

October 31, 2016

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**RECEIVED**

By Alameda County Environmental Health 8:55 am, Nov 03, 2016

**Re.: Third Quarter 2016 Groundwater Monitoring Report  
Automasters  
6200 Shattuck Avenue  
Oakland, California  
ACEH Case #RO0002935**

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

**GROUNDWATER MONITORING REPORT  
THIRD QUARTER 2016**

**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**

**October 2016**

## 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) 451-1360; 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.

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 shallow soil samples (<5 feet BGS) collected from locations adjacent to the facility's current and past waste oil storage containers during this investigation were reported to be uncontaminated, suggesting that waste oil contamination is not a concern at the Automasters Site.

The full magnitude and extent of soil and groundwater contamination remains undefined, based on the significant concentrations of TPH-g and BTEX compounds reported in both soil and groundwater at monitoring well locations on the west side of the property (MW-101) and the south side of the property (MW-103).

The Automasters groundwater monitoring wells are now on a quarterly monitoring schedule. The wells were monitored in the second quarter of 2016. This Report presents results of the third quarter 2106 monitoring activity.

## **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 Environmental Health Services, Environmental Protection Division (ACEH), 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 sandy/gravel (USCS SW) lens found between 10-12 feet BGS at the Automasters site is considerably more permeable than the strata above and below. This permeable lens represents a preferred pathway for contaminant migration.

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 October 4, 2016. This work was scheduled for September 30<sup>th</sup> but the site owner had a large inoperable vehicle parked in a manner that was blocking MW-101. The vehicle was able to be moved out of the way by the end of the day on October 3<sup>rd</sup>, so monitoring and sampling were performed on the morning of October 4<sup>th</sup>. 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, DTGW measurements and groundwater elevations for the October 4, 2016 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 October 4, 2016 data is to the WSW at 246 degrees.

**TABLE 1  
HYDROLOGIC MEASUREMENTS  
Automasters  
October 4, 2016**

*(all measurements in feet)*

Well ID	TOC	DTW	GWE
MW-101	128.84	6.17	122.67
MW-102	130.35	7.51	122.84
MW-103	130.03	7.37	122.76

**Notes & 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 October 4, 2016. 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 October 5, 2016, 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 *Tables 2 and 3*.

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

**TABLE 2  
GROUNDWATER SAMPLE ANALYSIS  
Automasters  
October 4, 2016**

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

Sample ID	TPH-g	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MtBE	Naphthalene	TPH-d	TPH-mo
MW-101	15,000	990	<50	890	1,400	<5	190	3,900	<250
MW-102	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
MW-103	6,400	160	16	340	320	<5	69	1,300	<250

**TABLE 3  
VOC GROUNDWATER RESULTS  
Automasters  
October 4, 2016**

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

<b>Sample ID</b>	<b>Isopropyl Benzene</b>	<b>N-Propyl Benzene</b>	<b>1,2,4 Trimethyl Benzene</b>	<b>1,3,5 Trimethyl Benzene</b>	<b>N-Butyl Benzene</b>
MW-101	71	150	780	150	<50
MW-102	<0.5	<0.5	<0.5	<0.5	<0.5
MW-103	35	81	310	28	18

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 3<sup>rd</sup> Quarter 2016 groundwater monitoring project was completed in conformance with the ACEH 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 October 4, 2016 were interpreted to represent a groundwater gradient flowing to the WSW at 246 degrees. 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 activity in June 2016.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

No anomalies were observed during the third quarter 2016 Automasters groundwater monitoring event. Hydrologic conditions were found to be very similar to those measured during the second quarter 2016. 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.

No information was generated by the third quarter 2016 groundwater monitoring event which would alter project recommendations previously made, specifically:

- Conduct a geophysical site survey
- Perform additional sub-surface investigation
- Study the potential for indoor air intrusion and direct exposure

## 7.0 ELECTRONIC DATA SUBMITTAL COMPLIANCE

This Groundwater Monitoring Report has been uploaded to the ACEH web site per instructions included with the ACEH letter requesting it. Once approved by ACEH, 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 ACEH 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

Legend

★ Site Location

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

Project Name: Automasters

Date: February 2018

Location: 6200 Shattuck Avenue, Oakland, CA

Drawing By: DLG

Scale: No Scale



**WEST & ASSOCIATES ENVIRONMENTAL ENGINEERS**

PO Box 5891, Vacaville, CA 95696

Project Name: Automasters


Date: February 2018

Location: 6200 Shattuck Avenue, Oakland, CA

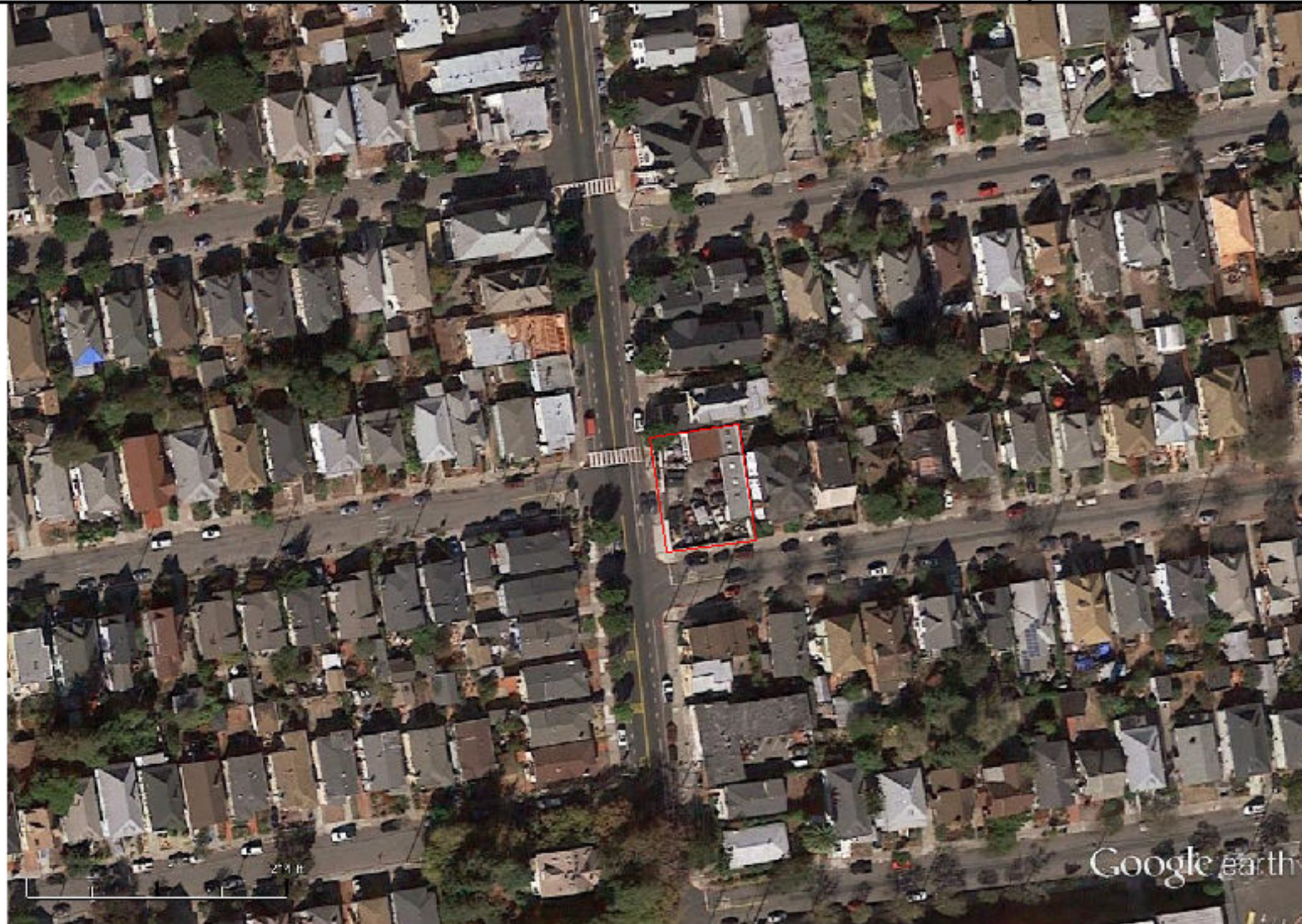
Drawing By: DLG

Scale: No Scale

Legend

 Site Location

**FIGURE 2**  
Aerial Photo



**WEST & ASSOCIATES ENVIRONMENTAL ENGINEERS**

PO Box 5891, Vacaville, CA 95696

Project Name: Automasters

Date: Oct 2018

Location: 6200 Shattuck Avenue, Oakland, CA

Drawing By: DLG

Scale: NS

**Legend**



Monitoring Well



Soil Boring

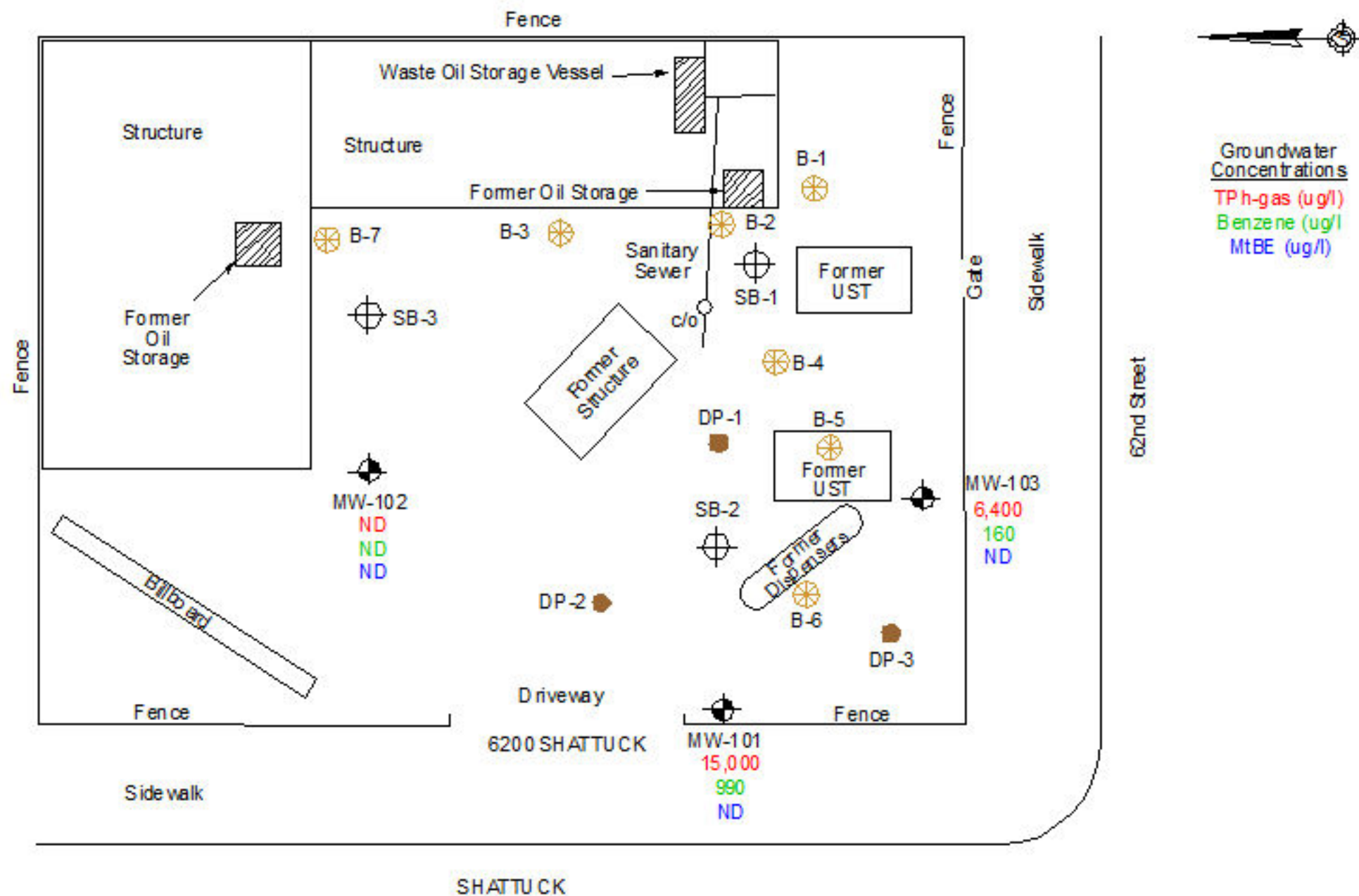


Shallow Soil Sample (Backfill)



Pangea Boring (2006)

**FIGURE 3  
Site Layout Map**



**WEST & ASSOCIATES ENVIRONMENTAL ENGINEERS**

PO Box 5891, Vacaville, CA 95696

Project Name: Automasters





Date: Oct 2016

Location: 6200 Shattuck Avenue, Oakland, CA

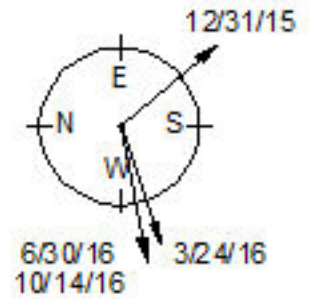
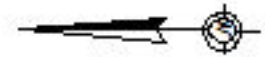
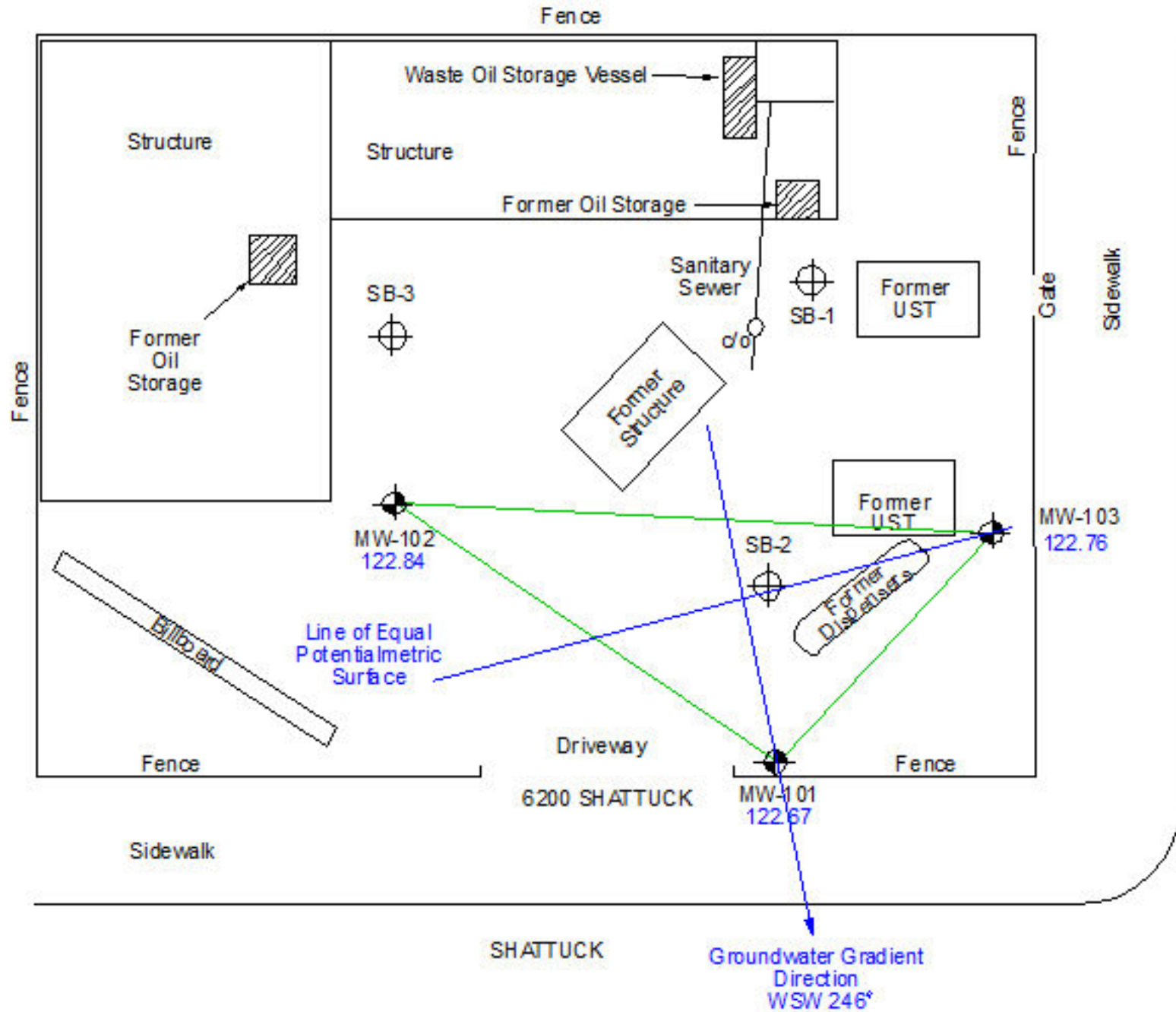
Drawing By: DLG

Scale: NS

**Legend**

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

**FIGURE 4**  
Groundwater Elevations & Gradient  
October 4, 2016



Groundwater Gradient  
Rose Diagram  
Dec 2015 - Oct 2016





**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: 10.4.16 TIME: 8:30  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: Mild petroleum odor/clear

$$\frac{20'}{\text{WELL DEPTH}} - \frac{6.17}{\text{DTGW}} \times \frac{2''}{.17} \cdot \frac{4''}{.66} = \frac{2.35}{\text{CASING VOLUME (GALS)}}$$

**PURGE MEASUREMENTS**

TIME	PURGE VOLUME GALLONS	CUMULATIVE GALLONS	TEMP. °C	CONDUCTIVITY μS	pH	Turbidity
8:32	0	0	18.8	1040	6.7	Clear
8:43	3	3	19.2	1010	6.8	Clear
8:55	3	6	20.1	980	7.0	Slight
9:05	3	9	20.0	970	6.8	Slight

REMARKS: Sample collected at 9:14 a.m.

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

**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: 10.4.16 TIME: 9:40  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

$$\frac{20'}{\text{WELL DEPTH}} - \frac{7.51}{\text{DTGW}} \times \frac{2''}{.17} \cdot \frac{4''}{.66} = \frac{2.12}{\text{CASING VOLUME (GALS)}}$$

**PURGE MEASUREMENTS**

TIME	PURGE VOLUME GALLONS	CUMULATIVE GALLONS	TEMP. °C	CONDUCTIVITY μS	pH	Turbidity
9:45	0	0	19.7	730	7.1	Clear
9:55	2.5	2.5	20.4	780	6.9	Slight
10:07	2.5	5.0	19.9	690	7.0	Medium
10:21	2.5	7.5	20.1	690	6.9	Medium

REMARKS: Sample collected at 10:31 a.m.

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

**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: 10.4.16 TIME: 11:00  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: Mild petroleum odor/clear

$$\frac{20'}{\text{WELL DEPTH}} - \frac{7.37}{\text{DTGW}} \times \frac{2''}{.17} \cdot \frac{4''}{.66} = \frac{2.15}{\text{CASING VOLUME (GALS)}}$$

**PURGE MEASUREMENTS**

TIME	PURGE VOLUME GALLONS	CUMULATIVE GALLONS	TEMP. °C	CONDUCTIVITY μS	pH	Turbidity
11:05	0	0	19.7	690	6.7	Clear
11:18	3	3	20.4	780	6.8	Slight
11:32	3	6	20.2	710	6.8	Medium
11:45	3	9	19.9	710	6.9	Slight

REMARKS: Sample collected at 11:48 a.m.

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



**APPENDIX C**

**Analytical Lab Reports**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1610105

**Report Created for:** West & Associates

630 Eubanks Ct, Unit #G  
Vacaville, CA 95688

**Project Contact:** Bruce Jacobsen

**Project P.O.:**

**Project Name:** Automasters

**Project Received:** 10/04/2016

Analytical Report reviewed & approved for release on 10/10/2016 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  
**WorkOrder:** 1610105

### 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
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)

### Analytical Qualifiers

d1	weakly modified or unmodified gasoline is significant
e4	gasoline range compounds are significant.



# Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1610105-001B	Water	10/04/2016 09:14	GC18	127746

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	1000	100	10/08/2016 00:19
tert-Amyl methyl ether (TAME)	ND	50	100	10/08/2016 00:19
Benzene	990	50	100	10/08/2016 00:19
Bromobenzene	ND	50	100	10/08/2016 00:19
Bromochloromethane	ND	50	100	10/08/2016 00:19
Bromodichloromethane	ND	50	100	10/08/2016 00:19
Bromoform	ND	50	100	10/08/2016 00:19
Bromomethane	ND	50	100	10/08/2016 00:19
2-Butanone (MEK)	ND	200	100	10/08/2016 00:19
t-Butyl alcohol (TBA)	ND	200	100	10/08/2016 00:19
n-Butyl benzene	ND	50	100	10/08/2016 00:19
sec-Butyl benzene	ND	50	100	10/08/2016 00:19
tert-Butyl benzene	ND	50	100	10/08/2016 00:19
Carbon Disulfide	ND	50	100	10/08/2016 00:19
Carbon Tetrachloride	ND	50	100	10/08/2016 00:19
Chlorobenzene	ND	50	100	10/08/2016 00:19
Chloroethane	ND	50	100	10/08/2016 00:19
Chloroform	ND	50	100	10/08/2016 00:19
Chloromethane	ND	50	100	10/08/2016 00:19
2-Chlorotoluene	ND	50	100	10/08/2016 00:19
4-Chlorotoluene	ND	50	100	10/08/2016 00:19
Dibromochloromethane	ND	50	100	10/08/2016 00:19
1,2-Dibromo-3-chloropropane	ND	20	100	10/08/2016 00:19
1,2-Dibromoethane (EDB)	ND	50	100	10/08/2016 00:19
Dibromomethane	ND	50	100	10/08/2016 00:19
1,2-Dichlorobenzene	ND	50	100	10/08/2016 00:19
1,3-Dichlorobenzene	ND	50	100	10/08/2016 00:19
1,4-Dichlorobenzene	ND	50	100	10/08/2016 00:19
Dichlorodifluoromethane	ND	50	100	10/08/2016 00:19
1,1-Dichloroethane	ND	50	100	10/08/2016 00:19
1,2-Dichloroethane (1,2-DCA)	ND	50	100	10/08/2016 00:19
1,1-Dichloroethene	ND	50	100	10/08/2016 00:19
cis-1,2-Dichloroethene	ND	50	100	10/08/2016 00:19
trans-1,2-Dichloroethene	ND	50	100	10/08/2016 00:19
1,2-Dichloropropane	ND	50	100	10/08/2016 00:19
1,3-Dichloropropane	ND	50	100	10/08/2016 00:19
2,2-Dichloropropane	ND	50	100	10/08/2016 00:19

(Cont.)





## Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1610105-001B	Water	10/04/2016 09:14	GC18	127746
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		50	100	10/08/2016 00:19
cis-1,3-Dichloropropene	ND		50	100	10/08/2016 00:19
trans-1,3-Dichloropropene	ND		50	100	10/08/2016 00:19
Diisopropyl ether (DIPE)	ND		50	100	10/08/2016 00:19
Ethylbenzene	<b>890</b>		50	100	10/08/2016 00:19
Ethyl tert-butyl ether (ETBE)	ND		50	100	10/08/2016 00:19
Freon 113	ND		50	100	10/08/2016 00:19
Hexachlorobutadiene	ND		50	100	10/08/2016 00:19
Hexachloroethane	ND		50	100	10/08/2016 00:19
2-Hexanone	ND		50	100	10/08/2016 00:19
Isopropylbenzene	<b>71</b>		50	100	10/08/2016 00:19
4-Isopropyl toluene	ND		50	100	10/08/2016 00:19
Methyl-t-butyl ether (MTBE)	ND		50	100	10/08/2016 00:19
Methylene chloride	ND		50	100	10/08/2016 00:19
4-Methyl-2-pentanone (MIBK)	ND		50	100	10/08/2016 00:19
Naphthalene	<b>190</b>		50	100	10/08/2016 00:19
n-Propyl benzene	<b>150</b>		50	100	10/08/2016 00:19
Styrene	ND		50	100	10/08/2016 00:19
1,1,1,2-Tetrachloroethane	ND		50	100	10/08/2016 00:19
1,1,2,2-Tetrachloroethane	ND		50	100	10/08/2016 00:19
Tetrachloroethene	ND		50	100	10/08/2016 00:19
Toluene	ND		50	100	10/08/2016 00:19
1,2,3-Trichlorobenzene	ND		50	100	10/08/2016 00:19
1,2,4-Trichlorobenzene	ND		50	100	10/08/2016 00:19
1,1,1-Trichloroethane	ND		50	100	10/08/2016 00:19
1,1,2-Trichloroethane	ND		50	100	10/08/2016 00:19
Trichloroethene	ND		50	100	10/08/2016 00:19
Trichlorofluoromethane	ND		50	100	10/08/2016 00:19
1,2,3-Trichloropropane	ND		50	100	10/08/2016 00:19
1,2,4-Trimethylbenzene	<b>780</b>		50	100	10/08/2016 00:19
1,3,5-Trimethylbenzene	<b>150</b>		50	100	10/08/2016 00:19
Vinyl Chloride	ND		50	100	10/08/2016 00:19
Xylenes, Total	<b>1400</b>		50	100	10/08/2016 00:19

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



# Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1610105-001B	Water	10/04/2016 09:14	GC18	127746

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	102		70-130	10/08/2016 00:19
Toluene-d8	101		70-130	10/08/2016 00:19
4-BFB	103		70-130	10/08/2016 00:19

Analyst(s): KF



# Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1610105-002B	Water	10/04/2016 10:31	GC16	127746

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	10	1	10/07/2016 20:15
tert-Amyl methyl ether (TAME)	ND	0.50	1	10/07/2016 20:15
Benzene	ND	0.50	1	10/07/2016 20:15
Bromobenzene	ND	0.50	1	10/07/2016 20:15
Bromochloromethane	ND	0.50	1	10/07/2016 20:15
Bromodichloromethane	ND	0.50	1	10/07/2016 20:15
Bromoform	ND	0.50	1	10/07/2016 20:15
Bromomethane	ND	0.50	1	10/07/2016 20:15
2-Butanone (MEK)	ND	2.0	1	10/07/2016 20:15
t-Butyl alcohol (TBA)	ND	2.0	1	10/07/2016 20:15
n-Butyl benzene	ND	0.50	1	10/07/2016 20:15
sec-Butyl benzene	ND	0.50	1	10/07/2016 20:15
tert-Butyl benzene	ND	0.50	1	10/07/2016 20:15
Carbon Disulfide	ND	0.50	1	10/07/2016 20:15
Carbon Tetrachloride	ND	0.50	1	10/07/2016 20:15
Chlorobenzene	ND	0.50	1	10/07/2016 20:15
Chloroethane	ND	0.50	1	10/07/2016 20:15
Chloroform	ND	0.50	1	10/07/2016 20:15
Chloromethane	ND	0.50	1	10/07/2016 20:15
2-Chlorotoluene	ND	0.50	1	10/07/2016 20:15
4-Chlorotoluene	ND	0.50	1	10/07/2016 20:15
Dibromochloromethane	ND	0.50	1	10/07/2016 20:15
1,2-Dibromo-3-chloropropane	ND	0.20	1	10/07/2016 20:15
1,2-Dibromoethane (EDB)	ND	0.50	1	10/07/2016 20:15
Dibromomethane	ND	0.50	1	10/07/2016 20:15
1,2-Dichlorobenzene	ND	0.50	1	10/07/2016 20:15
1,3-Dichlorobenzene	ND	0.50	1	10/07/2016 20:15
1,4-Dichlorobenzene	ND	0.50	1	10/07/2016 20:15
Dichlorodifluoromethane	ND	0.50	1	10/07/2016 20:15
1,1-Dichloroethane	ND	0.50	1	10/07/2016 20:15
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	10/07/2016 20:15
1,1-Dichloroethene	ND	0.50	1	10/07/2016 20:15
cis-1,2-Dichloroethene	ND	0.50	1	10/07/2016 20:15
trans-1,2-Dichloroethene	ND	0.50	1	10/07/2016 20:15
1,2-Dichloropropane	ND	0.50	1	10/07/2016 20:15
1,3-Dichloropropane	ND	0.50	1	10/07/2016 20:15
2,2-Dichloropropane	ND	0.50	1	10/07/2016 20:15

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# Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1610105-002B	Water	10/04/2016 10:31	GC16	127746

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.50	1	10/07/2016 20:15
cis-1,3-Dichloropropene	ND	0.50	1	10/07/2016 20:15
trans-1,3-Dichloropropene	ND	0.50	1	10/07/2016 20:15
Diisopropyl ether (DIPE)	ND	0.50	1	10/07/2016 20:15
Ethylbenzene	ND	0.50	1	10/07/2016 20:15
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	10/07/2016 20:15
Freon 113	ND	0.50	1	10/07/2016 20:15
Hexachlorobutadiene	ND	0.50	1	10/07/2016 20:15
Hexachloroethane	ND	0.50	1	10/07/2016 20:15
2-Hexanone	ND	0.50	1	10/07/2016 20:15
Isopropylbenzene	ND	0.50	1	10/07/2016 20:15
4-Isopropyl toluene	ND	0.50	1	10/07/2016 20:15
Methyl-t-butyl ether (MTBE)	ND	0.50	1	10/07/2016 20:15
Methylene chloride	ND	0.50	1	10/07/2016 20:15
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	10/07/2016 20:15
Naphthalene	ND	0.50	1	10/07/2016 20:15
n-Propyl benzene	ND	0.50	1	10/07/2016 20:15
Styrene	ND	0.50	1	10/07/2016 20:15
1,1,1,2-Tetrachloroethane	ND	0.50	1	10/07/2016 20:15
1,1,2,2-Tetrachloroethane	ND	0.50	1	10/07/2016 20:15
Tetrachloroethene	ND	0.50	1	10/07/2016 20:15
Toluene	ND	0.50	1	10/07/2016 20:15
1,2,3-Trichlorobenzene	ND	0.50	1	10/07/2016 20:15
1,2,4-Trichlorobenzene	ND	0.50	1	10/07/2016 20:15
1,1,1-Trichloroethane	ND	0.50	1	10/07/2016 20:15
1,1,2-Trichloroethane	ND	0.50	1	10/07/2016 20:15
Trichloroethene	ND	0.50	1	10/07/2016 20:15
Trichlorofluoromethane	ND	0.50	1	10/07/2016 20:15
1,2,3-Trichloropropane	ND	0.50	1	10/07/2016 20:15
1,2,4-Trimethylbenzene	ND	0.50	1	10/07/2016 20:15
1,3,5-Trimethylbenzene	ND	0.50	1	10/07/2016 20:15
Vinyl Chloride	ND	0.50	1	10/07/2016 20:15
Xylenes, Total	ND	0.50	1	10/07/2016 20:15

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



# Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1610105-002B	Water	10/04/2016 10:31	GC16	127746

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	94		70-130	10/07/2016 20:15
Toluene-d8	96		70-130	10/07/2016 20:15
4-BFB	84		70-130	10/07/2016 20:15

Analyst(s): MW



# Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1610105-003B	Water	10/04/2016 11:48	GC18	127746

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	250	25	10/08/2016 00:58
tert-Amyl methyl ether (TAME)	ND	12	25	10/08/2016 00:58
Benzene	<b>160</b>	12	25	10/08/2016 00:58
Bromobenzene	ND	12	25	10/08/2016 00:58
Bromochloromethane	ND	12	25	10/08/2016 00:58
Bromodichloromethane	ND	12	25	10/08/2016 00:58
Bromoform	ND	12	25	10/08/2016 00:58
Bromomethane	ND	12	25	10/08/2016 00:58
2-Butanone (MEK)	ND	50	25	10/08/2016 00:58
t-Butyl alcohol (TBA)	ND	50	25	10/08/2016 00:58
n-Butyl benzene	<b>18</b>	12	25	10/08/2016 00:58
sec-Butyl benzene	ND	12	25	10/08/2016 00:58
tert-Butyl benzene	ND	12	25	10/08/2016 00:58
Carbon Disulfide	ND	12	25	10/08/2016 00:58
Carbon Tetrachloride	ND	12	25	10/08/2016 00:58
Chlorobenzene	ND	12	25	10/08/2016 00:58
Chloroethane	ND	12	25	10/08/2016 00:58
Chloroform	ND	12	25	10/08/2016 00:58
Chloromethane	ND	12	25	10/08/2016 00:58
2-Chlorotoluene	ND	12	25	10/08/2016 00:58
4-Chlorotoluene	ND	12	25	10/08/2016 00:58
Dibromochloromethane	ND	12	25	10/08/2016 00:58
1,2-Dibromo-3-chloropropane	ND	5.0	25	10/08/2016 00:58
1,2-Dibromoethane (EDB)	ND	12	25	10/08/2016 00:58
Dibromomethane	ND	12	25	10/08/2016 00:58
1,2-Dichlorobenzene	ND	12	25	10/08/2016 00:58
1,3-Dichlorobenzene	ND	12	25	10/08/2016 00:58
1,4-Dichlorobenzene	ND	12	25	10/08/2016 00:58
Dichlorodifluoromethane	ND	12	25	10/08/2016 00:58
1,1-Dichloroethane	ND	12	25	10/08/2016 00:58
1,2-Dichloroethane (1,2-DCA)	ND	12	25	10/08/2016 00:58
1,1-Dichloroethene	ND	12	25	10/08/2016 00:58
cis-1,2-Dichloroethene	ND	12	25	10/08/2016 00:58
trans-1,2-Dichloroethene	ND	12	25	10/08/2016 00:58
1,2-Dichloropropane	ND	12	25	10/08/2016 00:58
1,3-Dichloropropane	ND	12	25	10/08/2016 00:58
2,2-Dichloropropane	ND	12	25	10/08/2016 00:58

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## Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1610105-003B	Water	10/04/2016 11:48	GC18	127746
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		12	25	10/08/2016 00:58
cis-1,3-Dichloropropene	ND		12	25	10/08/2016 00:58
trans-1,3-Dichloropropene	ND		12	25	10/08/2016 00:58
Diisopropyl ether (DIPE)	ND		12	25	10/08/2016 00:58
Ethylbenzene	<b>340</b>		12	25	10/08/2016 00:58
Ethyl tert-butyl ether (ETBE)	ND		12	25	10/08/2016 00:58
Freon 113	ND		12	25	10/08/2016 00:58
Hexachlorobutadiene	ND		12	25	10/08/2016 00:58
Hexachloroethane	ND		12	25	10/08/2016 00:58
2-Hexanone	ND		12	25	10/08/2016 00:58
Isopropylbenzene	<b>35</b>		12	25	10/08/2016 00:58
4-Isopropyl toluene	ND		12	25	10/08/2016 00:58
Methyl-t-butyl ether (MTBE)	ND		12	25	10/08/2016 00:58
Methylene chloride	ND		12	25	10/08/2016 00:58
4-Methyl-2-pentanone (MIBK)	ND		12	25	10/08/2016 00:58
Naphthalene	<b>69</b>		12	25	10/08/2016 00:58
n-Propyl benzene	<b>81</b>		12	25	10/08/2016 00:58
Styrene	ND		12	25	10/08/2016 00:58
1,1,1,2-Tetrachloroethane	ND		12	25	10/08/2016 00:58
1,1,2,2-Tetrachloroethane	ND		12	25	10/08/2016 00:58
Tetrachloroethene	ND		12	25	10/08/2016 00:58
Toluene	<b>16</b>		12	25	10/08/2016 00:58
1,2,3-Trichlorobenzene	ND		12	25	10/08/2016 00:58
1,2,4-Trichlorobenzene	ND		12	25	10/08/2016 00:58
1,1,1-Trichloroethane	ND		12	25	10/08/2016 00:58
1,1,2-Trichloroethane	ND		12	25	10/08/2016 00:58
Trichloroethene	ND		12	25	10/08/2016 00:58
Trichlorofluoromethane	ND		12	25	10/08/2016 00:58
1,2,3-Trichloropropane	ND		12	25	10/08/2016 00:58
1,2,4-Trimethylbenzene	<b>310</b>		12	25	10/08/2016 00:58
1,3,5-Trimethylbenzene	<b>28</b>		12	25	10/08/2016 00:58
Vinyl Chloride	ND		12	25	10/08/2016 00:58
Xylenes, Total	<b>320</b>		12	25	10/08/2016 00:58

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NELAP 4033ORELAP

 Angela Rydelius, Lab Manager



# Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/7/16-10/8/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

## Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1610105-003B	Water	10/04/2016 11:48	GC18	127746

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	
Dibromofluoromethane	103		70-130	10/08/2016 00:58
Toluene-d8	101		70-130	10/08/2016 00:58
4-BFB	104		70-130	10/08/2016 00:58

Analyst(s): KF





## Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/6/16-10/7/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**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-101	1610105-001A	Water	10/04/2016 09:14	GC19	127760

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	15,000	2500	50	10/06/2016 21:08
MTBE	---	250	50	10/06/2016 21:08
Benzene	---	25	50	10/06/2016 21:08
Toluene	---	25	50	10/06/2016 21:08
Ethylbenzene	---	25	50	10/06/2016 21:08
Xylenes	---	75	50	10/06/2016 21:08

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	102	89-115	10/06/2016 21:08

Analyst(s): IA

Analytical Comments: d1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1610105-002A	Water	10/04/2016 10:31	GC7	127749

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	ND	50	1	10/07/2016 03:59
MTBE	---	5.0	1	10/07/2016 03:59
Benzene	---	0.50	1	10/07/2016 03:59
Toluene	---	0.50	1	10/07/2016 03:59
Ethylbenzene	---	0.50	1	10/07/2016 03:59
Xylenes	---	1.5	1	10/07/2016 03:59

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	99	89-115	10/07/2016 03:59

Analyst(s): IA



## Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/6/16-10/7/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**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	1610105-003A	Water	10/04/2016 11:48	GC19	127760

Analytes	Result	RL	DF	Date Analyzed
TPH(g) (C6-C12)	<b>6400</b>	2500	50	10/06/2016 21:38
MTBE	---	250	50	10/06/2016 21:38
Benzene	---	25	50	10/06/2016 21:38
Toluene	---	25	50	10/06/2016 21:38
Ethylbenzene	---	25	50	10/06/2016 21:38
Xylenes	---	75	50	10/06/2016 21:38

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	98	89-115	10/06/2016 21:38

**Analyst(s):** IA

**Analytical Comments:** d1



## Analytical Report

**Client:** West & Associates  
**Date Received:** 10/4/16 18:50  
**Date Prepared:** 10/4/16  
**Project:** Automasters

**WorkOrder:** 1610105  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-101	1610105-001A	Water	10/04/2016 09:14	GC9b	127564

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	3900	50	1	10/06/2016 00:30
TPH-Motor Oil (C18-C36)	ND	250	1	10/06/2016 00:30

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	115	70-130	10/06/2016 00:30

Analyst(s): TK Analytical Comments: e4

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-102	1610105-002A	Water	10/04/2016 10:31	GC9b	127564

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND	50	1	10/06/2016 01:09
TPH-Motor Oil (C18-C36)	ND	250	1	10/06/2016 01:09

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	95	70-130	10/06/2016 01:09

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-103	1610105-003A	Water	10/04/2016 11:48	GC9b	127564

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1300	50	1	10/06/2016 01:48
TPH-Motor Oil (C18-C36)	ND	250	1	10/06/2016 01:48

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	96	70-130	10/06/2016 01:48

Analyst(s): TK Analytical Comments: e4



## Quality Control Report

**Client:** West & Associates  
**Date Prepared:** 10/6/16  
**Date Analyzed:** 10/6/16  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** Automasters

**WorkOrder:** 1610105  
**BatchID:** 127746  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-127746  
 1610105-001BMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	8.88	0.50	10	-	89	54-140
Benzene	ND	9.57	0.50	10	-	96	47-158
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	26.5	2.0	40	-	66	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	9.11	0.50	10	-	91	43-157
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	8.98	0.50	10	-	90	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	8.57	0.50	10	-	86	66-125
1,1-Dichloroethene	ND	8.59	0.50	10	-	86	47-149
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	-	-	-	-

(Cont.)

NELAP 4033ORELAP

 QA/QC Officer



## Quality Control Report

**Client:** West & Associates  
**Date Prepared:** 10/6/16  
**Date Analyzed:** 10/6/16  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** Automasters

**WorkOrder:** 1610105  
**BatchID:** 127746  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-127746  
 1610105-001BMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	9.64	0.50	10	-	96	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.25	0.50	10	-	92	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	8.41	0.50	10	-	84	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	8.96	0.50	10	-	90	52-137
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	9.18	0.50	10	-	92	43-157
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	-	-	-	-



## Quality Control Report

**Client:** West & Associates  
**Date Prepared:** 10/6/16  
**Date Analyzed:** 10/6/16  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** Automasters

**WorkOrder:** 1610105  
**BatchID:** 127746  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-127746  
 1610105-001BMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
Dibromofluoromethane	23.2	23.5		25	93	94	70-130
Toluene-d8	24.0	22.0		25	96	88	70-130
4-BFB	2.02	2.43		2.5	81	97	70-130

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		ND<50	NR	NR	-	NR	
Benzene	NR	NR		990	NR	NR	-	NR	
t-Butyl alcohol (TBA)	NR	NR		ND<200	NR	NR	-	NR	
Chlorobenzene	NR	NR		ND<50	NR	NR	-	NR	
1,2-Dibromoethane (EDB)	NR	NR		ND<50	NR	NR	-	NR	
1,2-Dichloroethane (1,2-DCA)	NR	NR		ND<50	NR	NR	-	NR	
1,1-Dichloroethene	NR	NR		ND<50	NR	NR	-	NR	
Diisopropyl ether (DIPE)	NR	NR		ND<50	NR	NR	-	NR	
Ethyl tert-butyl ether (ETBE)	NR	NR		ND<50	NR	NR	-	NR	
Methyl-t-butyl ether (MTBE)	NR	NR		ND<50	NR	NR	-	NR	
Toluene	NR	NR		ND<50	NR	NR	-	NR	
Trichloroethene	NR	NR		ND<50	NR	NR	-	NR	
<b>Surrogate Recovery</b>									
Dibromofluoromethane	NR	NR			NR	NR	-	NR	
Toluene-d8	NR	NR			NR	NR	-	NR	
4-BFB	NR	NR			NR	NR	-	NR	



## Quality Control Report

**Client:** West & Associates  
**Date Prepared:** 10/6/16  
**Date Analyzed:** 10/6/16  
**Instrument:** GC3  
**Matrix:** Water  
**Project:** Automasters

**WorkOrder:** 1610105  
**BatchID:** 127749  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L  
**Sample ID:** MB/LCS-127749  
 1610074-001AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	63.6	40	60	-	106	85-112
MTBE	ND	9.18	5.0	10	-	92	74-127
Benzene	ND	10.2	0.50	10	-	102	81-124
Toluene	ND	10.6	0.50	10	-	106	79-131
Ethylbenzene	ND	11.1	0.50	10	-	111	86-127
Xylenes	ND	35.0	1.5	30	-	117	87-133
<b>Surrogate Recovery</b>							
aaa-TFT	10.4	10.2		10	104	102	87-117

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	57.2	56.4	60	ND	95	94	85-113	1.57	20
MTBE	10.2	10.5	10	ND	102	105	73-120	2.04	20
Benzene	11.7	11.7	10	ND	114	115	84-121	0.489	20
Toluene	11.4	11.7	10	ND	113	116	86-125	2.50	20
Ethylbenzene	11.6	11.9	10	ND	117	119	93-124	2.39	20
Xylenes	34.5	36.4	30	ND	115	121	93-130	5.36	20
<b>Surrogate Recovery</b>									
aaa-TFT	11.0	11.1	10		110	111	89-115	0.498	20



## Quality Control Report

**Client:** West & Associates  
**Date Prepared:** 10/6/16  
**Date Analyzed:** 10/6/16  
**Instrument:** GC19  
**Matrix:** Water  
**Project:** Automasters

**WorkOrder:** 1610105  
**BatchID:** 127760  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L  
**Sample ID:** MB/LCS-127760  
 1610105-001AMS/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	59.2	40	60	-	99	85-112
MTBE	ND	8.39	5.0	10	-	84	74-127
Benzene	ND	8.64	0.50	10	-	86	81-124
Toluene	ND	8.85	0.50	10	-	88	79-131
Ethylbenzene	ND	9.02	0.50	10	-	90	86-127
Xylenes	ND	27.1	1.5	30	-	90	87-133
<b>Surrogate Recovery</b>							
aaa-TFT	9.43	9.43		10	94	94	87-117

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		4000	NR	NR	-	NR	
MTBE	NR	NR		ND<250	NR	NR	-	NR	
Benzene	NR	NR		930	NR	NR	-	NR	
Toluene	NR	NR		52	NR	NR	-	NR	
Ethylbenzene	NR	NR		810	NR	NR	-	NR	
Xylenes	NR	NR		1300	NR	NR	-	NR	
<b>Surrogate Recovery</b>									
aaa-TFT	NR	NR			NR	NR	-	NR	





## Quality Control Report

**Client:** West & Associates  
**Date Prepared:** 10/4/16  
**Date Analyzed:** 10/5/16  
**Instrument:** GC9b  
**Matrix:** Water  
**Project:** Automasters

**WorkOrder:** 1610105  
**BatchID:** 127564  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L  
**Sample ID:** MB/LCS/LCSD-127564

### 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	-	-	-
<b>Surrogate Recovery</b>					
C9	591		625	95	74-107

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1100	1120	1000	110	112	95-136	2.06	30
<b>Surrogate Recovery</b>								
C9	594	595	625	95	95	74-107	0	30



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1610105

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

**Bill to:**

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

**Requested TAT: 5 days;**

**Date Received: 10/04/2016**  
**Date Logged: 10/04/2016**

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	
1610105-001	MW-101	Water	10/4/2016 09:14	<input type="checkbox"/>	B	A	A	A									
1610105-002	MW-102	Water	10/4/2016 10:31	<input type="checkbox"/>	B	A		A									
1610105-003	MW-103	Water	10/4/2016 11:48	<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: Briana Cutino**

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

**Work Order:** 1610105

**Client Contact:** Bruce Jacobsen

**QC Level:** LEVEL 2

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

**Comments:**

**Date Logged:** 10/4/2016

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
1610105-001A	MW-101	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	1LA & 2-VOA w/ HCL	<input type="checkbox"/>	10/4/2016 9:14	5 days	Trace	<input type="checkbox"/>	
1610105-001B	MW-101	Water	SW8260B (VOCs)	2	VOA w/ HCL	<input type="checkbox"/>	10/4/2016 9:14	5 days	Trace	<input type="checkbox"/>	
1610105-002A	MW-102	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	1LA & 2-VOA w/ HCL	<input type="checkbox"/>	10/4/2016 10:31	5 days	Trace	<input type="checkbox"/>	
1610105-002B	MW-102	Water	SW8260B (VOCs)	2	VOA w/ HCL	<input type="checkbox"/>	10/4/2016 10:31	5 days	Trace	<input type="checkbox"/>	
1610105-003A	MW-103	Water	Multi-Range TPH(g,d,mo) by EPA 8015Bm	3	1LA & 2-VOA w/ HCL	<input type="checkbox"/>	10/4/2016 11:48	5 days	Trace	<input type="checkbox"/>	
1610105-003B	MW-103	Water	SW8260B (VOCs)	2	VOA w/ HCL	<input type="checkbox"/>	10/4/2016 11:48	5 days	Trace	<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.

1120105

T 0619748201



**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 Jacobson **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 Jacobson

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other			
MW-101	MW-101	10-4	9:14 AM	5	①	✓					✓	②					Filter Samples for Metals analysis: Yes / No
MW-102	MW-102	10-4	10:31 "	5	"	✓					✓						
MW-103	MW-103	10-4	11:48 "	5	"	✓					✓						
<p>① VOAs (4) and 1-liter amber</p> <p>② VOAs w/ HCl for 8260 &amp; TPH-g 1-liter amber unpreserved for TPH-g and TPH-mo</p>																	

**Relinquished By:** Bruce Jacobson **Date:** 10/4/08 **Time:** 10:50 **Received By:** [Signature]

**Relinquished By:** **Date:** **Time:** **Received By:**

**Relinquished By:** **Date:** **Time:** **Received By:**

**ICE/°** \_\_\_\_\_ **COMMENTS:**

**GOOD CONDITION** \_\_\_\_\_

**HEAD SPACE ABSENT** \_\_\_\_\_

**DECHLORINATED IN LAB** \_\_\_\_\_

**APPROPRIATE CONTAINERS** \_\_\_\_\_

**PRESERVED IN LAB** \_\_\_\_\_

VOAS O&G METALS OTHER  
PRESERVATION pH-2



### Sample Receipt Checklist

Client Name: **West & Associates**  
 Project Name: **Automasters**

Date and Time Received: **10/4/2016 18:50**  
 Date Logged: **10/4/2016**  
 Received by: **Briana Cutino**  
 Logged by: **Briana Cutino**

WorkOrder No: **1610105** Matrix: Water  
 Carrier: Client Drop-In

#### Chain of Custody (COC) Information

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

#### Sample Receipt Information

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

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

All samples received within holding time? Yes  No   
 Sample/Temp Blank temperature Temp: 3°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 ICE )

#### UCMR3 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 BGS)	TPH-g	Benzene	Toluene	Ethyl Benzene	Xylenes	MtBE	Naphthalene	TPH-d	TPH-mo
MW-101	12/31/15	3.70	18,000	1,000	64	320	1,800	<200	210	5,100	<250
	06/30/16	5.35	14,000	980	<50	780	1,000	<50	210	3,000	<250
	10/04/16	6.17	15,000	990	<50	890	1,400	<5	190	3,900	<250
MW-102	12/31/15	5.20	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
	06/30/16	6.90	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
	10/04/16	7.51	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<250
MW-103	12/31/15	5.10	4,700	110	11	140	430	<5	78	1,400	<250
	06/30/16	6.56	3,200	70	6.7	160	150	<5	47	750	<250
	10/04/16	7.37	6,400	160	16	340	320	<5	69	1,300	<250

**HISTORICAL VOC GROUNDWATER RESULTS**  
**Automasters**

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

Sample ID	Date	Depth to Groundwater (ft BGS)	N-Butyl Benzene	Isopropyl Benzene	4-Isopropyl Toluene	N-Propyl Benzene	1,2,4-Trimethyl Benzene	1,3,5-Trimethyl Benzene
MW-101	12/31/15	3.70	<50	<50	<50	<50	770	160
	06/30/16	5.35	<50	58	<50	160	620	150
	10/04/16	6.17	<50	71	<50	150	780	150
MW-102	12/31/15	5.20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/30/16	6.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	10/04/16	7.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-103	12/31/15	5.10	<10	10	15	12	150	58
	06/30/16	6.56	9	19	<5	47	130	10
	10/04/16	7.37	18	35	<12	81	310	28





**APPENDIX E**

**Electronic Data Submittal Confirmations**