

August 22, 2017

Johnny Browning  
6200 Shattuck Partners, LLC  
15 Mulberry Court, #5  
Belmont, CA 94002  
Phone: 650-271-6842  
Email: johnnywgroup@gmail.com

**Re.: Second Quarter 2017 Groundwater Monitoring Report  
Automasters  
6200 Shattuck Avenue  
Oakland, California  
ACEH Case #RO2935**

I declare, that to the best of my knowledge at the present time, the information and/or recommendations contained in the attached document are true and correct.

Submitted by,



Johnny Browning  
LLC Manager  
15 Mulberry Court, #5  
Belmont, CA 94002

**GROUNDWATER MONITORING REPORT  
SECOND QUARTER 2017**

**Automasters  
Leaking Underground Tank Site  
6200 Shattuck Avenue  
Oakland  
Case No. RO2935**

***Prepared for:***

**6200 Shattuck Partners LLC  
Oakland**

***Submitted to:***

**Alameda County Department of Environmental Health  
Oakland**

***Prepared by:***

**West & Associates Environmental Engineers, Inc.  
Vacaville**

**September 2017**

## ACKNOWLEDGMENTS

This Groundwater Monitoring Report was prepared under authorization of our client, the Automasters property owner, and is intended for his exclusive use.

Groundwater investigation at the Automasters site is under jurisdiction of Alameda County Department of Environmental Health; 5550 Skyline Blvd., Suite A, Oakland, California 95403. The case has been assigned No. RO0002935.

In the preparation of this Site Assessment reliance was made on previous environmental investigation performed by Pangea in 2006.

The Automasters site has been assigned the GeoTracker Global ID T0619748201.

In the completion of this project reliance was made on chemical analytical testing performed by McCampbell Analytical in Pittsburg. McCampbell is certified by the State of California for the analyses performed.

This Report was prepared by West & Associates Environmental Engineers, Inc.; 630 Eubanks Ct., Unit G, Vacaville, California 95688. Principal author is Mr. Brian W. West, PE, (707) 761-2307; RCE 32319, expires 12/31/18.



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## 1.0 INTRODUCTION

This Groundwater Monitoring Report presents results of field measurements, hydrologic evaluation and groundwater analysis activities completed at the Automasters leaking underground fuel tank site located at 6200 Shattuck Avenue in Oakland, CA.

The Automasters site regional setting is shown on *Figure 1*. An aerial view of the property is presented on *Figure 2*. Both figures are included in *Appendix A*.

### 1.1 Scope

The scope of this project consisted of performing groundwater monitoring in the first encountered groundwater zone at the subject site. Specific scope items include:

- Hydrologic measurement to determine the local groundwater gradient direction and magnitude
- Collection of representative groundwater samples from three existing wells
- Proper management of investigative derived wastes (IDW)
- Arrange for groundwater sample analysis in a State certified laboratory
- Quality Control/ Quality Assurance Measures
- Prepare and submit this written monitoring report
- Data upload to GeoTracker

### 1.2 Summarized Background

The Automasters facility is located at the northeast corner of Shattuck Avenue and 62<sup>nd</sup> Street in an area of mixed residential and commercial land use. The elevation of the Site is 131 feet above mean sea level, with local topography sloping gently to the southwest (US Geological Survey [USGS], Oakland West Quadrangle, California). Surrounding properties are primarily single-family and multi-family residences with a few commercial buildings located along Shattuck Avenue to the south and northwest of the Site.

Shortly after purchasing the Site in 1986, Mr. Glenn Logan contracted with Ray Walker Hydraulics of Pleasanton, CA to remove two small underground gasoline storage tanks (USTs) from the southern portion of the Site. W&A contacted Mr. Walker in December 2014 to gather more information on these USTs and determine whether any contaminated soil was encountered during their removal. Mr. Walker searched his archived files but did not have any written information on this Site as the work was performed almost 30 years ago. To the best of his recollection both USTs were used for gasoline and either 500 or 1,000 gallons in size.

Mr. Logan distinctly remembers that contaminated soil between the USTs was removed and transported offsite for disposal. Attempts to contact the Oakland Fire Department regarding this Site were unsuccessful, so there is no written documentation of the quantity of soil removed or where it was taken.

The initial site assessment activities at this Site were performed by Pangea in 2006. Three soil borings were advanced across the Site at the locations shown on *Figure 2*. Borings SB-1 and SB-3 were clean, i.e. there were no detectable concentrations of TPH-g, , BTEX compounds, fuel oxygenates, lead scavengers, TPH-d or TPH-motor oil detected in any of the soil samples collected from these borings. The sample collected from boring SB-2 at 11 feet below ground surface (bgs) was reported to contain TPH-g at 3,000 mg/kg, TPH-d at 850 mg/kg, naphthalene at 10 mg/kg, and negligible concentrations of BTEX compounds and fuel additives. The 8-foot and 16-foot deep samples from SB-2 had insignificant concentrations of TPH-g and TPH-d, indicating that the zone of contamination was very limited in vertical extent. Total lead concentrations in all samples were typical of background levels in the vicinity.

No groundwater was encountered during the drilling of this 48-foot deep borehole. The SB-2 borehole was left open overnight with a 10-foot screen placed near the bottom and a groundwater “grab” sample was collected from SB-2 the following day. The depth to groundwater in this borehole was 8 feet bgs. TPH-g at 1,700 µg/L, TPH-d at 1,000 µg/L, TPH-motor oil at 1,100 µg/L, and naphthalene at 440 µg/L were reported in this sample along with modest concentrations of BTEX compounds and fuel additives. This groundwater was in direct contact with the sand and gravel layer at 11-12 feet bgs, so it is unclear whether these results are indicative of actual groundwater concentrations.

A more extensive site investigation program was conducted in December 2015. Sub-surface conditions encountered during the 2015 remedial investigation were consistent with those reported by Pangea in 2006. There is a relatively permeable silty sand strata (USCS ‘GM’) found between 7 to 12 feet BGS. The silty sand strata is overlain and underlain by a much less permeable clayey silt strata (USCS ‘ML’).

Soil borings advanced to 20 feet BGS are observed to be dry. However, when these borings are converted to groundwater monitoring wells the potentiometric groundwater surface rises to 4-7 feet bgs, indicating that shallow groundwater is at least partially confined.

The soil sample analytical results obtained by West & Associates in 2015 from 7 boreholes sampled to 20 feet bgs are also consistent with the results reported during the limited site investigation program conducted by Pangea. Both sampling activities reported significant concentrations of TPH-g and TPH-d in the vicinity of the former fuel dispenser island. Contamination is predominantly found in the permeable silty sand strata between 7 to 12 feet BGS.

Two of the groundwater monitoring wells installed in 2015 had significant concentrations of TPH-g, TPH-d, BTEX compounds and naphthalene when first sampled on December 31<sup>st</sup>. MW-101, the well located west of the former USTs and dispenser island, was reported to contain TPH-g at 18,000 µg/L, TPH-d at 5,100 µg/L, benzene at 1,000 µg/L, and naphthalene at 170 µg/L. MW-103, south of the former USTs, was reported to contain TPH-g at 4,700 µg/L, TPH-d at 1,400 µg/L, benzene at 110 µg/L, and naphthalene at 78 µg/L. The groundwater sample from upgradient well MW-102 was clean.

All three wells have been monitored quarterly since June 2016. Sample results from the three quarterly monitoring events in 2016 were consistent, with the highest concentrations being reported in MW-101 (TPH-g ranging from 14,000 to 17,000 µg/L, benzene ranging from 900 to 990 µg/L, and naphthalene ranging from 190 to 210 µg/L). MW-103 was reported with lower but nonetheless actionable concentrations of these COCS and MW-102 has remained clean.

Additional site investigation activities were performed in March 2017. The results of this investigation are presented in a separate report titled “Remedial Investigation Report – July 2017”.

## 2.0 SITE CHARACTERISTICS

This section presents, physical site characteristics pertinent to the hydrogeologic assessment.

### 2.1 Physical Setting

The Automasters site is located at 6200 Shattuck Avenue, Oakland, California. It is an active motor vehicle repair facility approximately 0.1 acres in size. The site is surrounded by individual and multi-family private residences along with a few small commercial establishments. *Figure 3* shows the locations of the former USTs and dispenser island at the site.

The lead regulatory agency for UST and groundwater issues at the site is Alameda County Department of Environmental Health Services (ACDEH), the LOP for Alameda County. The site is also in the jurisdiction of the Regional Water Quality Control Board, San Francisco Bay Region.

### 2.2 Subsurface Conditions

Soil types encountered during the 2006 and 2015 site investigation activities consisted predominantly of silty clay to clayey silt with some sands and gravels to 36 feet below ground surface (bgs) and stiff clay from 36 feet to 48 feet bgs. The two borings advanced in 2006 closest to the former USTs and dispenser islands had a distinct sand and gravel lens at 10 to 12 feet bgs. The 2015 remedial investigation confirmed that shallow soils are predominately silty clay to clayey silt with a sand and gravel lens at 10 to 12 feet bgs.

The depth to first groundwater ranges from approximately 3 to 8 feet bgs. This shallow groundwater appears to comprise a perched aquifer that is not capable of providing a sustained yield of 200 gallons per day (the threshold for beneficial use designation).

## 3.0 HYDROLOGIC MONITORING

Hydrologic measurements were made at the Automasters site on July 6, 2017. This work was scheduled for June 30<sup>th</sup> but the site owner had a large, inoperable vehicle parked in a manner that was blocking MW-103. The vehicle was unable to be moved out of the way until July 6<sup>th</sup>, so monitoring and sampling were performed on that day. The static depth to groundwater (dtw) on that date was measured in each of the wells using a Solinst electronic sounding meter with a measurement accuracy of +/- 0.01 feet.

*Table 1* presents top-of-casing (TOC) elevations, dtw measurements and groundwater elevations for the July 6, 2017 monitoring event. Hydrologic field data is presented on the “Purge Data Record Forms” included in *Appendix B*.

Groundwater elevations from this sampling event are plotted on *Figure 4*. The local groundwater gradient direction as calculated using the July 6, 2017 data is to the west south west with a gradient of 0.004 feet per foot.

**TABLE 1**  
**HYDROLOGIC MEASUREMENTS**  
**Automasters**  
**July 6, 2017**

*(all measurements in feet)*

<b>Well ID</b>	<b>TOC</b>	<b>DTW</b>	<b>GWE</b>
MW-101	128.84	5.49	123.35
MW-102	130.35	6.53	123.82
MW-103	130.03	6.31	123.72

Abbreviations:

TOC: Top of Casing

DTW: Depth to Groundwater

GWE: Groundwater Elevation

**4.0 GROUNDWATER SAMPLE COLLECTION**

Groundwater monitoring wells MW-101, MW-102, and MW-103 were purged and sampled on July 6, 2017. All techniques, equipment and procedures used in the collection of groundwater samples conformed to West & Associates "Standard Field Procedures". Groundwater purging data was recorded on the "Purge Data Record Forms" included in *Appendix B*.

Groundwater samples were collected using new, disposable plastic bailers. Upon retrieval to the surface, each water sample was transferred to laboratory-supplied containers for analysis of petroleum compounds as described below. All water samples were labeled, placed into an ice chilled cooler and transported under EPA chain-of-custody protocol to a State certified analytical laboratory for testing.

**4.1 Purge Water**

Monitoring well purge water was stored on site in a labeled 55-gallon drum pending laboratory chemical analysis results and subsequent proper disposal.

**4.2 Groundwater Sample Analysis**

On July 10, 2017 the Automasters groundwater sample set was submitted under chain of custody protocol to McCampbell Laboratories for chemical analysis. McCampbell is certified by the State of California for the analyses performed.

Each groundwater sample was analyzed for the following:

- Total Petroleum Hydrocarbons as gasoline (TPH-g) by Method 8015b
- Total Petroleum Hydrocarbons as diesel (TPH-d) by Method 8015b
- Total Petroleum Hydrocarbons as Motor Oil (TPH-mo) by Method 8015b
- Volatile Organic Compounds (VOCs) by EPA Method 8260 (including BTEX, MtBE and naphthalene)



Minimum laboratory detection limits for all analyses are presented in the original laboratory reports appearing in *Appendix C*.

**4.3 Groundwater Sample Analytical Results**

Groundwater sample analytical results for contaminants of concern are presented in *Table 2*.

A summary of historical groundwater sample analytical results is presented in *Appendix D*.

**TABLE 2  
GROUNDWATER SAMPLE ANALYSIS  
Automasters  
July 6, 2017**

*(all values in micrograms per liter, i.e. ug/l or ppb)*

Sample ID	TPH-g	B	T	E	X	M	N	TPH-d	TPH-mo	Other VOCs
MW-101	17,000	860	<25	650	960	<25	130	4,800	5,200	*
MW-102	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250	No
MW-103	2,900	46	<5	100	73	<5	20	970	<250	*

Notes & Abbreviations:

- B = Benzene
- T = Toluene
- E = Ethylbenzene
- X = Total Xylenes
- M = MtBE
- N = Naphthalene

\* See Table 2.1

**TABLE 2.1  
VOC GROUNDWATER RESULTS  
Automasters**

*(Other than BTEX, MtBE & Naphthalene)*

Sample ID	Isopropyl benzene	n-Propyl benzene	1,2,4 Trimethyl benzene	1,3,5 Trimethyl benzene	n-Butyl benzene	sec-Butyl benzene
MW-101	69	150	810	130	35	<25
MW-102	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-103	21	49	86	11	16	6.6

Groundwater quality data for this reporting period is displayed graphically on *Figure 3*.

#### **4.4 Quality Assurance/Quality Control**

QA/QC measures employed on the Automasters groundwater monitoring project conformed to West & Associates Standard Field Procedures. To summarize, QA/QC measures included:

- Assigning experienced and capable staff
- Following approved procedures and techniques
- Utilizing appropriate equipment and supplies
- Thorough and frequent decontamination of field equipment
- Maintaining detailed field notes
- Utilizing laboratory supplied sample containers
- Timely delivery of samples to the testing laboratory
- Keeping an unbroken Chain of Custody Record
- Adhering to EPA approved analytical procedures

All QA/QC procedures for this project were within acceptable parameters. A QA/QC review of the data set generated during this project reveals no anomalies. Analytical results are consistent with field observations and previously generated site data. The QA/QC report provided by the testing laboratory exhibits no flagged items. It is concluded that the data presented in this Report has an acceptable level of credibility and can be relied upon to accurately represent prevailing environmental conditions at the site.

#### **5.0 DISCUSSION**

The Automasters 2<sup>nd</sup> Quarter 2017 groundwater monitoring project was completed in conformance with the ACDEH and San Francisco Bay RWQCB guidelines for groundwater sampling and analysis. No deviations from the standard QA/QC protocols occurred during this monitoring activity. The data presented in this report is considered representative of prevailing site conditions.

Hydrologic measurements made at the Automasters site on July 6, 2017 were interpreted to represent a groundwater gradient flowing to the east south east at 265 degrees. The gradient magnitude was calculated to be 0.004 feet per foot. This hydrologic data is consistent with previous site measurements.

Elevated concentrations of gasoline constituent contaminants were reported in groundwater samples collected from wells MW-101 and MW-103. This data is consistent with results of the previous monitoring activities in 2016 and January 2017.

#### **6.0 CONCLUSIONS AND RECOMMENDATIONS**

No anomalies were observed during the 2<sup>nd</sup> quarter 2017 Automasters groundwater monitoring event. Hydrologic conditions were found to be very similar to those measured during the previous four quarterly monitoring events. Contaminant concentrations in groundwater at wells MW-101 and MW-103 were within the range previously reported. No detectable groundwater contamination was again observed at well MW-102.

The information generated during the 2<sup>nd</sup> quarter 2017 groundwater monitoring event confirms that active remediation will be required at this Site in order to achieve case closure. Based on meetings and discussions with ACDEH and the UST Cleanup Fund ECAP program case worker regarding this Site, it is recommended that the impacted area be over-excavated to remove contaminated soil that is acting as a secondary source for groundwater contamination. This work will be performed once funding is available and the budget is approved by the ECAP Program Manager.

## **7.0 ELECTRONIC DATA SUBMITTAL COMPLIANCE**

This Groundwater Monitoring Report has been uploaded to the ACDEH web site per instructions included with the ACDEH letter requesting it. Once approved by ACDEH, it will be uploaded to the Automasters GeoTracker Domain, Global ID T0619748201. The upload certificate is presented in *Appendix E*. Selected future work products will be uploaded to the GeoTracker database in conformance with State requirements.

Monitoring data from the Automasters Leaking Underground Tank site can be accessed through the ACDEH web site or through GeoTracker at <http://www.geotracker.swrcb.ca.gov/>.



**APPENDIX A**

**Figures**

**WEST & ASSOCIATES ENVIRONMENTAL ENGINEERS**

PO Box 5891, Vacaville, CA 95696

Project Name: Automasters

Date: February 2016

Location: 6200 Shattuck Avenue, Oakland, CA

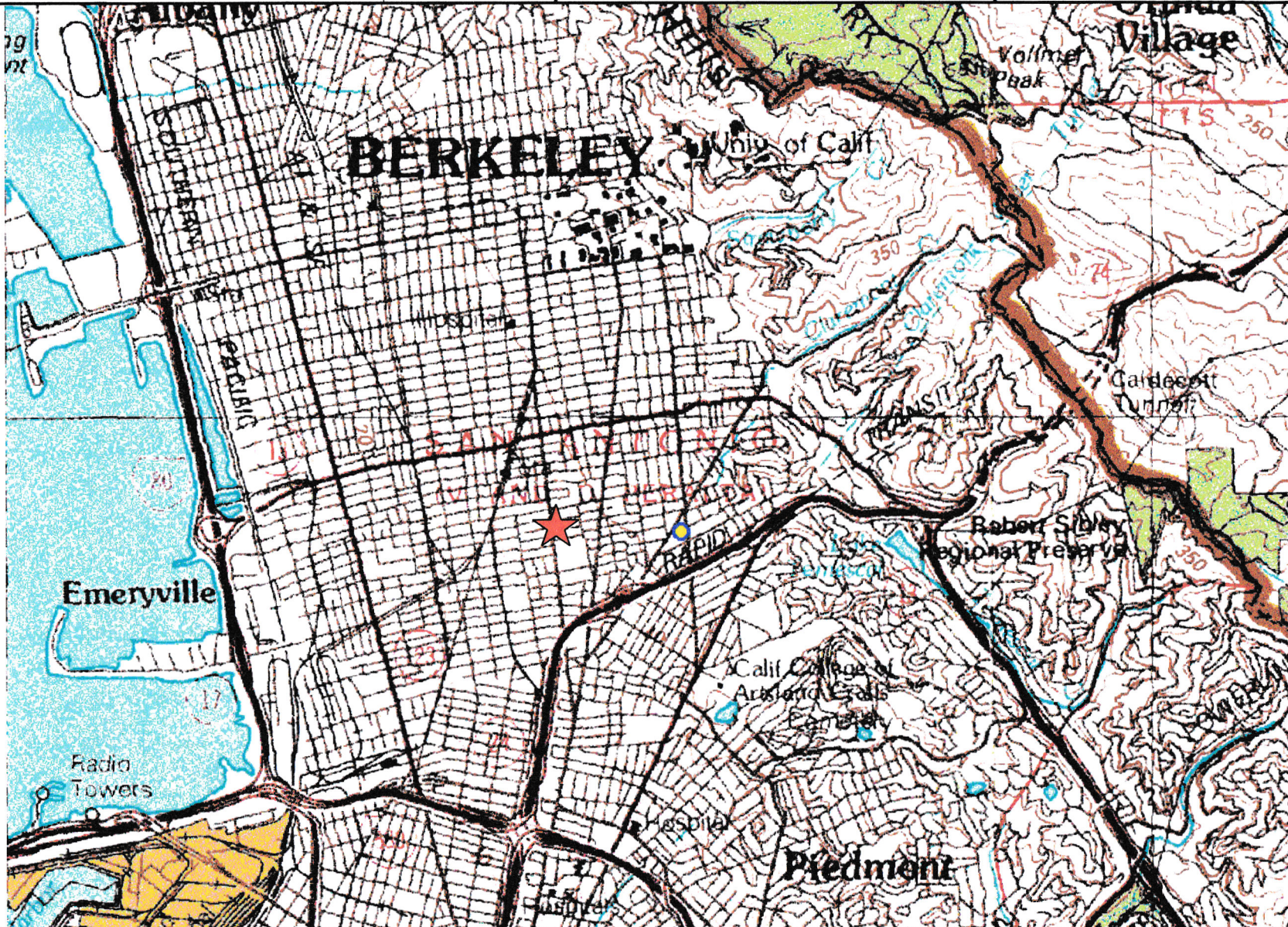
Drawing By: DLG

Scale: No Scale

Legend

★ Site Location

**FIGURE 1**  
**Regional Site Location**



**WEST & ASSOCIATES ENVIRONMENTAL ENGINEERS**

PO Box 5891, Vacaville, CA 95696

**Project Name:** Automasters

**Date:** February 2016

**Location:** 6200 Shattuck Avenue, Oakland, CA

**Drawing By:** DLG

**Scale:** No Scale

**Legend**

 Site Location

**FIGURE 2**  
**Aerial Photo**



# WEST & ASSOCIATES ENVIRONMENTAL ENGINEERS

PO Box 5891, Vacaville, CA 95696

Project Name: Automasters

Date: Mar 2017

Location: 6200 Shattuck Avenue, Oakland, CA

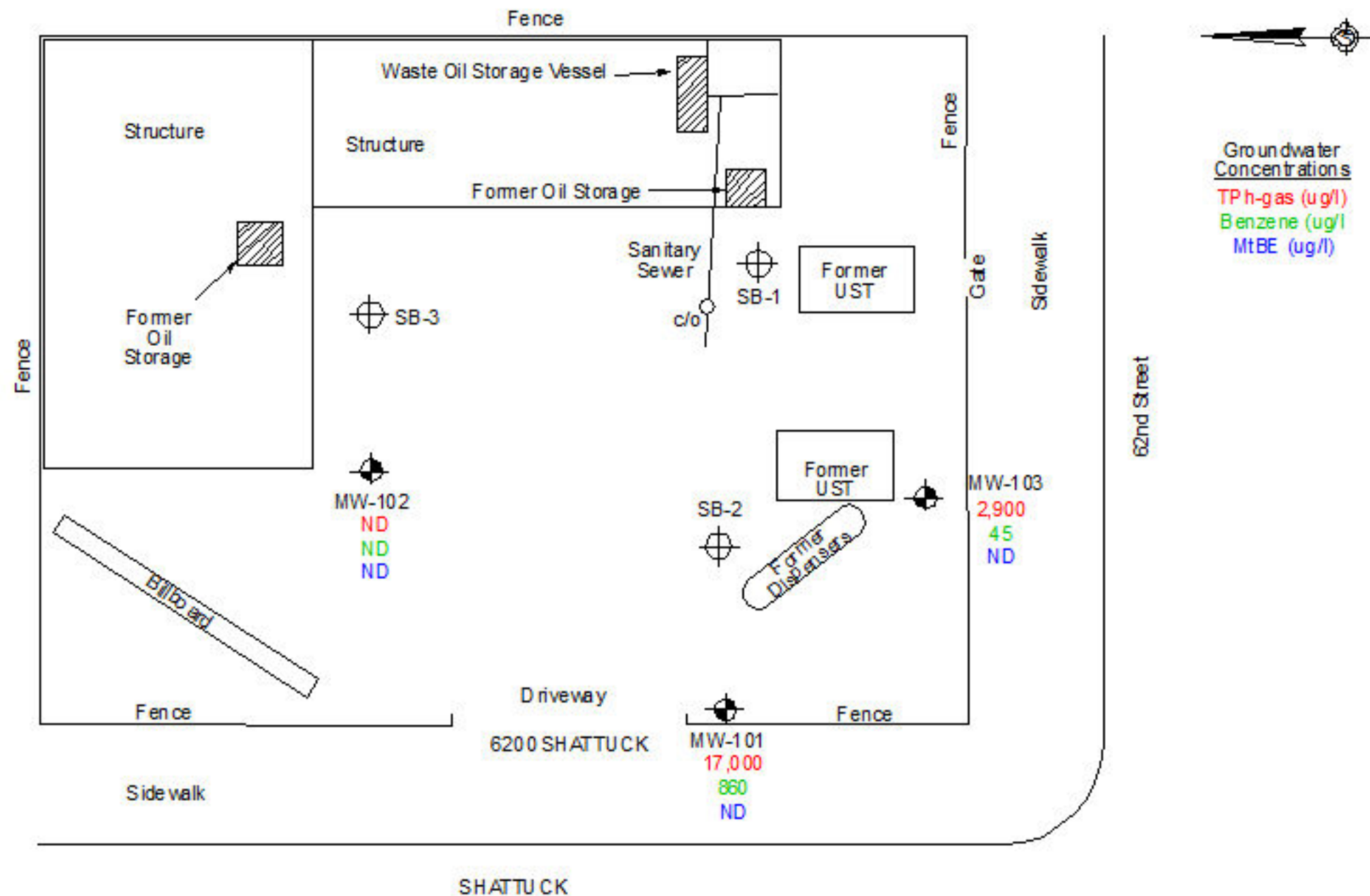
Drawing By: DLG

Scale: NS

## Legend

- Monitoring Well
- Pangea Boring (2008)

### FIGURE 3 Contaminant Concentrations 2nd Quarter 2017



**WEST & ASSOCIATES ENVIRONMENTAL ENGINEERS**

PO Box 5891, Vacaville, CA 95696

Project Name: Automasters





Date: July 2017

Location: 6200 Shattuck Avenue, Oakland, CA

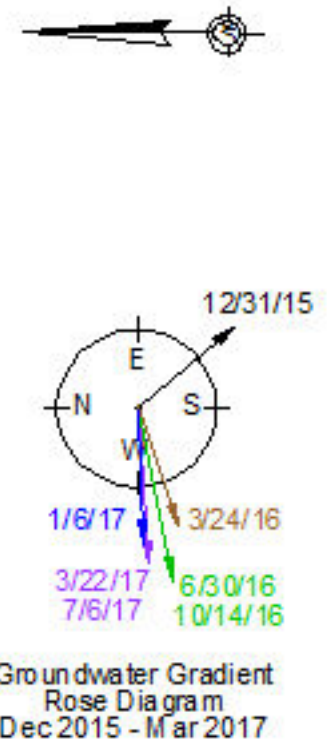
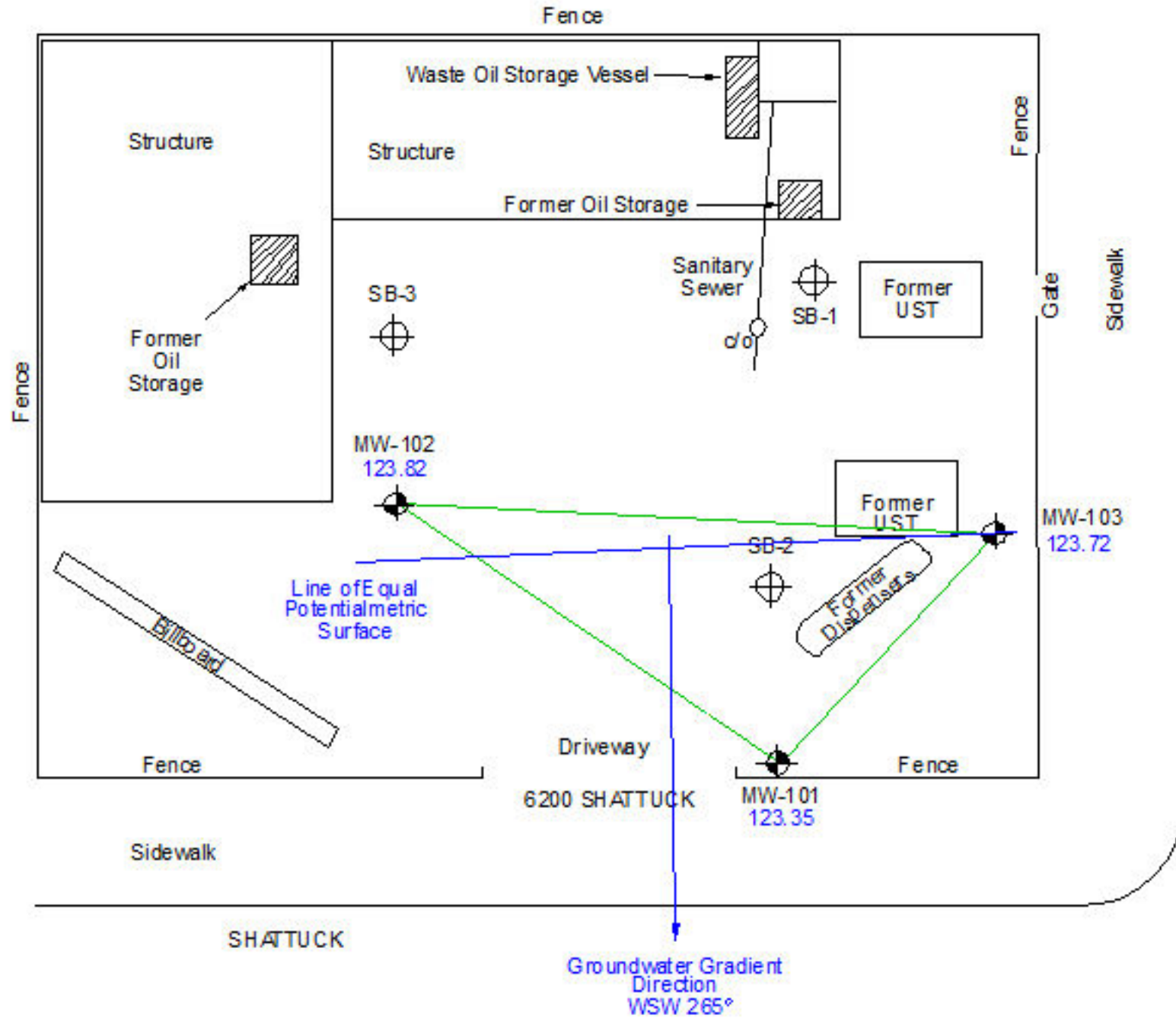
Drawing By: DLG

Scale: NS

**Legend**

-  Monitoring Well
-  Well Triangle
-  Line of Equal Potentiometric Surface
-  Groundwater Gradient Direction
- 123.82 Groundwater Elevation Relative to MSL

**FIGURE 4**  
Groundwater Elevations & Gradient  
July 6, 2017







**APPENDIX B**

**Purge Data Record Forms**

**GROUNDWATER SAMPLING  
 PURGE DATA RECORD FORM**

PROJECT: Automasters

PROJECT LOCATION: 6200 Shattuck Avenue, Oakland

MONITORING WELL ID: MW-101 SAMPLER: BAJ

MONITORING WELL LOCATION: \_\_\_\_\_

DATE: 7.6.17 TIME: 3:24 AM  PM

DISSOLVED OXYGEN CONCENTRATION: \_\_\_\_\_ N/A Mg/L – BEFORE PURGE

\_\_\_\_\_ N/A Mg/L – AFTER PURGE

FREE PHASE PRODUCT: Y  INCHES \_\_\_\_\_ PETROLEUM SHEEN: Y

ODOR/APPEARANCE: Moderate petroleum odor/clear – mild turbidity

$$\frac{20'}{\text{WELL DEPTH}} - \frac{5.49}{\text{DTGW}} \times \frac{2''}{.17} \frac{4''}{.66} = \frac{2.47}{\text{CASING VOLUME (GALS)}}$$

**PURGE MEASUREMENTS**

TIME	PURGE VOLUME GALLONS	CUMULATIVE GALLONS	TEMP. °C	CONDUCTIVITY μS	pH	Turbidity
3:29	0	0	21.2	820	6.4	Clear
3:34	2.5	2.5	19.9	790	6.6	Clear
3:42	2.5	5.0	19.1	760	6.7	Clear
3:51	2.5	7.5	19.0	770	6.7	Mild

REMARKS: Sample collected at 4:00 pm

\_\_\_\_\_  
 \_\_\_\_\_

**GROUNDWATER SAMPLING  
 PURGE DATA RECORD FORM**

PROJECT: Automasters

PROJECT LOCATION: 6200 Shattuck Avenue, Oakland

MONITORING WELL ID: MW-102 SAMPLER: BAJ

MONITORING WELL LOCATION: \_\_\_\_\_

DATE: 7.6.17 TIME: 4:05 AM  PM

DISSOLVED OXYGEN CONCENTRATION: \_\_\_\_\_ N/A \_\_\_\_\_ Mg/L – BEFORE PURGE

\_\_\_\_\_ N/A \_\_\_\_\_ Mg/L – AFTER PURGE

FREE PHASE PRODUCT: Y  N INCHES \_\_\_\_\_ PETROLEUM SHEEN: Y  N

ODOR/APPEARANCE: No odor/clear – medium turbidity

$$\frac{20'}{\text{WELL DEPTH}} - \frac{6.53}{\text{DTGW}} \times \frac{2''}{.17} \frac{4''}{.66} = \frac{2.29}{\text{CASING VOLUME (GALS)}}$$

**PURGE MEASUREMENTS**

TIME	PURGE VOLUME GALLONS	CUMULATIVE GALLONS	TEMP. °C	CONDUCTIVITY μS	pH	Turbidity
4:09	0	0	21.0	630	6.8	Clear
4:17	2.5	2.5	20.5	670	6.6	Mild
4:24	2.5	5.0	19.9	690	6.7	Medium
4:32	2.5	7.5	19.8	660	6.7	Medium

REMARKS: Sample collected at 4:37 pm

\_\_\_\_\_  
 \_\_\_\_\_

**GROUNDWATER SAMPLING  
 PURGE DATA RECORD FORM**

PROJECT: Automasters

PROJECT LOCATION: 6200 Shattuck Avenue, Oakland

MONITORING WELL ID: MW-103 SAMPLER: BAJ

MONITORING WELL LOCATION: \_\_\_\_\_

DATE: 7.6.17 TIME: 4:54 AM  PM

DISSOLVED OXYGEN CONCENTRATION: \_\_\_\_\_ N/A \_\_\_\_\_ Mg/L – BEFORE PURGE

\_\_\_\_\_ N/A \_\_\_\_\_ Mg/L – AFTER PURGE

FREE PHASE PRODUCT: Y  INCHES \_\_\_\_\_ PETROLEUM SHEEN: Y

ODOR/APPEARANCE: Mild petroleum odor/clear – mild turbidity

$$\frac{20'}{\text{WELL DEPTH}} - \frac{6.31}{\text{DTGW}} \times \frac{2''}{.17} \times \frac{4''}{.66} = \frac{2.33}{\text{CASING VOLUME (GALS)}}$$

**PURGE MEASUREMENTS**

TIME	PURGE VOLUME GALLONS	CUMULATIVE GALLONS	TEMP. °C	CONDUCTIVITY μS	pH	Turbidity
4:55	0	0	19.8	650	6.5	Clear
5:00	2.5	2.5	18.7	830	6.6	Mild
5:07	2.5	5.0	18.3	720	6.7	Mild
5:14	2.5	7.5	18.2	660	6.7	Mild

REMARKS: Sample collected at 5:27 pm

\_\_\_\_\_  
 \_\_\_\_\_



**APPENDIX C**

**Analytical Lab Reports  
McC Campbell WO #1707274**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1707274

**Report Created for:** West & Associates

630 Eubanks Ct, Unit #G  
Vacaville, CA 95688

**Project Contact:** Bruce Jacobsen

**Project P.O.:**

**Project Name:** Automasters; 6200 Shattuck Ave., Oakland, CA

**Project Received:** 07/10/2017

Analytical Report reviewed & approved for release on 07/17/2017 by:

Angela Rydelius,  
Laboratory Manager

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





## Glossary of Terms & Qualifier Definitions

**Client:** West & Associates  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA  
**WorkOrder:** 1707274

### Glossary Abbreviation

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



## Glossary of Terms & Qualifier Definitions

**Client:** West & Associates  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA  
**WorkOrder:** 1707274

### Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
b6	Lighter than water immiscible sheen/product is present
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.
e7	Oil range compounds are significant





## Analytical Report

**Client:** West & Associates  
**Date Received:** 7/10/17 14:19  
**Date Prepared:** 7/14/17  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA

**WorkOrder:** 1707274  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1707274-001B	Water	07/06/2017 16:00	GC18	142057
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		500	50	07/14/2017 22:39
tert-Amyl methyl ether (TAME)	ND		25	50	07/14/2017 22:39
Benzene	<b>860</b>		25	50	07/14/2017 22:39
Bromobenzene	ND		25	50	07/14/2017 22:39
Bromochloromethane	ND		25	50	07/14/2017 22:39
Bromodichloromethane	ND		25	50	07/14/2017 22:39
Bromoform	ND		25	50	07/14/2017 22:39
Bromomethane	ND		25	50	07/14/2017 22:39
2-Butanone (MEK)	ND		100	50	07/14/2017 22:39
t-Butyl alcohol (TBA)	ND		100	50	07/14/2017 22:39
n-Butyl benzene	<b>35</b>		25	50	07/14/2017 22:39
sec-Butyl benzene	ND		25	50	07/14/2017 22:39
tert-Butyl benzene	ND		25	50	07/14/2017 22:39
Carbon Disulfide	ND		25	50	07/14/2017 22:39
Carbon Tetrachloride	ND		25	50	07/14/2017 22:39
Chlorobenzene	ND		25	50	07/14/2017 22:39
Chloroethane	ND		25	50	07/14/2017 22:39
Chloroform	ND		25	50	07/14/2017 22:39
Chloromethane	ND		25	50	07/14/2017 22:39
2-Chlorotoluene	ND		25	50	07/14/2017 22:39
4-Chlorotoluene	ND		25	50	07/14/2017 22:39
Dibromochloromethane	ND		25	50	07/14/2017 22:39
1,2-Dibromo-3-chloropropane	ND		10	50	07/14/2017 22:39
1,2-Dibromoethane (EDB)	ND		25	50	07/14/2017 22:39
Dibromomethane	ND		25	50	07/14/2017 22:39
1,2-Dichlorobenzene	ND		25	50	07/14/2017 22:39
1,3-Dichlorobenzene	ND		25	50	07/14/2017 22:39
1,4-Dichlorobenzene	ND		25	50	07/14/2017 22:39
Dichlorodifluoromethane	ND		25	50	07/14/2017 22:39
1,1-Dichloroethane	ND		25	50	07/14/2017 22:39
1,2-Dichloroethane (1,2-DCA)	ND		25	50	07/14/2017 22:39
1,1-Dichloroethene	ND		25	50	07/14/2017 22:39
cis-1,2-Dichloroethene	ND		25	50	07/14/2017 22:39
trans-1,2-Dichloroethene	ND		25	50	07/14/2017 22:39
1,2-Dichloropropane	ND		25	50	07/14/2017 22:39
1,3-Dichloropropane	ND		25	50	07/14/2017 22:39
2,2-Dichloropropane	ND		25	50	07/14/2017 22:39

(Cont.)



# Analytical Report

Client: West & Associates

WorkOrder: 1707274

Date Received: 7/10/17 14:19

Extraction Method: SW5030B

Date Prepared: 7/14/17

Analytical Method: SW8260B

Project: Automasters; 6200 Shattuck Ave., Oakland, CA

Unit: µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1707274-001B	Water	07/06/2017 16:00	GC18	142057

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	25	50	07/14/2017 22:39
cis-1,3-Dichloropropene	ND	25	50	07/14/2017 22:39
trans-1,3-Dichloropropene	ND	25	50	07/14/2017 22:39
Diisopropyl ether (DIPE)	ND	25	50	07/14/2017 22:39
Ethylbenzene	650	25	50	07/14/2017 22:39
Ethyl tert-butyl ether (ETBE)	ND	25	50	07/14/2017 22:39
Freon 113	ND	25	50	07/14/2017 22:39
Hexachlorobutadiene	ND	25	50	07/14/2017 22:39
Hexachloroethane	ND	25	50	07/14/2017 22:39
2-Hexanone	ND	25	50	07/14/2017 22:39
Isopropylbenzene	69	25	50	07/14/2017 22:39
4-Isopropyl toluene	ND	25	50	07/14/2017 22:39
Methyl-t-butyl ether (MTBE)	ND	25	50	07/14/2017 22:39
Methylene chloride	ND	25	50	07/14/2017 22:39
4-Methyl-2-pentanone (MIBK)	ND	25	50	07/14/2017 22:39
Naphthalene	130	25	50	07/14/2017 22:39
n-Propyl benzene	150	25	50	07/14/2017 22:39
Styrene	ND	25	50	07/14/2017 22:39
1,1,1,2-Tetrachloroethane	ND	25	50	07/14/2017 22:39
1,1,2,2-Tetrachloroethane	ND	25	50	07/14/2017 22:39
Tetrachloroethene	ND	25	50	07/14/2017 22:39
Toluene	ND	25	50	07/14/2017 22:39
1,2,3-Trichlorobenzene	ND	25	50	07/14/2017 22:39
1,2,4-Trichlorobenzene	ND	25	50	07/14/2017 22:39
1,1,1-Trichloroethane	ND	25	50	07/14/2017 22:39
1,1,2-Trichloroethane	ND	25	50	07/14/2017 22:39
Trichloroethene	ND	25	50	07/14/2017 22:39
Trichlorofluoromethane	ND	25	50	07/14/2017 22:39
1,2,3-Trichloropropane	ND	25	50	07/14/2017 22:39
1,2,4-Trimethylbenzene	810	25	50	07/14/2017 22:39
1,3,5-Trimethylbenzene	130	25	50	07/14/2017 22:39
Vinyl Chloride	ND	25	50	07/14/2017 22:39
Xylenes, Total	960	25	50	07/14/2017 22:39

(Cont.)



# Analytical Report

<b>Client:</b> West & Associates	<b>WorkOrder:</b> 1707274
<b>Date Received:</b> 7/10/17 14:19	<b>Extraction Method:</b> SW5030B
<b>Date Prepared:</b> 7/14/17	<b>Analytical Method:</b> SW8260B
<b>Project:</b> Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Unit:</b> µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1707274-001B	Water	07/06/2017 16:00	GC18	142057

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	95	70-130		07/14/2017 22:39
Toluene-d8	94	70-130		07/14/2017 22:39
4-BFB	84	70-130		07/14/2017 22:39

Analyst(s): KF



## Analytical Report

**Client:** West & Associates  
**Date Received:** 7/10/17 14:19  
**Date Prepared:** 7/14/17  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA

**WorkOrder:** 1707274  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1707274-002B	Water	07/06/2017 16:37	GC18	142057
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		10	1	07/14/2017 23:18
tert-Amyl methyl ether (TAME)	ND		0.50	1	07/14/2017 23:18
Benzene	ND		0.50	1	07/14/2017 23:18
Bromobenzene	ND		0.50	1	07/14/2017 23:18
Bromochloromethane	ND		0.50	1	07/14/2017 23:18
Bromodichloromethane	ND		0.50	1	07/14/2017 23:18
Bromoform	ND		0.50	1	07/14/2017 23:18
Bromomethane	ND		0.50	1	07/14/2017 23:18
2-Butanone (MEK)	ND		2.0	1	07/14/2017 23:18
t-Butyl alcohol (TBA)	ND		2.0	1	07/14/2017 23:18
n-Butyl benzene	ND		0.50	1	07/14/2017 23:18
sec-Butyl benzene	ND		0.50	1	07/14/2017 23:18
tert-Butyl benzene	ND		0.50	1	07/14/2017 23:18
Carbon Disulfide	ND		0.50	1	07/14/2017 23:18
Carbon Tetrachloride	ND		0.50	1	07/14/2017 23:18
Chlorobenzene	ND		0.50	1	07/14/2017 23:18
Chloroethane	ND		0.50	1	07/14/2017 23:18
Chloroform	ND		0.50	1	07/14/2017 23:18
Chloromethane	ND		0.50	1	07/14/2017 23:18
2-Chlorotoluene	ND		0.50	1	07/14/2017 23:18
4-Chlorotoluene	ND		0.50	1	07/14/2017 23:18
Dibromochloromethane	ND		0.50	1	07/14/2017 23:18
1,2-Dibromo-3-chloropropane	ND		0.20	1	07/14/2017 23:18
1,2-Dibromoethane (EDB)	ND		0.50	1	07/14/2017 23:18
Dibromomethane	ND		0.50	1	07/14/2017 23:18
1,2-Dichlorobenzene	ND		0.50	1	07/14/2017 23:18
1,3-Dichlorobenzene	ND		0.50	1	07/14/2017 23:18
1,4-Dichlorobenzene	ND		0.50	1	07/14/2017 23:18
Dichlorodifluoromethane	ND		0.50	1	07/14/2017 23:18
1,1-Dichloroethane	ND		0.50	1	07/14/2017 23:18
1,2-Dichloroethane (1,2-DCA)	ND		0.50	1	07/14/2017 23:18
1,1-Dichloroethene	ND		0.50	1	07/14/2017 23:18
cis-1,2-Dichloroethene	ND		0.50	1	07/14/2017 23:18
trans-1,2-Dichloroethene	ND		0.50	1	07/14/2017 23:18
1,2-Dichloropropane	ND		0.50	1	07/14/2017 23:18
1,3-Dichloropropane	ND		0.50	1	07/14/2017 23:18
2,2-Dichloropropane	ND		0.50	1	07/14/2017 23:18

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## Analytical Report

**Client:** West & Associates  
**Date Received:** 7/10/17 14:19  
**Date Prepared:** 7/14/17  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA

**WorkOrder:** 1707274  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1707274-002B	Water	07/06/2017 16:37	GC18	142057
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.50	1	07/14/2017 23:18
cis-1,3-Dichloropropene	ND		0.50	1	07/14/2017 23:18
trans-1,3-Dichloropropene	ND		0.50	1	07/14/2017 23:18
Diisopropyl ether (DIPE)	ND		0.50	1	07/14/2017 23:18
Ethylbenzene	ND		0.50	1	07/14/2017 23:18
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	07/14/2017 23:18
Freon 113	ND		0.50	1	07/14/2017 23:18
Hexachlorobutadiene	ND		0.50	1	07/14/2017 23:18
Hexachloroethane	ND		0.50	1	07/14/2017 23:18
2-Hexanone	ND		0.50	1	07/14/2017 23:18
Isopropylbenzene	ND		0.50	1	07/14/2017 23:18
4-Isopropyl toluene	ND		0.50	1	07/14/2017 23:18
Methyl-t-butyl ether (MTBE)	ND		0.50	1	07/14/2017 23:18
Methylene chloride	ND		0.50	1	07/14/2017 23:18
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	07/14/2017 23:18
Naphthalene	ND		0.50	1	07/14/2017 23:18
n-Propyl benzene	ND		0.50	1	07/14/2017 23:18
Styrene	ND		0.50	1	07/14/2017 23:18
1,1,1,2-Tetrachloroethane	ND		0.50	1	07/14/2017 23:18
1,1,2,2-Tetrachloroethane	ND		0.50	1	07/14/2017 23:18
Tetrachloroethene	ND		0.50	1	07/14/2017 23:18
Toluene	ND		0.50	1	07/14/2017 23:18
1,2,3-Trichlorobenzene	ND		0.50	1	07/14/2017 23:18
1,2,4-Trichlorobenzene	ND		0.50	1	07/14/2017 23:18
1,1,1-Trichloroethane	ND		0.50	1	07/14/2017 23:18
1,1,2-Trichloroethane	ND		0.50	1	07/14/2017 23:18
Trichloroethene	ND		0.50	1	07/14/2017 23:18
Trichlorofluoromethane	ND		0.50	1	07/14/2017 23:18
1,2,3-Trichloropropane	ND		0.50	1	07/14/2017 23:18
1,2,4-Trimethylbenzene	ND		0.50	1	07/14/2017 23:18
1,3,5-Trimethylbenzene	ND		0.50	1	07/14/2017 23:18
Vinyl Chloride	ND		0.50	1	07/14/2017 23:18
Xylenes, Total	ND		0.50	1	07/14/2017 23:18

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# Analytical Report

**Client:** West & Associates

**WorkOrder:** 1707274

**Date Received:** 7/10/17 14:19

**Extraction Method:** SW5030B

**Date Prepared:** 7/14/17

**Analytical Method:** SW8260B

**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA

**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1707274-002B	Water	07/06/2017 16:37	GC18	142057

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	97	70-130		07/14/2017 23:18
Toluene-d8	93	70-130		07/14/2017 23:18
4-BFB	85	70-130		07/14/2017 23:18

Analyst(s): KF



## Analytical Report

**Client:** West & Associates  
**Date Received:** 7/10/17 14:19  
**Date Prepared:** 7/14/17  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA

**WorkOrder:** 1707274  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1707274-003B	Water	07/06/2017 17:27	GC18	142057
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	ND		100	10	07/14/2017 23:58
tert-Amyl methyl ether (TAME)	ND		5.0	10	07/14/2017 23:58
Benzene	<b>46</b>		5.0	10	07/14/2017 23:58
Bromobenzene	ND		5.0	10	07/14/2017 23:58
Bromochloromethane	ND		5.0	10	07/14/2017 23:58
Bromodichloromethane	ND		5.0	10	07/14/2017 23:58
Bromoform	ND		5.0	10	07/14/2017 23:58
Bromomethane	ND		5.0	10	07/14/2017 23:58
2-Butanone (MEK)	ND		20	10	07/14/2017 23:58
t-Butyl alcohol (TBA)	ND		20	10	07/14/2017 23:58
n-Butyl benzene	<b>16</b>		5.0	10	07/14/2017 23:58
sec-Butyl benzene	<b>6.6</b>		5.0	10	07/14/2017 23:58
tert-Butyl benzene	ND		5.0	10	07/14/2017 23:58
Carbon Disulfide	ND		5.0	10	07/14/2017 23:58
Carbon Tetrachloride	ND		5.0	10	07/14/2017 23:58
Chlorobenzene	ND		5.0	10	07/14/2017 23:58
Chloroethane	ND		5.0	10	07/14/2017 23:58
Chloroform	ND		5.0	10	07/14/2017 23:58
Chloromethane	ND		5.0	10	07/14/2017 23:58
2-Chlorotoluene	ND		5.0	10	07/14/2017 23:58
4-Chlorotoluene	ND		5.0	10	07/14/2017 23:58
Dibromochloromethane	ND		5.0	10	07/14/2017 23:58
1,2-Dibromo-3-chloropropane	ND		2.0	10	07/14/2017 23:58
1,2-Dibromoethane (EDB)	ND		5.0	10	07/14/2017 23:58
Dibromomethane	ND		5.0	10	07/14/2017 23:58
1,2-Dichlorobenzene	ND		5.0	10	07/14/2017 23:58
1,3-Dichlorobenzene	ND		5.0	10	07/14/2017 23:58
1,4-Dichlorobenzene	ND		5.0	10	07/14/2017 23:58
Dichlorodifluoromethane	ND		5.0	10	07/14/2017 23:58
1,1-Dichloroethane	ND		5.0	10	07/14/2017 23:58
1,2-Dichloroethane (1,2-DCA)	ND		5.0	10	07/14/2017 23:58
1,1-Dichloroethene	ND		5.0	10	07/14/2017 23:58
cis-1,2-Dichloroethene	ND		5.0	10	07/14/2017 23:58
trans-1,2-Dichloroethene	ND		5.0	10	07/14/2017 23:58
1,2-Dichloropropane	ND		5.0	10	07/14/2017 23:58
1,3-Dichloropropane	ND		5.0	10	07/14/2017 23:58
2,2-Dichloropropane	ND		5.0	10	07/14/2017 23:58

(Cont.)



## Analytical Report

**Client:** West & Associates **WorkOrder:** 1707274  
**Date Received:** 7/10/17 14:19 **Extraction Method:** SW5030B  
**Date Prepared:** 7/14/17 **Analytical Method:** SW8260B  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA **Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1707274-003B	Water	07/06/2017 17:27	GC18	142057
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		5.0	10	07/14/2017 23:58
cis-1,3-Dichloropropene	ND		5.0	10	07/14/2017 23:58
trans-1,3-Dichloropropene	ND		5.0	10	07/14/2017 23:58
Diisopropyl ether (DIPE)	ND		5.0	10	07/14/2017 23:58
Ethylbenzene	<b>100</b>		5.0	10	07/14/2017 23:58
Ethyl tert-butyl ether (ETBE)	ND		5.0	10	07/14/2017 23:58
Freon 113	ND		5.0	10	07/14/2017 23:58
Hexachlorobutadiene	ND		5.0	10	07/14/2017 23:58
Hexachloroethane	ND		5.0	10	07/14/2017 23:58
2-Hexanone	ND		5.0	10	07/14/2017 23:58
Isopropylbenzene	<b>21</b>		5.0	10	07/14/2017 23:58
4-Isopropyl toluene	ND		5.0	10	07/14/2017 23:58
Methyl-t-butyl ether (MTBE)	ND		5.0	10	07/14/2017 23:58
Methylene chloride	ND		5.0	10	07/14/2017 23:58
4-Methyl-2-pentanone (MIBK)	ND		5.0	10	07/14/2017 23:58
Naphthalene	<b>20</b>		5.0	10	07/14/2017 23:58
n-Propyl benzene	<b>49</b>		5.0	10	07/14/2017 23:58
Styrene	ND		5.0	10	07/14/2017 23:58
1,1,1,2-Tetrachloroethane	ND		5.0	10	07/14/2017 23:58
1,1,2,2-Tetrachloroethane	ND		5.0	10	07/14/2017 23:58
Tetrachloroethene	ND		5.0	10	07/14/2017 23:58
Toluene	ND		5.0	10	07/14/2017 23:58
1,2,3-Trichlorobenzene	ND		5.0	10	07/14/2017 23:58
1,2,4-Trichlorobenzene	ND		5.0	10	07/14/2017 23:58
1,1,1-Trichloroethane	ND		5.0	10	07/14/2017 23:58
1,1,2-Trichloroethane	ND		5.0	10	07/14/2017 23:58
Trichloroethene	ND		5.0	10	07/14/2017 23:58
Trichlorofluoromethane	ND		5.0	10	07/14/2017 23:58
1,2,3-Trichloropropane	ND		5.0	10	07/14/2017 23:58
1,2,4-Trimethylbenzene	<b>86</b>		5.0	10	07/14/2017 23:58
1,3,5-Trimethylbenzene	<b>11</b>		5.0	10	07/14/2017 23:58
Vinyl Chloride	ND		5.0	10	07/14/2017 23:58
Xylenes, Total	<b>73</b>		5.0	10	07/14/2017 23:58

(Cont.)





## Analytical Report

<b>Client:</b>	West & Associates	<b>WorkOrder:</b>	1707274
<b>Date Received:</b>	7/10/17 14:19	<b>Extraction Method:</b>	SW5030B
<b>Date Prepared:</b>	7/14/17	<b>Analytical Method:</b>	SW8260B
<b>Project:</b>	Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Unit:</b>	µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1707274-003B	Water	07/06/2017 17:27	GC18	142057

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	96		70-130	07/14/2017 23:58
Toluene-d8	94		70-130	07/14/2017 23:58
4-BFB	86		70-130	07/14/2017 23:58

Analyst(s): KF



## Analytical Report

<b>Client:</b> West & Associates	<b>WorkOrder:</b> 1707274
<b>Date Received:</b> 7/10/17 14:19	<b>Extraction Method:</b> SW5030B
<b>Date Prepared:</b> 7/11/17	<b>Analytical Method:</b> SW8021B/8015Bm
<b>Project:</b> Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Unit:</b> µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1707274-001A	Water	07/06/2017 16:00	GC3	141849

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	17,000	500	10	07/11/2017 21:15
MTBE	---	50	10	07/11/2017 21:15
Benzene	---	5.0	10	07/11/2017 21:15
Toluene	---	5.0	10	07/11/2017 21:15
Ethylbenzene	---	5.0	10	07/11/2017 21:15
Xylenes	---	15	10	07/11/2017 21:15

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	146	S	89-115	07/11/2017 21:15

Analyst(s): HD Analytical Comments: d1,c4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1707274-002A	Water	07/06/2017 16:37	GC3	141849

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	07/11/2017 21:46
MTBE	---	5.0	1	07/11/2017 21:46
Benzene	---	0.50	1	07/11/2017 21:46
Toluene	---	0.50	1	07/11/2017 21:46
Ethylbenzene	---	0.50	1	07/11/2017 21:46
Xylenes	---	1.5	1	07/11/2017 21:46

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	101	89-115	07/11/2017 21:46

Analyst(s): HD



## Analytical Report

**Client:** West & Associates  
**Date Received:** 7/10/17 14:19  
**Date Prepared:** 7/11/17  
**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA

**WorkOrder:** 1707274  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1707274-003A	Water	07/06/2017 17:27	GC3	141849

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	<b>2900</b>	500	10	07/11/2017 23:19
MTBE	---	50	10	07/11/2017 23:19
Benzene	---	5.0	10	07/11/2017 23:19
Toluene	---	5.0	10	07/11/2017 23:19
Ethylbenzene	---	5.0	10	07/11/2017 23:19
Xylenes	---	15	10	07/11/2017 23:19

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	137	S	89-115	07/11/2017 23:19

Analyst(s): HD

Analytical Comments: d1,c4



## Analytical Report

<b>Client:</b> West & Associates	<b>WorkOrder:</b> 1707274
<b>Date Received:</b> 7/10/17 14:19	<b>Extraction Method:</b> SW3510C
<b>Date Prepared:</b> 7/10/17	<b>Analytical Method:</b> SW8015B
<b>Project:</b> Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Unit:</b> µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1707274-001A	Water	07/06/2017 16:00	GC6B	141736

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	4800	500	10	07/12/2017 12:54
TPH-Motor Oil (C18-C36)	5200	2500	10	07/12/2017 12:54

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
C9	207	S	66-138	07/12/2017 12:54

Analyst(s): TK Analytical Comments: e7,e4,b6,c2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1707274-002A	Water	07/06/2017 16:37	GC39A	141736

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	07/11/2017 18:21
TPH-Motor Oil (C18-C36)	ND	250	1	07/11/2017 18:21

Surrogates	REC (%)	Limits	Date Analyzed
C9	106	66-138	07/11/2017 18:21

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1707274-003A	Water	07/06/2017 17:27	GC39A	141736

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	970	50	1	07/11/2017 17:04
TPH-Motor Oil (C18-C36)	ND	250	1	07/11/2017 17:04

Surrogates	REC (%)	Limits	Date Analyzed
C9	106	66-138	07/11/2017 17:04

Analyst(s): TK Analytical Comments: e4



## Quality Control Report

<b>Client:</b>	West & Associates	<b>WorkOrder:</b>	1707274
<b>Date Prepared:</b>	7/14/17	<b>BatchID:</b>	142057
<b>Date Analyzed:</b>	7/14/17	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC18	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Sample ID:</b>	MB/LCS/LCSD-142057

### QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
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	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.50	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.50	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.50	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.20	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
1,1-Dichloroethene	ND	0.50	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.50	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-
cis-1,3-Dichloropropene	ND	0.50	-	-	-

(Cont.)



## Quality Control Report

<b>Client:</b>	West & Associates	<b>WorkOrder:</b>	1707274
<b>Date Prepared:</b>	7/14/17	<b>BatchID:</b>	142057
<b>Date Analyzed:</b>	7/14/17	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC18	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Sample ID:</b>	MB/LCS/LCSD-142057

### QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
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	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.50	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.50	-	-	-
Tetrachloroethene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.50	-	-	-
Trichloroethene	ND	0.50	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.50	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	23.94		25	96	70-130
Toluene-d8	23.16		25	93	70-130
4-BFB	2.091		2.5	84	70-130

(Cont.)



## Quality Control Report

<b>Client:</b>	West & Associates	<b>WorkOrder:</b>	1707274
<b>Date Prepared:</b>	7/14/17	<b>BatchID:</b>	142057
<b>Date Analyzed:</b>	7/14/17	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC18	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Sample ID:</b>	MB/LCS/LCSD-142057

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	184	178	200	92	89	46-155	3.00	20
tert-Amyl methyl ether (TAME)	9.20	9.03	10	92	90	54-140	1.90	20
Benzene	8.65	8.55	10	86	86	47-158	0	20
Bromobenzene	8.42	8.51	10	84	85	50-155	0.987	20
Bromochloromethane	9.05	8.90	10	91	89	48-160	1.74	20
Bromodichloromethane	9.02	9.01	10	90	90	60-156	0	20
Bromoform	9.52	9.32	10	95	93	43-149	2.12	20
Bromomethane	9.58	10.0	10	96	101	61-159	4.80	20
2-Butanone (MEK)	37.6	36.5	40	94	91	61-124	2.90	20
t-Butyl alcohol (TBA)	45.7	41.9	40	114	105	42-140	8.66	20
n-Butyl benzene	8.55	8.60	10	85	86	74-138	0.593	20
sec-Butyl benzene	8.88	9.11	10	89	91	72-142	2.54	20
tert-Butyl benzene	8.34	8.63	10	83	86	74-140	3.38	20
Carbon Disulfide	8.53	8.42	10	85	84	64-127	1.38	20
Carbon Tetrachloride	8.93	8.85	10	89	89	61-158	0	20
Chlorobenzene	8.54	8.53	10	85	85	43-157	0	20
Chloroethane	9.30	9.42	10	93	94	50-127	1.29	20
Chloroform	8.45	8.36	10	84	84	56-154	0	20
Chloromethane	9.67	9.87	10	97	99	41-132	2.06	20
2-Chlorotoluene	8.95	9.15	10	90	91	50-155	2.15	20
4-Chlorotoluene	8.23	8.38	10	82	84	53-153	1.75	20
Dibromochloromethane	8.38	8.36	10	84	84	49-156	0	20
1,2-Dibromo-3-chloropropane	3.75	3.58	4	94	90	46-149	4.56	20
1,2-Dibromoethane (EDB)	9.04	8.91	10	90	89	44-155	1.49	20
Dibromomethane	9.17	8.93	10	92	89	50-157	2.68	20
1,2-Dichlorobenzene	8.54	8.42	10	85	84	48-156	1.41	20
1,3-Dichlorobenzene	9.30	9.28	10	93	93	49-159	0	20
1,4-Dichlorobenzene	8.58	8.54	10	86	85	51-151	0.482	20
Dichlorodifluoromethane	9.24	9.27	10	92	93	61-117	0.301	20
1,1-Dichloroethane	8.80	8.67	10	88	87	53-153	1.47	20
1,2-Dichloroethane (1,2-DCA)	9.05	8.97	10	91	90	66-125	0.895	20
1,1-Dichloroethene	8.32	8.24	10	83	82	47-149	1.00	20
cis-1,2-Dichloroethene	8.83	8.66	10	88	87	54-155	1.94	20
trans-1,2-Dichloroethene	8.60	8.42	10	86	84	46-151	2.07	20
1,2-Dichloropropane	8.82	8.72	10	88	87	54-153	1.25	20
1,3-Dichloropropane	8.86	8.77	10	89	88	49-150	1.07	20
2,2-Dichloropropane	8.88	8.73	10	89	87	74-147	1.76	20
1,1-Dichloropropene	8.64	8.58	10	86	86	54-150	0	20
cis-1,3-Dichloropropene	8.67	8.61	10	87	86	55-159	0.625	20

(Cont.)



## Quality Control Report

<b>Client:</b>	West & Associates	<b>WorkOrder:</b>	1707274
<b>Date Prepared:</b>	7/14/17	<b>BatchID:</b>	142057
<b>Date Analyzed:</b>	7/14/17	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC18	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Sample ID:</b>	MB/LCS/LCSD-142057

### QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
trans-1,3-Dichloropropene	9.10	9.02	10	91	90	74-131	0.822	20
Diisopropyl ether (DIPE)	8.84	8.72	10	88	87	57-136	1.37	20
Ethylbenzene	8.54	8.42	10	85	84	60-152	1.32	20
Ethyl tert-butyl ether (ETBE)	9.28	9.08	10	93	91	55-137	2.11	20
Freon 113	8.46	8.30	10	85	83	47-138	1.96	20
Hexachlorobutadiene	8.34	8.34	10	83	83	66-160	0	20
Hexachloroethane	7.62	7.62	10	76	76	75-130	0	20
2-Hexanone	9.42	9.15	10	94	92	70-115	2.92	20
Isopropylbenzene	8.47	8.65	10	85	86	59-156	2.09	20
4-Isopropyl toluene	8.44	8.56	10	84	86	75-138	1.39	20
Methyl-t-butyl ether (MTBE)	9.27	8.99	10	93	90	53-139	3.07	20
Methylene chloride	7.99	7.85	10	80	79	66-127	1.80	20
4-Methyl-2-pentanone (MIBK)	9.26	8.93	10	93	89	42-153	3.60	20
Naphthalene	9.07	8.40	10	91	84	66-127	7.70	20
n-Propyl benzene	8.83	9.19	10	88	92	54-155	4.04	20
Styrene	8.77	8.70	10	88	87	51-152	0.883	20
1,1,1,2-Tetrachloroethane	8.82	8.83	10	88	88	58-159	0	20
1,1,2,2-Tetrachloroethane	9.19	8.94	10	92	89	51-150	2.68	20
Tetrachloroethene	8.22	8.17	10	82	82	55-145	0	20
Toluene	8.42	8.41	10	84	84	52-137	0	20
1,2,3-Trichlorobenzene	8.57	7.87	10	86	79	70-136	8.46	20
1,2,4-Trichlorobenzene	8.55	8.21	10	85	82	74-137	4.02	20
1,1,1-Trichloroethane	8.73	8.64	10	87	86	57-156	1.09	20
1,1,2-Trichloroethane	8.87	8.80	10	89	88	51-150	0.845	20
Trichloroethene	8.58	8.43	10	86	84	43-157	1.73	20
Trichlorofluoromethane	8.46	8.42	10	85	84	50-147	0.468	20
1,2,3-Trichloropropane	9.36	9.16	10	94	92	41-152	2.17	20
1,2,4-Trimethylbenzene	8.59	8.62	10	86	86	57-157	0	20
1,3,5-Trimethylbenzene	8.44	8.56	10	84	86	56-159	1.40	20
Vinyl Chloride	10.0	10.1	10	100	101	42-137	1.05	20
Xylenes, Total	25.8	25.8	30	86	86	70-130	0	20
<b>Surrogate Recovery</b>								
Dibromofluoromethane	24.2	24.4	25	97	98	70-130	0.739	20
Toluene-d8	23.1	23.2	25	92	93	70-130	0.467	20
4-BFB	2.16	2.20	2.5	86	88	70-130	1.92	20





## Quality Control Report

<b>Client:</b> West & Associates	<b>WorkOrder:</b> 1707274
<b>Date Prepared:</b> 7/11/17	<b>BatchID:</b> 141849
<b>Date Analyzed:</b> 7/11/17	<b>Extraction Method:</b> SW5030B
<b>Instrument:</b> GC3	<b>Analytical Method:</b> SW8021B/8015Bm
<b>Matrix:</b> Water	<b>Unit:</b> µg/L
<b>Project:</b> Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Sample ID:</b> MB/LCS-141849 1707258-008AMS/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	57.7	40	60	-	96	78-116
MTBE	ND	7.98	5.0	10	-	80	72-122
Benzene	ND	8.81	0.50	10	-	88	81-123
Toluene	ND	9.29	0.50	10	-	93	83-129
Ethylbenzene	ND	9.82	0.50	10	-	98	88-126
Xylenes	ND	30.6	1.5	30	-	102	87-131
<b>Surrogate Recovery</b>							
aaa-TFT	9.978	9.85		10	100	99	89-116

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	56.1	57.1	60	ND	93	95	63-133	1.77	20
MTBE	8.53	8.56	10	ND	85	86	69-122	0.334	20
Benzene	8.50	8.45	10	ND	85	84	84-125	0.621	20
Toluene	9.02	9.03	10	ND	90	90	87-131	0	20
Ethylbenzene	9.42	9.47	10	ND	94	95	92-126	0.503	20
Xylenes	29.3	29.5	30	ND	98	98	88-132	0	20
<b>Surrogate Recovery</b>									
aaa-TFT	9.48	9.52	10		95	95	90-117	0	20



## Quality Control Report

<b>Client:</b>	West & Associates	<b>WorkOrder:</b>	1707274
<b>Date Prepared:</b>	7/10/17	<b>BatchID:</b>	141736
<b>Date Analyzed:</b>	7/10/17	<b>Extraction Method:</b>	SW3510C
<b>Instrument:</b>	GC39A	<b>Analytical Method:</b>	SW8015B
<b>Matrix:</b>	Water	<b>Unit:</b>	µg/L
<b>Project:</b>	Automasters; 6200 Shattuck Ave., Oakland, CA	<b>Sample ID:</b>	MB/LCS/LCSD-141736

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

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-

**Surrogate Recovery**

C9	641.8		625	103	79-111
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Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1080	1110	1000	108	111	88-134	2.76	30

**Surrogate Recovery**

C9	576	658	625	92	105	79-111	13.3	30
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1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1707274

ClientCode: WAA

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQuIS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

Bruce Jacobsen  
 West & Associates  
 630 Eubanks Ct, Unit #G  
 Vacaville, CA 95688  
 (707) 451-1360    FAX: (707) 447-0631

Email: bjacobsen@astound.net; dganzer@westen  
 cc/3rd Party:  
 PO:  
 ProjectNo: Automasters; 6200 Shattuck Ave.,  
 Oakland, CA

**Bill to:**

Accounts Payable  
 West & Associates  
 630 Eubanks Ct, Unit #G  
 Vacaville, CA 95688

**Requested TAT: 5 days;**

*Date Received:* 07/10/2017

*Date Logged:* 07/10/2017

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	
1707274-001	MW-101	Water	7/6/2017 16:00	<input type="checkbox"/>	B	A	B	A									
1707274-002	MW-102	Water	7/6/2017 16:37	<input type="checkbox"/>	B	A		A									
1707274-003	MW-103	Water	7/6/2017 17:27	<input type="checkbox"/>	B	A		A									

**Test Legend:**

1	8260B_W	2	G-MBTEX_W	3	PREDF REPORT	4	TPH(DMO)_W
5		6		7		8	
9		10		11		12	

**Prepared by: Agustina Venegas**

The following SampIDs: 001A, 002A, 003A contain testgroup Multi Range\_W.

**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:** WEST & ASSOCIATES

**Project:** Automasters; 6200 Shattuck Ave., Oakland, CA

**Work Order:** 1707274

**Client Contact:** Bruce Jacobsen

**QC Level:** LEVEL 2

**Contact's Email:** bjacobsen@astound.net; dganzer@westengineers.com

**Comments:**

**Date Logged:** 7/10/2017

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1707274-001A	MW-101	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	7/6/2017 16:00	5 days	Present	<input type="checkbox"/>	
1707274-001B	MW-101	Water	SW8260B (VOCs)	1	VOA w/ HCl	<input type="checkbox"/>	7/6/2017 16:00	5 days	Present	<input type="checkbox"/>	
1707274-002A	MW-102	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	7/6/2017 16:37	5 days	Present	<input type="checkbox"/>	
1707274-002B	MW-102	Water	SW8260B (VOCs)	1	VOA w/ HCl	<input type="checkbox"/>	7/6/2017 16:37	5 days	Present	<input type="checkbox"/>	
1707274-003A	MW-103	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	7/6/2017 17:27	5 days	Present	<input type="checkbox"/>	
1707274-003B	MW-103	Water	SW8260B (VOCs)	1	VOA w/ HCl	<input type="checkbox"/>	7/6/2017 17:27	5 days	Present	<input type="checkbox"/>	

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

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

170727A

T0619748201



**McCAMPBELL ANALYTICAL, INC.**  
 1534 WILLOW PASS ROAD  
 PITTSBURG, CA 94565-1701  
 Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: (877) 252-9262 Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**  
**TURN AROUND TIME**  RUSH  24 HR  48 HR  72 HR  5 DAY  
**GeoTracker EDF**  **PDF**  **Excel**  **Write On (DW)**   
 Check if sample is effluent and "J" flag is required

**Report To:** Bruce Jacobsen **Bill To:** W&A  
**Company:** West & Associates Engineers  
 630 Eubanks Ct, #G, Vacaville, CA [bjacobsen@astound.net](mailto:bjacobsen@astound.net)  
**E-Mail:** [deborah@westengineers.com](mailto:deborah@westengineers.com)  
**Tele:** (707) 451-1360 **Fax:** (707) 447-0631  
**Project #:** **Project Name:** Automasters  
**Project Location:** 6200 Shattuck Ave., Oakland, CA  
**Sampler Signature:** Bruce Jacobsen

Analysis Request											Other	Comments					
BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015) + TPH-g + TPH-mo	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	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)	Lead (200.7 / 200.8 / 6010 / 6020)		Filter Samples for Metals analysis: Yes / No

+  
+  
+

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other			
MW-101	MW-101	7-6	400PM	4	WA	✓					✓	✓					
MW-102	MW-102	"	437	4	"	✓					✓	=					
MW-103	MW-103	"	527	4	"	✓					✓	=					

**Relinquished By:** Bruce Jacobsen **Date:** 7/10/17 **Time:** 1419 **Received By:** [Signature]  
**Relinquished By:** **Date:** **Time:** **Received By:**  
**Relinquished By:** **Date:** **Time:** **Received By:**

**ICE/t°** 7.2 wet  
**GOOD CONDITION**  
**HEAD SPACE ABSENT**  
**DECHLORINATED IN LAB**  
**APPROPRIATE CONTAINERS**  
**PRESERVED IN LAB**  
**COMMENTS:**  
 VOAS O&G METALS OTHER  
 PRESERVATION pH<2



### Sample Receipt Checklist

Client Name: **West & Associates**  
 Project Name: **Automasters; 6200 Shattuck Ave., Oakland, CA**  
 WorkOrder No: **1707274** Matrix: Water  
 Carrier: Client Drop-In

Date and Time Received: **7/10/2017 14:19**  
 Date Logged: **7/10/2017**  
 Received by: **Jena Alfaro**  
 Logged by: **Agustina Venegas**

#### 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  NA   
 Sample/Temp Blank temperature Temp: 7.2°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: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No   
 (Ice Type: WET/BLU )

#### UCMR Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

Comments:



**APPENDIX D**

**Historical Groundwater Analytical Results**

## HISTORICAL GROUNDWATER RESULTS Automasters

*(All values in micrograms per liter, i.e. ug/l or ppb)*

Sample ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH-g	Benzene	Toluene	Ethyl Benzene	Xylenes	MtBE	Naphthalene	TPH-d	TPH-mo
MW-101 TOC = 128.84 ft	12/31/15	3.70	125.14	18,000	1,000	64	320	1,800	<200	210	5,100	<250
	06/30/16	5.35	123.49	14,000	980	<50	780	1,000	<50	210	3,000	<250
	10/04/16	6.17	122.67	15,000	990	<50	890	1,400	<5	190	3,900	<250
	1/6/17	3.53	125.31	17,000	900	35	680	1,100	<5	190	6,200	<250
	3/22/17	3.2	125.64	17,000	810	<25	600	810	<25	160	3,300	<250
	7/6/17	5.49	123.35	17,000	860	<25	650	960	<25	130	4,800	5,200
MW-102 TOC = 130.35 ft	12/31/15	5.20	125.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
	06/30/16	6.90	123.45	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
	10/04/16	7.51	122.84	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
	1/6/17	4.68	125.67	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
	3/22/17	4.56	125.79	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<30	<250
	7/6/17	6.53	123.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
MW-103 TOC = 130.03 ft	12/31/15	5.10	124.93	4,700	110	11	140	430	<5	78	1,400	<250
	06/30/16	6.56	123.47	3,200	70	6.7	160	150	<5	47	750	<250
	10/04/16	7.37	122.76	6,400	160	16	340	320	<5	69	1,300	<250
	1/6/17	4.51	125.52	5,800	97	10	220	310	<5	47	1,100	<250
	3/22/17	3.26	125.77	3,600	110	12	230	270	<5	54	840	<250
	7/6/17	6.31	123.72	2,900	46	<5	100	73	<5	20	970	<250

*No free product has been encountered in any of the wells during these six monitoring events.*



## HISTORICAL VOC GROUNDWATER RESULTS Automasters

*(All values in micrograms per liter, i.e. ug/l or ppb)*

Sample ID	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	N-Butyl Benzene	Isopropyl Benzene	4-Isopropyl Toluene	N-Propyl Benzene	1,2,4-Trimethyl Benzene	1,3,5-Trimethyl Benzene
MW-101 TOC = 128.84 ft	12/31/15	3.70	125.14	<50	<50	<50	<50	770	160
	06/30/16	5.35	123.49	<50	58	<50	160	620	150
	10/04/16	6.17	122.67	<50	71	<50	150	780	150
	1/6/17	3.53	125.31	55	64	<25	150	850	160
	3/22/17	3.2	125.64	26	40	<25	98	680	92
	7/6/17	5.49	123.35	35	69	<25	150	810	130
MW-102 TOC = 130.35 ft	12/31/15	5.20	125.15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/30/16	6.90	123.45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	10/04/16	7.51	122.84	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	1/6/17	4.68	125.67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	3/22/17	4.56	125.79	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	7/6/17	6.53	123.82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-103 TOC = 130.03 ft	12/31/15	5.10	124.93	<10	10	15	12	150	58
	06/30/16	6.56	123.47	9	19	<5	47	130	10
	10/04/16	7.37	122.76	18	35	<12	81	310	28
	1/6/17	4.51	125.52	22	25	<5.0	64	260	35
	3/22/17	3.26	125.77	20	33	<5.0	77	230	35
	7/6/17	6.31	123.72	16	21	<5	49	86	11

*No free product has been encountered in any of the wells during these six monitoring events.*



**APPENDIX E**

**Electronic Data Submittal Confirmations**