contours 06-20-2014 - 07/01/2014



**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  
16.79
- 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



**AllWest**

PROJECT NO.  
14011.28

**FIGURE 3**  
**GROUNDWATER ELEVATION CONTOURS**  
**JUNE 20, 2014**

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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 (07/01/2014)

C:\Drawing Files\AllWest Environmental\14011.28\2014\Q2\Fig 4. TPH-g Iso-Contours In GW 06-20-2014 - 07/07/2014

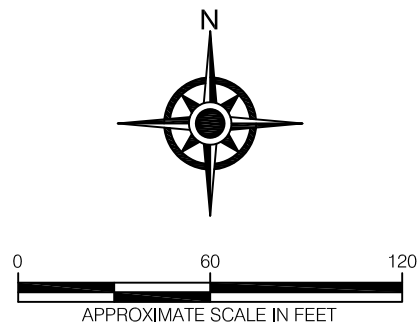


**LEGEND**

- MW-3  54,000 MONITORING WELL (ESC, 1995) WITH TPH-g CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
- AMW-3  320 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:**  
TPH-g- Total Petroleum Hydrocarbons as Gasoline



PROJECT NO.  
14011.28

**FIGURE 4**  
**TPH-g ISOCONCENTRATION**  
**CONTOURS IN GROUNDWATER**  
**JUNE 20, 2014**

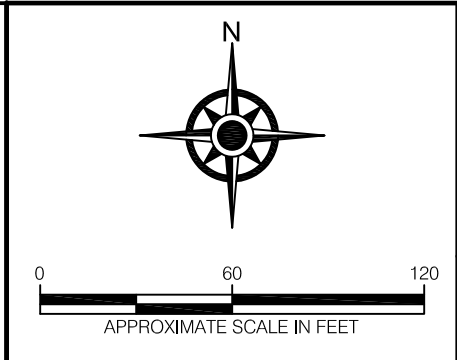
Former McGrath Steel  
6655 Hollis Street, Emeryville, California  
SOURCE: Morrow Surveying and Google Earth  
DRAWN BY: CM (07/07/2014)

C:\Drawing Files\AllWest Environmental\14011.28\2014\Q2\Fig.5\_TPH-d Iso-Contours In GW 06-20-2014 - 07/07/2014



LEGEND	
MW-3 12,000	MONITORING WELL (ESC, 1995) WITH TPH-d CONCENTRATION IN MICROGRAMS PER LITER ( $\mu\text{g/L}$ ) - DASHED WHERE INFERRED
AMW-3 220	MONITORING WELL (ALLWEST, 2013) WITH TPH-d CONCENTRATION IN MICROGRAMS PER LITER ( $\mu\text{g/L}$ ) - DASHED WHERE INFERRED
B-25 340	SOIL BORING (JANUARY 16, 17, & 18, 2013) WITH TPH-d CONCENTRATION IN MICROGRAMS PER LITER ( $\mu\text{g/L}$ ) - DASHED WHERE INFERRED

	FORMER USTs, FUEL DISPENSERS (REMOVED 1994 & 1996)
	FENCE
<b>NOTE:</b> TPH-d - Total Petroleum Hydrocarbons as Diesel	

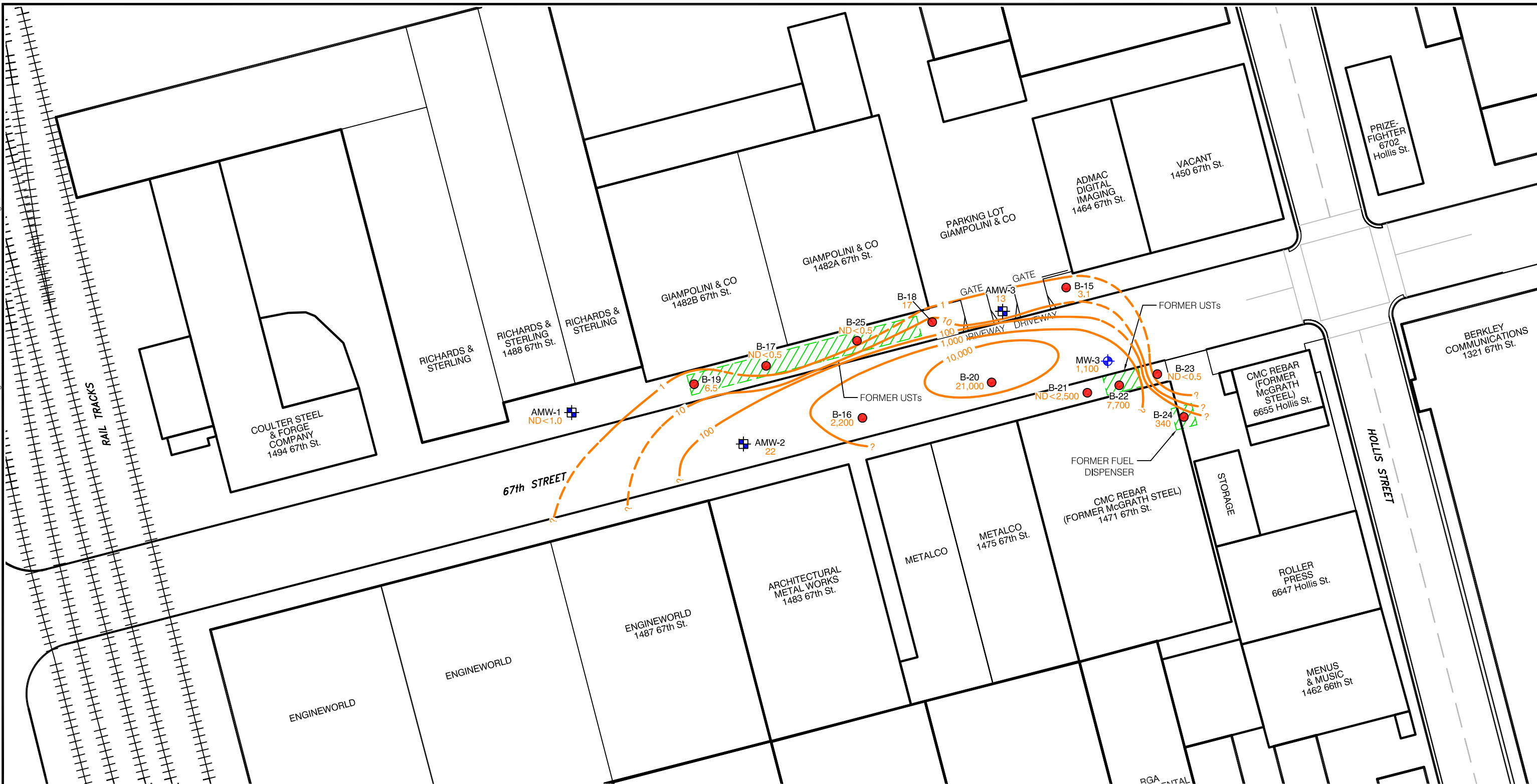



**AllWest**

PROJECT NO.  
14011.28

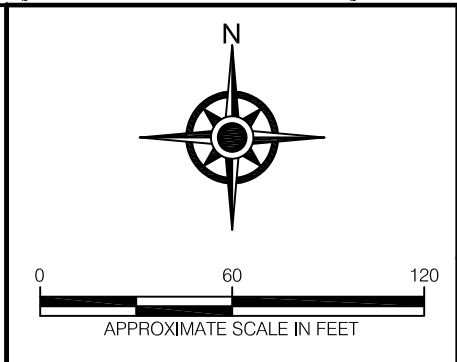
FIGURE 5 TPH-d ISOCONCENTRATION CONTOURS IN GROUNDWATER JUNE 20, 2014	
Former McGrath Steel	
6655 Hollis Street, Emeryville, California	
SOURCE: Morrow Surveying and Google Earth	
DRAWN BY: CM	(07/07/2014)





LEGEND	
MW-3 1,100	MONITORING WELL (ESC, 1995) WITH BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L) - DASHED WHERE INFERRED
AMW-3 13	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




**AllWest**

FIGURE 6 BENZENE ISOCONCENTRATION CONTOURS IN GROUNDWATER JUNE 20, 2014	
Former McGrath Steel	
6655 Hollis Street, Emeryville, California	
SOURCE: Morrow Surveying and Google Earth	
PROJECT NO. 14011.28	DRAWN BY: CM (07/07/2014)



# 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: MW-3

Page 1 of 1

SITE NAME: Hollis-Emergyville	LOCATION: Emergyville, CA
PROJECT NO: 14011-28	DATE PURGED: 6/20/14
PURGED/SAMPLED BY: CMA	DATE SAMPLED: 6/20/14
TIME SAMPLED: 1220	DEPTH TO BOTTOM (feet): 29.50
DEPTH TO WATER (feet): 8.45	WATER COLUMN HEIGHT (feet): 21.05
CALCULATED PURGE (gallons): 10.11	CASING VOLUME (gallons): 3.37
ACTUAL PURGE (gallons): 10	

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)

(gallons per foot):

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	pH	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
2.5	1100	20.0	6.13	2120		Clear/Cloudy
5	1110	19.6	6.14	1833		Silty
7.5	1201	20.1	6.15	1594		Silty
10	1206	19.3	6.15	1550		Silty

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

SAMPLE DEPTH TO WATER (feet): 10.56 Analyses: 8015 w/s.g.; VOCs 8260; PNAs 8270

80% RECHARGE: Y/N

SAMPLE TURBIDITY: Cloudy / Silty

ODOR: Strong HCl SAMPLE BOTTLE/PRESERVATIVE: 4 Vials/unpreserved, 1 Amber/HCl, 1 Amber none

PURGING EQUIPMENT

Centrifugal Pump  
 Submersible Pump  
 Peristaltic Pump  
 Purge Pump  
 Other: \_\_\_\_\_

Bailer (Teflon)  
 Bailer (PVC or disposable)  
 Bailer (Stainless Steel)

SAMPLING EQUIPMENT

Centrifugal Pump  
 Submersible Pump  
 Peristaltic Pump  
 Purge Pump  
 Other: \_\_\_\_\_

Bailer (Teflon)  
 Bailer (PVC or disposable)  
 Bailer (Stainless Steel)

Comments: Initial DTW 9.70 ft. @ 1000. Removed skimmer. No f.p. visible in skimmer, none detected by probe. DTW 8.45 ft @ 1044. Skimmer displaces water. Sheen visible in bailer. Lost bailer down well - still need to retrieve. Needed to use unpreserved VAs - samples reacted with HCl.



AllWest

PURGE TABLE

WELL ID: AMW-2  
Page 1 of 1

SITE NAME: <u>Hollis - Emeryville</u>	LOCATION: <u>Emeryville, CA</u>
PROJECT NO: <u>14011-28</u>	DATE PURGED: <u>6/20/14</u>
PURGED/SAMPLED BY: <u>CM</u>	DATE SAMPLED: <u>6/20/14</u>
TIME SAMPLED: <u>14:13</u>	DEPTH TO BOTTOM (feet): <u>29.91</u>
DEPTH TO WATER (feet): <u>9.51</u>	WATER COLUMN HEIGHT (feet): <u>20.40</u>
CALCULATED PURGE (gallons): <u>9.78</u>	CASING VOLUME (gallons): <u>3.26</u>
ACTUAL PURGE (gallons) <u>10</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):

$0.16(20.4) = 3.26$   $\times 3 = 9.78$

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	pH	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
2.5	1340	21.2	6.30	1837		clear/cloudy
5	1350	21.1	6.26	1869		cloudy
7.5	1400	20.2	6.25	1667		cloudy
10	1409	20.1	6.26	1624		cloudy

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

SAMPLE DEPTH TO WATER (feet): 9.53 Analyses: w/sg., VOCs 8260, PAHs/PNAs 8270  
80% RECHARGE Y/N SAMPLE TURBIDITY: cloudy  
ODOR: Slight HC SAMPLE BOTTLE/PRESERVATIVE: 4 VOAs, 1 Amber / HCl, 1 Amber / 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-1  
Page \_\_\_ of \_\_\_

SITE NAME: <u>Hollis - Emeryville</u>	LOCATION: <u>Hollis - Emeryville</u>
PROJECT NO: <u>14011-28</u>	DATE PURGED: <u>6/20/14</u>
PURGED/SAMPLED BY: <u>OMA</u>	DATE SAMPLED: <u>6/20/14</u>
TIME SAMPLED: <u>1511</u>	DEPTH TO BOTTOM (feet): <u>23.43</u>
DEPTH TO WATER (feet): <u>8.81</u>	WATER COLUMN HEIGHT (feet): <u>14.62</u>
CALCULATED PURGE (gallons): <u>7.02</u>	CASING VOLUME (gallons): <u>2.34</u>
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): 0.16(14.62) = 2.34

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	pH	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
2	1435	22.5	6.68	1262		clear/cloudy
4	1445	22.0	6.45	1207		cloudy
6	1450	21.6	6.42	1224		cloudy
7	1456	21.4	6.37	1261		Silty

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

SAMPLE DEPTH TO WATER (feet): 8.83 Analyses: W/S.G., VOCs 8260, PNAS 8010  
 80% RECHARGE: Y/N SAMPLE TURBIDITY: Silty  
 ODOR: None SAMPLE BOTTLE/PRESERVATIVE: 4 VOCs/HCl, 1 Amber/HCl, 1 Amber/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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



PURGE TABLE

WELL ID: AMW-3  
Page \_\_\_ of \_\_\_

SITE NAME: <u>Hollis - Emeryville</u>	LOCATION: <u>Emeryville, CA</u>
PROJECT NO: <u>14011-28</u>	DATE PURGED: <u>6/20/14</u>
PURGED/SAMPLED BY: <u>MA</u>	DATE SAMPLED: <u>6/20/14</u>
TIME SAMPLED: <u>1610</u>	DEPTH TO BOTTOM (feet): <u>22.23</u>
DEPTH TO WATER (feet): <u>8.37</u>	WATER COLUMN HEIGHT (feet): <u>13.86</u>
CALCULATED PURGE (gallons): <u>6.66</u>	CASING VOLUME (gallons): <u>2.22</u>
ACTUAL PURGE (gallons) <u>7</u>	

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(13.86) = 2.2176

FIELD MEASUREMENTS

VOLUME (gal)	TIME	TEMP (degrees C)	pH	CONDUCTIVITY (µS)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTU)
<u>2</u>	<u>1543</u>	<u>20.8</u>	<u>6.46</u>	<u>1039</u>		<u>Cloudy</u>
<u>4</u>	<u>1550</u>	<u>20.3</u>	<u>6.43</u>	<u>985</u>		<u>cloudy</u>
<u>6</u>	<u>1559</u>	<u>20.1</u>	<u>6.42</u>	<u>981</u>		<u>Cloudy</u>
<u>7</u>	<u>1605</u>	<u>20.0</u>	<u>6.36</u>	<u>958</u>		<u>Cloudy</u>

SAMPLE DEPTH TO WATER (feet): 8.39 SAMPLE INFORMATION TPH-g, ms 8015, TPH-d 8015  
 80% RECHARGE: Y/N Analyses: W/S.G., VOCs 8260, PNAS/PAHs 8270  
 ODOR: Slight H.C. SAMPLE TURBIDITY: Cloudy  
 SAMPLE BOTTLE/PRESERVATIVE: 4 VOA, 1 Amber/HCl, 1 Amber/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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# APPENDIX C





# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1406891 **Amended:** 07/08/2014

**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:** #14011.28; HollisEmeryville

**Project Received:** 06/24/2014

Analytical Report reviewed & approved for release on 07/02/2014 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:** #14011.28; HollisEmeryville  
**WorkOrder:** 1406891

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not detected at or above the indicated MDL or RL
NR	Matrix interferences, or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix; or sample diluted due to high matrix or analyte content.
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
TEQ	Toxicity Equivalence

### Analytical Qualifiers

S	spike recovery outside accepted recovery limits
a19	reporting limit near, but not identical to our standard reporting limit due to variable water sample volume
c2	surrogate recovery outside of the control limits due to matrix interference.
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d1	weakly modified or unmodified gasoline is significant
e4	gasoline range compounds are significant.



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-001A	Water	06/20/2014 15:11	GC10	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		20	2	07/02/2014 11:28
tert-Amyl methyl ether (TAME)	ND		1.0	2	07/02/2014 11:28
Benzene	ND		1.0	2	07/02/2014 11:28
Bromobenzene	ND		1.0	2	07/02/2014 11:28
Bromochloromethane	ND		1.0	2	07/02/2014 11:28
Bromodichloromethane	ND		1.0	2	07/02/2014 11:28
Bromoform	ND		1.0	2	07/02/2014 11:28
Bromomethane	ND		1.0	2	07/02/2014 11:28
2-Butanone (MEK)	ND		4.0	2	07/02/2014 11:28
t-Butyl alcohol (TBA)	ND		4.0	2	07/02/2014 11:28
n-Butyl benzene	ND		1.0	2	07/02/2014 11:28
sec-Butyl benzene	ND		1.0	2	07/02/2014 11:28
tert-Butyl benzene	ND		1.0	2	07/02/2014 11:28
Carbon Disulfide	ND		1.0	2	07/02/2014 11:28
Carbon Tetrachloride	ND		1.0	2	07/02/2014 11:28
Chlorobenzene	ND		1.0	2	07/02/2014 11:28
Chloroethane	ND		1.0	2	07/02/2014 11:28
Chloroform	ND		1.0	2	07/02/2014 11:28
Chloromethane	ND		1.0	2	07/02/2014 11:28
2-Chlorotoluene	ND		1.0	2	07/02/2014 11:28
4-Chlorotoluene	ND		1.0	2	07/02/2014 11:28
Dibromochloromethane	ND		1.0	2	07/02/2014 11:28
1,2-Dibromo-3-chloropropane	ND		0.40	2	07/02/2014 11:28
1,2-Dibromoethane (EDB)	ND		1.0	2	07/02/2014 11:28
Dibromomethane	ND		1.0	2	07/02/2014 11:28
1,2-Dichlorobenzene	ND		1.0	2	07/02/2014 11:28
1,3-Dichlorobenzene	ND		1.0	2	07/02/2014 11:28
1,4-Dichlorobenzene	ND		1.0	2	07/02/2014 11:28
Dichlorodifluoromethane	ND		1.0	2	07/02/2014 11:28
1,1-Dichloroethane	<b>1.8</b>		1.0	2	07/02/2014 11:28
1,2-Dichloroethane (1,2-DCA)	ND		1.0	2	07/02/2014 11:28
1,1-Dichloroethene	<b>21</b>		1.0	2	07/02/2014 11:28
cis-1,2-Dichloroethene	ND		1.0	2	07/02/2014 11:28
trans-1,2-Dichloroethene	ND		1.0	2	07/02/2014 11:28
1,2-Dichloropropane	ND		1.0	2	07/02/2014 11:28
1,3-Dichloropropane	ND		1.0	2	07/02/2014 11:28
2,2-Dichloropropane	ND		1.0	2	07/02/2014 11:28
1,1-Dichloropropene	ND		1.0	2	07/02/2014 11:28

(Cont.)



# Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-001A	Water	06/20/2014 15:11	GC10	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		1.0	2	07/02/2014 11:28
trans-1,3-Dichloropropene	ND		1.0	2	07/02/2014 11:28
Diisopropyl ether (DIPE)	ND		1.0	2	07/02/2014 11:28
Ethylbenzene	ND		1.0	2	07/02/2014 11:28
Ethyl tert-butyl ether (ETBE)	ND		1.0	2	07/02/2014 11:28
Freon 113	ND		1.0	2	07/02/2014 11:28
Hexachlorobutadiene	ND		1.0	2	07/02/2014 11:28
Hexachloroethane	ND		1.0	2	07/02/2014 11:28
2-Hexanone	ND		1.0	2	07/02/2014 11:28
Isopropylbenzene	ND		1.0	2	07/02/2014 11:28
4-Isopropyl toluene	ND		1.0	2	07/02/2014 11:28
Methyl-t-butyl ether (MTBE)	2.3		1.0	2	07/02/2014 11:28
Methylene chloride	ND		1.0	2	07/02/2014 11:28
4-Methyl-2-pentanone (MIBK)	ND		1.0	2	07/02/2014 11:28
Naphthalene	ND		1.0	2	07/02/2014 11:28
n-Propyl benzene	ND		1.0	2	07/02/2014 11:28
Styrene	ND		1.0	2	07/02/2014 11:28
1,1,1,2-Tetrachloroethane	ND		1.0	2	07/02/2014 11:28
1,1,2,2-Tetrachloroethane	ND		1.0	2	07/02/2014 11:28
Tetrachloroethene	ND		1.0	2	07/02/2014 11:28
Toluene	ND		1.0	2	07/02/2014 11:28
1,2,3-Trichlorobenzene	ND		1.0	2	07/02/2014 11:28
1,2,4-Trichlorobenzene	ND		1.0	2	07/02/2014 11:28
1,1,1-Trichloroethane	ND		1.0	2	07/02/2014 11:28
1,1,2-Trichloroethane	ND		1.0	2	07/02/2014 11:28
Trichloroethene	5.4		1.0	2	07/02/2014 11:28
Trichlorofluoromethane	ND		1.0	2	07/02/2014 11:28
1,2,3-Trichloropropane	ND		1.0	2	07/02/2014 11:28
1,2,4-Trimethylbenzene	ND		1.0	2	07/02/2014 11:28
1,3,5-Trimethylbenzene	ND		1.0	2	07/02/2014 11:28
Vinyl Chloride	ND		1.0	2	07/02/2014 11:28
Xylenes, Total	ND		1.0	2	07/02/2014 11:28
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	94		70-130		07/02/2014 11:28
Toluene-d8	94		70-130		07/02/2014 11:28
4-BFB	99		70-130		07/02/2014 11:28

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-002A	Water	06/20/2014 14:13	GC28	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	07/02/2014 02:05
tert-Amyl methyl ether (TAME)	ND		5.0	10	07/02/2014 02:05
Benzene	22		5.0	10	07/02/2014 02:05
Bromobenzene	ND		5.0	10	07/02/2014 02:05
Bromochloromethane	ND		5.0	10	07/02/2014 02:05
Bromodichloromethane	ND		5.0	10	07/02/2014 02:05
Bromoform	ND		5.0	10	07/02/2014 02:05
Bromomethane	ND		5.0	10	07/02/2014 02:05
2-Butanone (MEK)	ND		20	10	07/02/2014 02:05
t-Butyl alcohol (TBA)	ND		20	10	07/02/2014 02:05
n-Butyl benzene	ND		5.0	10	07/02/2014 02:05
sec-Butyl benzene	ND		5.0	10	07/02/2014 02:05
tert-Butyl benzene	ND		5.0	10	07/02/2014 02:05
Carbon Disulfide	ND		5.0	10	07/02/2014 02:05
Carbon Tetrachloride	ND		5.0	10	07/02/2014 02:05
Chlorobenzene	ND		5.0	10	07/02/2014 02:05
Chloroethane	ND		5.0	10	07/02/2014 02:05
Chloroform	ND		5.0	10	07/02/2014 02:05
Chloromethane	ND		5.0	10	07/02/2014 02:05
2-Chlorotoluene	ND		5.0	10	07/02/2014 02:05
4-Chlorotoluene	ND		5.0	10	07/02/2014 02:05
Dibromochloromethane	ND		5.0	10	07/02/2014 02:05
1,2-Dibromo-3-chloropropane	ND		2.0	10	07/02/2014 02:05
1,2-Dibromoethane (EDB)	ND		5.0	10	07/02/2014 02:05
Dibromomethane	ND		5.0	10	07/02/2014 02:05
1,2-Dichlorobenzene	ND		5.0	10	07/02/2014 02:05
1,3-Dichlorobenzene	ND		5.0	10	07/02/2014 02:05
1,4-Dichlorobenzene	ND		5.0	10	07/02/2014 02:05
Dichlorodifluoromethane	ND		5.0	10	07/02/2014 02:05
1,1-Dichloroethane	ND		5.0	10	07/02/2014 02:05
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	07/02/2014 02:05
1,1-Dichloroethene	ND		5.0	10	07/02/2014 02:05
cis-1,2-Dichloroethene	ND		5.0	10	07/02/2014 02:05
trans-1,2-Dichloroethene	ND		5.0	10	07/02/2014 02:05
1,2-Dichloropropane	ND		5.0	10	07/02/2014 02:05
1,3-Dichloropropane	ND		5.0	10	07/02/2014 02:05
2,2-Dichloropropane	ND		5.0	10	07/02/2014 02:05
1,1-Dichloropropene	ND		5.0	10	07/02/2014 02:05

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# Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-002A	Water	06/20/2014 14:13	GC28	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		5.0	10	07/02/2014 02:05
trans-1,3-Dichloropropene	ND		5.0	10	07/02/2014 02:05
Diisopropyl ether (DIPE)	ND		5.0	10	07/02/2014 02:05
Ethylbenzene	11		5.0	10	07/02/2014 02:05
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	07/02/2014 02:05
Freon 113	ND		5.0	10	07/02/2014 02:05
Hexachlorobutadiene	ND		5.0	10	07/02/2014 02:05
Hexachloroethane	ND		5.0	10	07/02/2014 02:05
2-Hexanone	ND		5.0	10	07/02/2014 02:05
Isopropylbenzene	ND		5.0	10	07/02/2014 02:05
4-Isopropyl toluene	ND		5.0	10	07/02/2014 02:05
Methyl-t-butyl ether (MTBE)	380		5.0	10	07/02/2014 02:05
Methylene chloride	ND		5.0	10	07/02/2014 02:05
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	07/02/2014 02:05
Naphthalene	8.4		5.0	10	07/02/2014 02:05
n-Propyl benzene	ND		5.0	10	07/02/2014 02:05
Styrene	ND		5.0	10	07/02/2014 02:05
1,1,1,2-Tetrachloroethane	ND		5.0	10	07/02/2014 02:05
1,1,2,2-Tetrachloroethane	ND		5.0	10	07/02/2014 02:05
Tetrachloroethene	ND		5.0	10	07/02/2014 02:05
Toluene	ND		5.0	10	07/02/2014 02:05
1,2,3-Trichlorobenzene	ND		5.0	10	07/02/2014 02:05
1,2,4-Trichlorobenzene	ND		5.0	10	07/02/2014 02:05
1,1,1-Trichloroethane	ND		5.0	10	07/02/2014 02:05
1,1,2-Trichloroethane	ND		5.0	10	07/02/2014 02:05
Trichloroethene	ND		5.0	10	07/02/2014 02:05
Trichlorofluoromethane	ND		5.0	10	07/02/2014 02:05
1,2,3-Trichloropropane	ND		5.0	10	07/02/2014 02:05
1,2,4-Trimethylbenzene	40		5.0	10	07/02/2014 02:05
1,3,5-Trimethylbenzene	ND		5.0	10	07/02/2014 02:05
Vinyl Chloride	ND		5.0	10	07/02/2014 02:05
Xylenes, Total	44		5.0	10	07/02/2014 02:05
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	91		70-130		07/02/2014 02:05
Toluene-d8	93		70-130		07/02/2014 02:05
4-BFB	85		70-130		07/02/2014 02:05

(Cont.)



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-003A	Water	06/20/2014 16:10	GC28	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		50	5	07/02/2014 02:44
tert-Amyl methyl ether (TAME)	ND		2.5	5	07/02/2014 02:44
Benzene	13		2.5	5	07/02/2014 02:44
Bromobenzene	ND		2.5	5	07/02/2014 02:44
Bromochloromethane	ND		2.5	5	07/02/2014 02:44
Bromodichloromethane	ND		2.5	5	07/02/2014 02:44
Bromoform	ND		2.5	5	07/02/2014 02:44
Bromomethane	ND		2.5	5	07/02/2014 02:44
2-Butanone (MEK)	ND		10	5	07/02/2014 02:44
t-Butyl alcohol (TBA)	ND		10	5	07/02/2014 02:44
n-Butyl benzene	ND		2.5	5	07/02/2014 02:44
sec-Butyl benzene	ND		2.5	5	07/02/2014 02:44
tert-Butyl benzene	ND		2.5	5	07/02/2014 02:44
Carbon Disulfide	ND		2.5	5	07/02/2014 02:44
Carbon Tetrachloride	ND		2.5	5	07/02/2014 02:44
Chlorobenzene	ND		2.5	5	07/02/2014 02:44
Chloroethane	ND		2.5	5	07/02/2014 02:44
Chloroform	ND		2.5	5	07/02/2014 02:44
Chloromethane	ND		2.5	5	07/02/2014 02:44
2-Chlorotoluene	ND		2.5	5	07/02/2014 02:44
4-Chlorotoluene	ND		2.5	5	07/02/2014 02:44
Dibromochloromethane	ND		2.5	5	07/02/2014 02:44
1,2-Dibromo-3-chloropropane	ND		1.0	5	07/02/2014 02:44
1,2-Dibromoethane (EDB)	ND		2.5	5	07/02/2014 02:44
Dibromomethane	ND		2.5	5	07/02/2014 02:44
1,2-Dichlorobenzene	ND		2.5	5	07/02/2014 02:44
1,3-Dichlorobenzene	ND		2.5	5	07/02/2014 02:44
1,4-Dichlorobenzene	ND		2.5	5	07/02/2014 02:44
Dichlorodifluoromethane	ND		2.5	5	07/02/2014 02:44
1,1-Dichloroethane	3.4		2.5	5	07/02/2014 02:44
1,2-Dichloroethane (1,2-DCA)	ND		2.5	5	07/02/2014 02:44
1,1-Dichloroethene	74		2.5	5	07/02/2014 02:44
cis-1,2-Dichloroethene	ND		2.5	5	07/02/2014 02:44
trans-1,2-Dichloroethene	ND		2.5	5	07/02/2014 02:44
1,2-Dichloropropane	ND		2.5	5	07/02/2014 02:44
1,3-Dichloropropane	ND		2.5	5	07/02/2014 02:44
2,2-Dichloropropane	ND		2.5	5	07/02/2014 02:44
1,1-Dichloropropene	ND		2.5	5	07/02/2014 02:44

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-003A	Water	06/20/2014 16:10	GC28	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		2.5	5	07/02/2014 02:44
trans-1,3-Dichloropropene	ND		2.5	5	07/02/2014 02:44
Diisopropyl ether (DIPE)	ND		2.5	5	07/02/2014 02:44
Ethylbenzene	44		2.5	5	07/02/2014 02:44
Ethyl tert-butyl ether (ETBE)	ND		2.5	5	07/02/2014 02:44
Freon 113	ND		2.5	5	07/02/2014 02:44
Hexachlorobutadiene	ND		2.5	5	07/02/2014 02:44
Hexachloroethane	ND		2.5	5	07/02/2014 02:44
2-Hexanone	ND		2.5	5	07/02/2014 02:44
Isopropylbenzene	ND		2.5	5	07/02/2014 02:44
4-Isopropyl toluene	ND		2.5	5	07/02/2014 02:44
Methyl-t-butyl ether (MTBE)	ND		2.5	5	07/02/2014 02:44
Methylene chloride	ND		2.5	5	07/02/2014 02:44
4-Methyl-2-pentanone (MIBK)	ND		2.5	5	07/02/2014 02:44
Naphthalene	12		2.5	5	07/02/2014 02:44
n-Propyl benzene	7.5		2.5	5	07/02/2014 02:44
Styrene	ND		2.5	5	07/02/2014 02:44
1,1,1,2-Tetrachloroethane	ND		2.5	5	07/02/2014 02:44
1,1,2,2-Tetrachloroethane	ND		2.5	5	07/02/2014 02:44
Tetrachloroethene	ND		2.5	5	07/02/2014 02:44
Toluene	ND		2.5	5	07/02/2014 02:44
1,2,3-Trichlorobenzene	ND		2.5	5	07/02/2014 02:44
1,2,4-Trichlorobenzene	ND		2.5	5	07/02/2014 02:44
1,1,1-Trichloroethane	2.8		2.5	5	07/02/2014 02:44
1,1,2-Trichloroethane	ND		2.5	5	07/02/2014 02:44
Trichloroethene	9.9		2.5	5	07/02/2014 02:44
Trichlorofluoromethane	ND		2.5	5	07/02/2014 02:44
1,2,3-Trichloropropane	ND		2.5	5	07/02/2014 02:44
1,2,4-Trimethylbenzene	6.8		2.5	5	07/02/2014 02:44
1,3,5-Trimethylbenzene	ND		2.5	5	07/02/2014 02:44
Vinyl Chloride	ND		2.5	5	07/02/2014 02:44
Xylenes, Total	2.9		2.5	5	07/02/2014 02:44
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	91		70-130		07/02/2014 02:44
Toluene-d8	92		70-130		07/02/2014 02:44
4-BFB	88		70-130		07/02/2014 02:44

(Cont.)





## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-004A	Water	06/20/2014 12:20	GC28	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		2000	200	07/02/2014 03:22
tert-Amyl methyl ether (TAME)	ND		100	200	07/02/2014 03:22
Benzene	<b>1100</b>		100	200	07/02/2014 03:22
Bromobenzene	ND		100	200	07/02/2014 03:22
Bromochloromethane	ND		100	200	07/02/2014 03:22
Bromodichloromethane	ND		100	200	07/02/2014 03:22
Bromoform	ND		100	200	07/02/2014 03:22
Bromomethane	ND		100	200	07/02/2014 03:22
2-Butanone (MEK)	ND		400	200	07/02/2014 03:22
t-Butyl alcohol (TBA)	<b>790</b>		400	200	07/02/2014 03:22
n-Butyl benzene	ND		100	200	07/02/2014 03:22
sec-Butyl benzene	ND		100	200	07/02/2014 03:22
tert-Butyl benzene	ND		100	200	07/02/2014 03:22
Carbon Disulfide	ND		100	200	07/02/2014 03:22
Carbon Tetrachloride	ND		100	200	07/02/2014 03:22
Chlorobenzene	ND		100	200	07/02/2014 03:22
Chloroethane	ND		100	200	07/02/2014 03:22
Chloroform	ND		100	200	07/02/2014 03:22
Chloromethane	ND		100	200	07/02/2014 03:22
2-Chlorotoluene	ND		100	200	07/02/2014 03:22
4-Chlorotoluene	ND		100	200	07/02/2014 03:22
Dibromochloromethane	ND		100	200	07/02/2014 03:22
1,2-Dibromo-3-chloropropane	ND		40	200	07/02/2014 03:22
1,2-Dibromoethane (EDB)	ND		100	200	07/02/2014 03:22
Dibromomethane	ND		100	200	07/02/2014 03:22
1,2-Dichlorobenzene	ND		100	200	07/02/2014 03:22
1,3-Dichlorobenzene	ND		100	200	07/02/2014 03:22
1,4-Dichlorobenzene	ND		100	200	07/02/2014 03:22
Dichlorodifluoromethane	ND		100	200	07/02/2014 03:22
1,1-Dichloroethane	ND		100	200	07/02/2014 03:22
1,2-Dichloroethane (1,2-DCA)	ND		100	200	07/02/2014 03:22
1,1-Dichloroethene	ND		100	200	07/02/2014 03:22
cis-1,2-Dichloroethene	ND		100	200	07/02/2014 03:22
trans-1,2-Dichloroethene	ND		100	200	07/02/2014 03:22
1,2-Dichloropropane	ND		100	200	07/02/2014 03:22
1,3-Dichloropropane	ND		100	200	07/02/2014 03:22
2,2-Dichloropropane	ND		100	200	07/02/2014 03:22
1,1-Dichloropropene	ND		100	200	07/02/2014 03:22

(Cont.)



# Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 7/2/14

**WorkOrder:** 1406891  
**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	1406891-004A	Water	06/20/2014 12:20	GC28	92310
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
cis-1,3-Dichloropropene	ND		100	200	07/02/2014 03:22
trans-1,3-Dichloropropene	ND		100	200	07/02/2014 03:22
Diisopropyl ether (DIPE)	ND		100	200	07/02/2014 03:22
Ethylbenzene	ND		100	200	07/02/2014 03:22
Ethyl tert-butyl ether (ETBE)	ND		100	200	07/02/2014 03:22
Freon 113	ND		100	200	07/02/2014 03:22
Hexachlorobutadiene	ND		100	200	07/02/2014 03:22
Hexachloroethane	ND		100	200	07/02/2014 03:22
2-Hexanone	ND		100	200	07/02/2014 03:22
Isopropylbenzene	ND		100	200	07/02/2014 03:22
4-Isopropyl toluene	ND		100	200	07/02/2014 03:22
Methyl-t-butyl ether (MTBE)	2700		100	200	07/02/2014 03:22
Methylene chloride	ND		100	200	07/02/2014 03:22
4-Methyl-2-pentanone (MIBK)	ND		100	200	07/02/2014 03:22
Naphthalene	420		100	200	07/02/2014 03:22
n-Propyl benzene	ND		100	200	07/02/2014 03:22
Styrene	ND		100	200	07/02/2014 03:22
1,1,1,2-Tetrachloroethane	ND		100	200	07/02/2014 03:22
1,1,2,2-Tetrachloroethane	ND		100	200	07/02/2014 03:22
Tetrachloroethene	ND		100	200	07/02/2014 03:22
Toluene	ND		100	200	07/02/2014 03:22
1,2,3-Trichlorobenzene	ND		100	200	07/02/2014 03:22
1,2,4-Trichlorobenzene	ND		100	200	07/02/2014 03:22
1,1,1-Trichloroethane	ND		100	200	07/02/2014 03:22
1,1,2-Trichloroethane	ND		100	200	07/02/2014 03:22
Trichloroethene	ND		100	200	07/02/2014 03:22
Trichlorofluoromethane	ND		100	200	07/02/2014 03:22
1,2,3-Trichloropropane	ND		100	200	07/02/2014 03:22
1,2,4-Trimethylbenzene	2300		100	200	07/02/2014 03:22
1,3,5-Trimethylbenzene	610		100	200	07/02/2014 03:22
Vinyl Chloride	ND		100	200	07/02/2014 03:22
Xylenes, Total	5700		100	200	07/02/2014 03:22
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	92		70-130		07/02/2014 03:22
Toluene-d8	93		70-130		07/02/2014 03:22
4-BFB	87		70-130		07/02/2014 03:22



# Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 6/26/14

**WorkOrder:** 1406891  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-1	1406891-001C	Water	06/20/2014 15:11	GC21	92104
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		2.1	1	06/27/2014 18:23
Acenaphthylene	ND		2.1	1	06/27/2014 18:23
Anthracene	ND		2.1	1	06/27/2014 18:23
Benzo (a) anthracene	ND		2.1	1	06/27/2014 18:23
Benzo (b) fluoranthene	ND		2.1	1	06/27/2014 18:23
Benzo (k) fluoranthene	ND		2.1	1	06/27/2014 18:23
Benzo (g,h,i) perylene	ND		2.1	1	06/27/2014 18:23
Benzo (a) pyrene	ND		2.1	1	06/27/2014 18:23
Chrysene	ND		2.1	1	06/27/2014 18:23
Dibenzo (a,h) anthracene	ND		2.1	1	06/27/2014 18:23
Fluoranthene	ND		2.1	1	06/27/2014 18:23
Fluorene	ND		2.1	1	06/27/2014 18:23
Indeno (1,2,3-cd) pyrene	ND		2.1	1	06/27/2014 18:23
1-Methylnaphthalene	ND		11	1	06/27/2014 18:23
2-Methylnaphthalene	ND		2.1	1	06/27/2014 18:23
Naphthalene	ND		2.1	1	06/27/2014 18:23
Phenanthrene	ND		2.1	1	06/27/2014 18:23
Pyrene	ND		2.1	1	06/27/2014 18:23
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: a19	
2-Fluorophenol	27		8-130		06/27/2014 18:23
Phenol-d5	22		5-130		06/27/2014 18:23
Nitrobenzene-d5	51		20-140		06/27/2014 18:23
2-Fluorobiphenyl	58		40-140		06/27/2014 18:23
2,4,6-Tribromophenol	111		16-180		06/27/2014 18:23
4-Terphenyl-d14	107		40-170		06/27/2014 18:23

(Cont.)



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 6/26/14

**WorkOrder:** 1406891  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-2	1406891-002C	Water	06/20/2014 14:13	GC21	92104
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		2.1	1	06/27/2014 17:28
Acenaphthylene	ND		2.1	1	06/27/2014 17:28
Anthracene	ND		2.1	1	06/27/2014 17:28
Benzo (a) anthracene	ND		2.1	1	06/27/2014 17:28
Benzo (b) fluoranthene	ND		2.1	1	06/27/2014 17:28
Benzo (k) fluoranthene	ND		2.1	1	06/27/2014 17:28
Benzo (g,h,i) perylene	ND		2.1	1	06/27/2014 17:28
Benzo (a) pyrene	ND		2.1	1	06/27/2014 17:28
Chrysene	ND		2.1	1	06/27/2014 17:28
Dibenzo (a,h) anthracene	ND		2.1	1	06/27/2014 17:28
Fluoranthene	ND		2.1	1	06/27/2014 17:28
Fluorene	ND		2.1	1	06/27/2014 17:28
Indeno (1,2,3-cd) pyrene	ND		2.1	1	06/27/2014 17:28
1-Methylnaphthalene	ND		10	1	06/27/2014 17:28
2-Methylnaphthalene	ND		2.1	1	06/27/2014 17:28
Naphthalene	2.1		2.1	1	06/27/2014 17:28
Phenanthrene	ND		2.1	1	06/27/2014 17:28
Pyrene	ND		2.1	1	06/27/2014 17:28
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
2-Fluorophenol	24		8-130		06/27/2014 17:28
Phenol-d5	23		5-130		06/27/2014 17:28
Nitrobenzene-d5	53		20-140		06/27/2014 17:28
2-Fluorobiphenyl	66		40-140		06/27/2014 17:28
2,4,6-Tribromophenol	130		16-180		06/27/2014 17:28
4-Terphenyl-d14	129		40-170		06/27/2014 17:28

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## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 6/26/14

**WorkOrder:** 1406891  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
AMW-3	1406891-003C	Water	06/20/2014 16:10	GC21	92104
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		1.5	1	06/27/2014 17:55
Acenaphthylene	ND		1.5	1	06/27/2014 17:55
Anthracene	ND		1.5	1	06/27/2014 17:55
Benzo (a) anthracene	ND		1.5	1	06/27/2014 17:55
Benzo (b) fluoranthene	ND		1.5	1	06/27/2014 17:55
Benzo (k) fluoranthene	ND		1.5	1	06/27/2014 17:55
Benzo (g,h,i) perylene	ND		1.5	1	06/27/2014 17:55
Benzo (a) pyrene	ND		1.5	1	06/27/2014 17:55
Chrysene	ND		1.5	1	06/27/2014 17:55
Dibenzo (a,h) anthracene	ND		1.5	1	06/27/2014 17:55
Fluoranthene	ND		1.5	1	06/27/2014 17:55
Fluorene	ND		1.5	1	06/27/2014 17:55
Indeno (1,2,3-cd) pyrene	ND		1.5	1	06/27/2014 17:55
1-Methylnaphthalene	ND		7.4	1	06/27/2014 17:55
2-Methylnaphthalene	ND		1.5	1	06/27/2014 17:55
Naphthalene	2.3		1.5	1	06/27/2014 17:55
Phenanthrene	ND		1.5	1	06/27/2014 17:55
Pyrene	ND		1.5	1	06/27/2014 17:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
2-Fluorophenol	48		8-130		06/27/2014 17:55
Phenol-d5	36		5-130		06/27/2014 17:55
Nitrobenzene-d5	74		20-140		06/27/2014 17:55
2-Fluorobiphenyl	70		40-140		06/27/2014 17:55
2,4,6-Tribromophenol	103		16-180		06/27/2014 17:55
4-Terphenyl-d14	102		40-170		06/27/2014 17:55

(Cont.)



# Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 6/26/14

**WorkOrder:** 1406891  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
MW-3	1406891-004C	Water	06/20/2014 12:20	GC21	92104

Analytes	Result	RL	DF	Date Analyzed
Acenaphthene	ND	21	10	06/30/2014 20:46
Acenaphthylene	ND	21	10	06/30/2014 20:46
Anthracene	ND	21	10	06/30/2014 20:46
Benzo (a) anthracene	ND	21	10	06/30/2014 20:46
Benzo (b) fluoranthene	ND	21	10	06/30/2014 20:46
Benzo (k) fluoranthene	ND	21	10	06/30/2014 20:46
Benzo (g,h,i) perylene	ND	21	10	06/30/2014 20:46
Benzo (a) pyrene	ND	21	10	06/30/2014 20:46
Chrysene	ND	21	10	06/30/2014 20:46
Dibenzo (a,h) anthracene	ND	21	10	06/30/2014 20:46
Fluoranthene	ND	21	10	06/30/2014 20:46
Fluorene	ND	21	10	06/30/2014 20:46
Indeno (1,2,3-cd) pyrene	ND	21	10	06/30/2014 20:46
1-Methylnaphthalene	110	110	10	06/30/2014 20:46
2-Methylnaphthalene	210	21	10	06/30/2014 20:46
Naphthalene	410	21	10	06/30/2014 20:46
Phenanthrene	ND	21	10	06/30/2014 20:46
Pyrene	ND	21	10	06/30/2014 20:46

Surrogates	REC (%)	Limits	Date Analyzed
2-Fluorophenol	48	8-130	06/30/2014 20:46
Phenol-d5	37	5-130	06/30/2014 20:46
Nitrobenzene-d5	81	20-140	06/30/2014 20:46
2-Fluorobiphenyl	95	40-140	06/30/2014 20:46
2,4,6-Tribromophenol	108	16-180	06/30/2014 20:46
4-Terphenyl-d14	126	40-170	06/30/2014 20:46



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 6/26/14-6/28/14

**WorkOrder:** 1406891  
**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>1406891-001B</b>	<b>Water</b>	<b>06/20/2014 15:11</b>	<b>GC3</b>	<b>92072</b>

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	06/27/2014 22:54
TPH(mineral spirits)	ND	50	1	06/27/2014 22:54
MTBE	---	5.0	1	06/27/2014 22:54
Benzene	---	0.50	1	06/27/2014 22:54
Toluene	---	0.50	1	06/27/2014 22:54
Ethylbenzene	---	0.50	1	06/27/2014 22:54
Xylenes	---	0.50	1	06/27/2014 22:54
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: c2
aaa-TFT	152	S	70-130	06/27/2014 22:54

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>AMW-2</b>	<b>1406891-002B</b>	<b>Water</b>	<b>06/20/2014 14:13</b>	<b>GC3</b>	<b>92072</b>

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	<b>370</b>	50	1	06/26/2014 21:05
TPH(mineral spirits)	<b>270</b>	50	1	06/26/2014 21:05
MTBE	---	50	10	06/28/2014 00:52
Benzene	---	0.50	1	06/26/2014 21:05
Toluene	---	0.50	1	06/26/2014 21:05
Ethylbenzene	---	0.50	1	06/26/2014 21:05
Xylenes	---	0.50	1	06/26/2014 21:05
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	Analytical Comments: d1	
aaa-TFT	107		70-130	06/26/2014 21:05

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>AMW-3</b>	<b>1406891-003B</b>	<b>Water</b>	<b>06/20/2014 16:10</b>	<b>GC3</b>	<b>92072</b>

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	<b>320</b>	50	1	06/26/2014 21:35
TPH(mineral spirits)	<b>250</b>	50	1	06/26/2014 21:35
MTBE	---	5.0	1	06/26/2014 21:35
Benzene	---	0.50	1	06/26/2014 21:35
Toluene	---	0.50	1	06/26/2014 21:35
Ethylbenzene	---	0.50	1	06/26/2014 21:35
Xylenes	---	0.50	1	06/26/2014 21:35
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: d1,c4
aaa-TFT	235	S	70-130	06/26/2014 21:35

(Cont.)



## Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 6/26/14-6/28/14

**WorkOrder:** 1406891  
**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	1406891-004B	Water	06/20/2014 12:20	GC3	92072
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>54,000</b>		5000	100	06/26/2014 01:04
TPH(mineral spirits)	<b>26,000</b>		5000	100	06/26/2014 01:04
MTBE	---		500	100	06/26/2014 01:04
Benzene	---		50	100	06/26/2014 01:04
Toluene	---		50	100	06/26/2014 01:04
Ethylbenzene	---		50	100	06/26/2014 01:04
Xylenes	---		50	100	06/26/2014 01:04
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: d1	
aaa-TFT	112		70-130	06/26/2014 01:04	





# Analytical Report

**Client:** All West Environmental, Inc  
**Project:** #14011.28; HollisEmeryville  
**Date Received:** 6/24/14 17:42  
**Date Prepared:** 6/24/14

**WorkOrder:** 1406891  
**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>1406891-001B</b>	<b>Water</b>	<b>06/20/2014 15:11</b>	<b>GC2A</b>	<b>91958</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		100	1	06/27/2014 05:45
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	112		70-130		06/27/2014 05:45
<b>AMW-2</b>	<b>1406891-002B</b>	<b>Water</b>	<b>06/20/2014 14:13</b>	<b>GC2A</b>	<b>91958</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>110</b>		50	1	06/27/2014 07:00
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e4	
C9	112		70-130		06/27/2014 07:00
<b>AMW-3</b>	<b>1406891-003B</b>	<b>Water</b>	<b>06/20/2014 16:10</b>	<b>GC9a</b>	<b>91958</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>220</b>		100	1	06/29/2014 03:14
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e4	
C9	103		70-130		06/29/2014 03:14
<b>MW-3</b>	<b>1406891-004B</b>	<b>Water</b>	<b>06/20/2014 12:20</b>	<b>GC11A</b>	<b>91958</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>12,000</b>		2500	50	06/30/2014 16:16
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e4	
C9	113		70-130		06/30/2014 16:16



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 7/2/14  
**Date Analyzed:** 7/1/14  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #14011.28; HollisEmeryville

**WorkOrder:** 1406891  
**BatchID:** 92310  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-92310  
 1406891-004AMS/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	8.98	0.50	10	-	89.8	70-130
Benzene	ND	8.93	0.50	10	-	89.3	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	37.7	2.0	40	-	94.3	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	9.13	0.50	10	-	91.3	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	8.52	0.50	10	-	85.2	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	8.43	0.50	10	-	84.3	70-130
1,1-Dichloroethene	ND	8.71	0.50	10	-	87.1	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:** 7/2/14  
**Date Analyzed:** 7/1/14  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #14011.28; HollisEmeryville

**WorkOrder:** 1406891  
**BatchID:** 92310  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-92310  
 1406891-004AMS/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	8.59	0.50	10	-	85.9	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	8.95	0.50	10	-	89.5	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	9.22	0.50	10	-	92.2	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	7.95	0.50	10	-	79.5	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	9.27	0.50	10	-	92.7	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	23.1	31.9		35	92	91	70-130
Toluene-d8	23.3	31.7		35	93	91	70-130
4-BFB	2.21	3.00		3.5	89	86	70-130

(Cont.)



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 7/2/14  
**Date Analyzed:** 7/1/14  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #14011.28; HollisEmeryville

**WorkOrder:** 1406891  
**BatchID:** 92310  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-92310  
 1406891-004AMS/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)	NR	NR	0	ND<100	NR	NR	-	NR	
Benzene	NR	NR	0	1100	NR	NR	-	NR	
t-Butyl alcohol (TBA)	NR	NR	0	790	NR	NR	-	NR	
Chlorobenzene	NR	NR	0	ND<100	NR	NR	-	NR	
1,2-Dibromoethane (EDB)	NR	NR	0	ND<100	NR	NR	-	NR	
1,2-Dichloroethane (1,2-DCA)	NR	NR	0	ND<100	NR	NR	-	NR	
1,1-Dichloroethene	NR	NR	0	ND<100	NR	NR	-	NR	
Diisopropyl ether (DIPE)	NR	NR	0	ND<100	NR	NR	-	NR	
Ethyl tert-butyl ether (ETBE)	NR	NR	0	ND<100	NR	NR	-	NR	
Methyl-t-butyl ether (MTBE)	NR	NR	0	2700	NR	NR	-	NR	
Toluene	NR	NR	0	ND<100	NR	NR	-	NR	
Trichloroethene	NR	NR	0	ND<100	NR	NR	-	NR	

**Surrogate Recovery**

Dibromofluoromethane	NR	NR	0		NR	NR	-	NR	
Toluene-d8	NR	NR	0		NR	NR	-	NR	
4-BFB	NR	NR	0		NR	NR	-	NR	



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 6/26/14  
**Date Analyzed:** 6/26/14  
**Instrument:** GC21  
**Matrix:** Water  
**Project:** #14011.28; HollisEmeryville

**WorkOrder:** 1406891  
**BatchID:** 92104  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L  
**Sample ID:** MB/LCS-92104

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	17.4	1.0	20	-	86.8	47-145
Acenaphthylene	ND	-	1.0	-	-	-	-
Anthracene	ND	-	1.0	-	-	-	-
Benzidine	ND	-	5.0	-	-	-	-
Benzo (a) anthracene	ND	-	1.0	-	-	-	-
Benzo (b) fluoranthene	ND	-	1.0	-	-	-	-
Benzo (k) fluoranthene	ND	-	1.0	-	-	-	-
Benzo (g,h,i) perylene	ND	-	1.0	-	-	-	-
Benzo (a) pyrene	ND	-	1.0	-	-	-	-
Bis (2-chloroethoxy) Methane	ND	-	1.0	-	-	-	-
Bis (2-chloroethyl) Ether	ND	-	1.0	-	-	-	-
Bis (2-chloroisopropyl) Ether	ND	-	1.0	-	-	-	-
Bis (2-ethylhexyl) Adipate	ND	-	1.0	-	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	-	2.0	-	-	-	-
4-Bromophenyl Phenyl Ether	ND	-	5.0	-	-	-	-
Butylbenzyl Phthalate	ND	-	1.0	-	-	-	-
4-Chloro-3-methylphenol	ND	21.3	1.0	20	-	106	22-147
2-Chloronaphthalene	ND	-	1.0	-	-	-	-
2-Chlorophenol	ND	14.5	1.0	20	-	72.5	23-134
4-Chlorophenyl Phenyl Ether	ND	-	1.0	-	-	-	-
Chrysene	ND	-	1.0	-	-	-	-
Dibenzo (a,h) anthracene	ND	-	1.0	-	-	-	-
Di-n-butyl Phthalate	ND	-	1.0	-	-	-	-
1,2-Dichlorobenzene	ND	-	1.0	-	-	-	-
1,3-Dichlorobenzene	ND	-	1.0	-	-	-	-
1,4-Dichlorobenzene	ND	11.4	1.0	20	-	57	20-124
3,3-Dichlorobenzidine	ND	-	2.0	-	-	-	-
2,4-Dichlorophenol	ND	-	1.0	-	-	-	-
Diethyl Phthalate	ND	-	1.0	-	-	-	-
2,4-Dimethylphenol	ND	-	1.0	-	-	-	-
Dimethyl Phthalate	ND	-	1.0	-	-	-	-
4,6-Dinitro-2-methylphenol	ND	-	5.0	-	-	-	-
2,4-Dinitrophenol	ND	-	5.0	-	-	-	-
2,4-Dinitrotoluene	ND	22.0	1.0	20	-	110	39-139
2,6-Dinitrotoluene	ND	-	1.0	-	-	-	-
Di-n-octyl Phthalate	ND	-	2.0	-	-	-	-
1,2-Diphenylhydrazine	ND	-	1.0	-	-	-	-
Fluoranthene	ND	-	1.0	-	-	-	-
Fluorene	ND	-	1.0	-	-	-	-
Hexachlorobenzene	ND	-	1.0	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 6/26/14  
**Date Analyzed:** 6/26/14  
**Instrument:** GC21  
**Matrix:** Water  
**Project:** #14011.28; HollisEmeryville

**WorkOrder:** 1406891  
**BatchID:** 92104  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L  
**Sample ID:** MB/LCS-92104

### QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Hexachlorobutadiene	ND	-	1.0	-	-	-	-
Hexachlorocyclopentadiene	ND	-	5.0	-	-	-	-
Hexachloroethane	ND	-	1.0	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	1.0	-	-	-	-
Isophorone	ND	-	1.0	-	-	-	-
2-Methylphenol (o-cresol)	ND	-	1.0	-	-	-	-
3 &/or 4-Methylphenol (m,p-Cresol)	ND	-	1.0	-	-	-	-
Naphthalene	ND	-	1.0	-	-	-	-
Nitrobenzene	ND	-	1.0	-	-	-	-
2-Nitrophenol	ND	-	5.0	-	-	-	-
4-Nitrophenol	ND	109	5.0	100	-	109	0-132
N-Nitrosodimethylamine	ND	-	5.0	-	-	-	-
N-Nitrosodiphenylamine	ND	-	1.0	-	-	-	-
N-Nitrosodi-n-propylamine	ND	16.8	1.0	20	-	83.9	0-230
Pentachlorophenol	ND	43.9	5.0	40	-	110	14-176
Phenanthrene	ND	-	1.0	-	-	-	-
Phenol	ND	16.2	1.0	20	-	80.9	5-112
Pyrene	ND	20.6	1.0	20	-	103	52-115
1,2,4-Trichlorobenzene	ND	12.8	1.0	20	-	63.9	44-142
2,4,6-Trichlorophenol	ND	-	1.0	-	-	-	-
<b>Surrogate Recovery</b>							
2-Fluorophenol	15.4	15.1		20	77	75	8-130
Phenol-d5	18.1	19.5		20	90	97	5-130
Nitrobenzene-d5	13.6	16.8		20	68	84	20-140
2-Fluorobiphenyl	14.0	17.5		20	70	87	40-140
2,4,6-Tribromophenol	20.9	23.8		20	104	119	30-180
Terphenyl-d14	24.6	26.9		20	123	135	40-170



## Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 6/26/14  
**Date Analyzed:** 6/25/14  
**Instrument:** GC3  
**Matrix:** Water  
**Project:** #14011.28; HollisEmeryville

**WorkOrder:** 1406891  
**BatchID:** 92072  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L  
**Sample ID:** MB/LCS-92072  
 1406917-005AMS/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	59.4	40	60	-	99	70-130
MTBE	ND	9.88	5.0	10	-	98.9	70-130
Benzene	ND	9.70	0.50	10	-	97	70-130
Toluene	ND	9.70	0.50	10	-	97	70-130
Ethylbenzene	ND	9.76	0.50	10	-	97.6	70-130
Xylenes	ND	29.5	0.50	30	-	98.2	70-130

**Surrogate Recovery**

aaa-TFT	9.79	9.60		10	98	96	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)	63.4	60.5	60	ND	106	101	70-130	4.53	20
MTBE	9.95	9.45	10	ND	99.5	94.5	70-130	5.17	20
Benzene	10.9	10.1	10	ND	109	101	70-130	6.87	20
Toluene	10.9	10.2	10	ND	109	102	70-130	7.15	20
Ethylbenzene	10.9	10.3	10	ND	109	103	70-130	5.32	20
Xylenes	33.0	31.3	30	ND	110	104	70-130	5.46	20

**Surrogate Recovery**

aaa-TFT	10.0	9.70	10		100	97	70-130	3.51	20
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# Quality Control Report

**Client:** All West Environmental, Inc  
**Date Prepared:** 6/23/14  
**Date Analyzed:** 6/25/14  
**Instrument:** GC11B  
**Matrix:** Water  
**Project:** #14011.28; HollisEmeryville

**WorkOrder:** 1406891  
**BatchID:** 91958  
**Extraction Method:** SW3510C/3630C  
**Analytical Method:** SW8015B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-91958

## 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	927	50	1000	-	92.7	70-130
<b>Surrogate Recovery</b>							
C9	684	660		625	109	106	70-130

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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1406891

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/3rd Party:  
 PO:  
 ProjectNo: #14011.28; HollisEmeryville

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

**Requested TAT: 5 days**

**Date Received: 06/24/2014**

**Date Printed: 07/02/2014**

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
1406891-001	AMW-1	Water	6/20/2014 15:11	<input type="checkbox"/>	A	C	B	A								
1406891-002	AMW-2	Water	6/20/2014 14:13	<input type="checkbox"/>	A	C	B									
1406891-003	AMW-3	Water	6/20/2014 16:10	<input type="checkbox"/>	A	C	B									
1406891-004	MW-3	Water	6/20/2014 12:20	<input type="checkbox"/>	A	C	B									

**Test Legend:**

1	8260B_W	2	8270D_W	3	G-MBTEx_W	4	PREDF REPORT	5	
6		7		8		9		10	
11		12							

The following SamplIDs: 001B, 002B, 003B, 004B contain testgroup.

**Prepared by: Jena Alfaro**

**Comments:**

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



## WORK ORDER SUMMARY

**Client Name:** ALL WEST ENVIRONMENTAL, INC

**QC Level:** LEVEL 2

**Work Order:** 1406891

**Project:** #14011.28; HollisEmeryville

**Client Contact:** Christopher Houlihan

**Date Received:** 6/24/2014

**Comments:**

**Contact's Email:** choulihan@allwest1.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1406891-001A	AMW-1	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	6/20/2014 15:11	5 days	Present	<input type="checkbox"/>	
1406891-001B	AMW-1	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	2	VOA w/ HCl	<input type="checkbox"/>	6/20/2014 15:11	5 days	Present	<input type="checkbox"/>	
				1	1LA w/ HCl	<input type="checkbox"/>			Present	<input type="checkbox"/>	
1406891-001C	AMW-1	Water	SW8270C (SVOCs)	1	1LA	<input type="checkbox"/>	6/20/2014 15:11	5 days	Present	<input type="checkbox"/>	
1406891-002A	AMW-2	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	6/20/2014 14:13	5 days	Present	<input type="checkbox"/>	
1406891-002B	AMW-2	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	2	VOA w/ HCl	<input type="checkbox"/>	6/20/2014 14:13	5 days	Present	<input type="checkbox"/>	
				1	1LA w/ HCl	<input type="checkbox"/>			Present	<input type="checkbox"/>	
1406891-002C	AMW-2	Water	SW8270C (SVOCs)	1	1LA	<input type="checkbox"/>	6/20/2014 14:13	5 days	Present	<input type="checkbox"/>	
1406891-003A	AMW-3	Water	SW8260B (VOCs)	2	VOA w/ HCl	<input type="checkbox"/>	6/20/2014 16:10	5 days	Present	<input type="checkbox"/>	
1406891-003B	AMW-3	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	2	VOA w/ HCl	<input type="checkbox"/>	6/20/2014 16:10	5 days	Present	<input type="checkbox"/>	
				1	1LA w/ HCl	<input type="checkbox"/>			Present	<input type="checkbox"/>	
1406891-003C	AMW-3	Water	SW8270C (SVOCs)	1	1LA	<input type="checkbox"/>	6/20/2014 16:10	5 days	Present	<input type="checkbox"/>	
1406891-004A	MW-3	Water	SW8260B (VOCs)	2	VOA	<input type="checkbox"/>	6/20/2014 12:20	5 days	Present	<input type="checkbox"/>	
1406891-004B	MW-3	Water	Multi-Range TPH(g,d,mo) w/ S.G. Clean-Up	2	VOA	<input type="checkbox"/>	6/20/2014 12:20	5 days	Present	<input type="checkbox"/>	
				1	1LA w/ HCl	<input type="checkbox"/>			Present	<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

1LA = 1L Amber Glass Jar, Unpreserved  
 1LA w/ HCl = 1L Amber Glass Jar w/ Hydrochloric acid  
 VOA = 43mL VOA, Unpreserved

VOA w/ HCl = 43mL VOA w/ HCl



## WORK ORDER SUMMARY

**Client Name:** ALL WEST ENVIRONMENTAL, INC

**QC Level:** LEVEL 2

**Work Order:** 1406891

**Project:** #14011.28; HollisEmeryville

**Client Contact:** Christopher Houlihan

**Date Received:** 6/24/2014

**Comments:**

**Contact's Email:** choulihan@allwest1.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1406891-004C	MW-3	Water	SW8270C (SVOCs)	1	1LA	<input type="checkbox"/>	6/20/2014 12:20	5 days	Present	<input type="checkbox"/>	

**\* NOTE: STLC and TCLP extractions require 48 hrs to complete; therefore, all TATs begin after the extraction is completed (i.e., 24hr TAT yields results in 72 hrs from sample submission).**

**Bottle Legend:**

1LA = 1L Amber Glass Jar, Unpreserved  
 1LA w/ HCl = 1L Amber Glass Jar w/ Hydrochloric acid  
 VOA = 43mL VOA, Unpreserved

VOA w/ HCl = 43mL VOA w/ HCl



# McC Campbell Analytical, Inc.

1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701  
 www.mccampbell.com / main@mccampbell.com  
 Telephone: (877) 252-9262 / Fax: (925) 252-9269

Geotracker Global ID #T0600102099

1400891

PAGE 1 of 2

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH  1 DAY  2 DAY  3 DAY  5 DAY   
 GeoTracker EDF  PDF  EDD  Write On (DW)  EQUIS  10 DAY   
 Effluent Sample Requiring "J" flag  UST Clean Up Fund Project ; Claim # \_\_\_\_\_

Report To: Christopher Houlihan Bill To: choulihan@allwest1.com  
 Company: AllWest Environmental, Inc.  
 2141 Mission Street, Suite 100  
 San Francisco, CA 94110 E-Mail: choulihan@allwest1.com  
 Tele: (415) 391-2510 Fax: ( )  
 Project #: 14011.28 Project Name: HollisEmeryville  
 Project Location: Emeryville, CA Purchase Order#  
 Sampler Signature: *Christopher Houlihan*

### Analysis Request

SAMPLE ID	Location/ Field Point Name	SAMPLING		# Containers	MATRIX								METHOD PRESERVED	BTEX/ MTBE & TPH as Gas (8021/ 8015)	TPH as Diesel (8015) with silica gel cleanup	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	BTEX/ MTBE & TPH as Gas (8260)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAS)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Metals (200.7 / 200.8 / 6010 / 6020)	Filter sample for DISSOLVED metals analysis	TPH-g, TPH mineral spirits by 8015/8021							
		Date	Time		Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	HCL																		HNO <sub>3</sub>	Other					
AMW-1	AMW-1	6/20/14	1511	2	X																	X															
AMW-1	AMW-1	6/20/14	1511	2	X																														X		
AMW-1	AMW-1	6/20/14	1511	1	X										X																						
AMW-1	AMW-1	6/20/14	1511	1	X																						X										
AMW-2	AMW-2	6/20/14	1413	2	X																		X													X	
AMW-2	AMW-2	6/20/14	1413	2	X																															X	
AMW-2	AMW-2	6/20/14	1413	1	X																																
AMW-2	AMW-2	6/20/14	1413	1	X																					X											
AMW-3	AMW-3	6/20/14	1610	2	X																		X														
AMW-3	AMW-3	6/20/14	1610	2	X																																X
AMW-3	AMW-3	6/20/14	1610	1	X																																

\*\*MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate \$250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

Relinquished By: <i>Christopher Houlihan</i>	Date: 6/23/14	Time: 1400	Received By: <i>[Signature]</i>	COMMENTS: ICE/4° <u>  </u> GOOD CONDITION _____ HEAD SPACE ABSENT _____ DECHLORINATED IN LAB _____ APPROPRIATE CONTAINERS _____ PRESERVED IN LAB _____  VOAS O&G METALS OTHER HAZARDOUS: PRESERVATION _____ pH<2 _____
Relinquished By: <i>[Signature]</i>	Date: 6/23/14	Time: _____	Received By: <i>[Signature]</i>	
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	







### Sample Receipt Checklist

Client Name: **All West Environmental, Inc** Date and Time Received: **6/24/2014 5:42:31 PM**  
 Project Name: **#14011.28; HollisEmeryville** Login Reviewed by: **Jena Alfaro**  
 WorkOrder No: **1406891** 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: 6°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: pH<2; 522: pH<4)? 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:** 2Q 2014 GROUNDWATER MONITORING REPORT

Former McGrath Steel  
6655 Hollis Street and 1471 67th Street  
Emeryville, California

**PROJECT NUMBER:** 14011.28

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.