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May 10, 2012

Reference: Second Quarter 2012 Groundwater Monitoring and Sampling Report
Former F&M Auto Service UST Site
1839 Foothill Boulevard
Oakland, Alameda County, California 94606

Alameda County, Case #: RO 3077

PERJURY STATEMENT

As the Responsible Party (RP) for this Site, I declare that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct.



Mary K. Wright
Responsible Party



May 10, 2012

Ms. Karel Detterman
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Second Quarter 2012 Groundwater Monitoring and Sampling Report
Former F&M Auto Service UST Site
Alameda County, Case # RO 3077
1839 Foothill Boulevard, Oakland, California

Dear Ms. Detterman:

On behalf of Ms. Mary Wright, current property owner, and Mr. James Balsley, prospective property owner, Sierra West Consultants, Inc. (Sierra West) is pleased to provide this *Second Quarter 2012 Groundwater Monitoring and Sampling Report* for the Former F&M Auto Service Underground Storage Tank (UST) Site located at 1839 Foothill Boulevard, Oakland, California (Site). The Site is located at the northwest corner of the intersection of Foothill Boulevard and 19th Avenue, in Oakland, California. A Site Location Map is included as **Figure 1**.

This quarterly report presents Site background information, groundwater level measurements, and groundwater sampling and analytical testing results.

Site Background

The Site is identified by Alameda County Assessors Parcel Number 20-164-6, and is a rectangular lot surrounded by a chain link fence with approximate dimensions of 100 feet long by 40 feet wide. The Site is a former gasoline service station that is estimated to have been constructed sometime during the 1950's. The service station ceased operation in 1995 and an auto detailing service operated at the property from 1997 through 2001. The property has been unoccupied since 2001. The southern section of the Site consisted of a small metal-framed retail building with an overhead canopy that covered a concrete pad and a dispenser island containing three gasoline pumps. The northern section of the Site consisted of a metal-framed structure that included a storage shed, an auto service garage, and a canopy that covered waste oil containers and other equipment.

There were a total of four USTs at the Site. UST#1 and UST#2 each had a capacity of 1,000-gallons, likely contained unleaded gasoline during operation of the service station, and were located at the southern end of the Site. UST#3 had a capacity of 550-gallons, and was located in the central portion of the Site. UST#3 likely contained leaded gasoline during operation of the service station. UST#4 had a capacity of 100-gallons, and was located at the northern end of the Site. UST#4 likely contained oil during operation of the service station. The Site structures were demolished and the four USTs and surrounding soils were removed between March 29 and April 8, 2011.

During the subsequent environmental assessment performed in January 2012, soil borings B-1 through B-3 were drilled and monitoring wells MW-1 through MW-4 were installed at the Site. Analysis of soil and groundwater samples from the soil borings and monitoring wells showed that the greatest hydrocarbon impacts are present in the vicinity of former UST#1 and UST#2. Hydrocarbon impacts were also observed in the vicinity of former UST#3, and low level detections of methyl tertiary butyl ether (MTBE) near laboratory reporting limits were also observed near former UST#4. Results from this investigation are described in Sierra West's *Site Conceptual Model with Soil and Groundwater Investigation Results Report*, submitted to Alameda County Environmental Health (ACEH) on March 9, 2012. Locations of the monitoring wells, soil borings, and former Site features including structures and USTs, are shown on the Site Plan included as **Figure 2**.

Groundwater Level Measurements

Groundwater level measurements were taken on April 20, 2012, from groundwater wells MW-1 through MW-4. Free phase hydrocarbons were not encountered in any of the monitoring wells. A copy of the well gauging data sheet is included in **Attachment A**, and a summary of historical groundwater elevation data is presented in **Table 1**. Groundwater flow across the Site was generally to the southeast with a hydraulic gradient of approximately 0.043 feet per foot (ft/ft). A groundwater elevation contour map is included as **Figure 3**.

Groundwater Sampling

Groundwater samples were collected from monitoring wells MW-1 through MW-4 on April 20, 2012. Sampling was performed using the three-volume purge method with a centrifugal pump. Copies of the well sampling data sheets are included in **Attachment A**. The samples were delivered, under chain-of-custody (COC) protocol, to Accutest Laboratories, a State-of-California certified laboratory located in San Jose, California. Samples were analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE), diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA) by Environmental Protection Agency (EPA) Method 8260B;
- Total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015M; and,
- Total lead for soil samples and dissolved lead for groundwater samples, by EPA Method 6010B.

Due to its proximity to the former waste oil tank, samples collected from MW-3 were also analyzed for the following:

- Oil and grease by EPA Method 1664A with silica gel cleanup;
- Cadmium (Cd), chromium (Cr), nickel (Ni), and zinc (Zn) by EPA Method 6010B;
- Chlorinated hydrocarbons, ethylene dibromide (EDB), and ethylene dichloride (EDC) by EPA Method 8260B;
- Polychlorinated biphenyls (PCBs), pentachlorophenol (PCP), polynuclear aromatic hydrocarbons (PNAs), and 1,4-dioxane by EPA Method 8270; and,
- Creosote compounds by EPA Method 3510C.

A copy of the certified laboratory analytical report with COC documentation is included as **Attachment B**. A summary of current and historical analytical results is included as **Table 1**.

Groundwater Analytical Results

The primary constituents of concern in groundwater beneath the Site are TPHg and BTEX. A tabular summary of groundwater testing results is presented below. The summary also includes a comparison with applicable environmental screening limits (ESLs), as defined by the San Francisco Bay Regional Water Quality Control Board (RWQCB) in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater – Table B* (November, 2007), for shallow soils where groundwater is a not a current or potential source of drinking water.

Summary of Results from the Second Quarterly Event of 2012

Well ID	TPHd µg/L	TPHg µg/L	B µg/L	T µg/L	E µg/L	X µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	Dissolved Lead µg/L
MW-1	802	11,000	2,280	795	207	544	563	<100	<100	<100	<500	10.5
MW-2	743	5,000	64.1	2.6 ^J	36.3	27.1	115	<10	4.6 ^J	<10	<50	<10
MW-3	123	<50	<1.0	<1.0	<1.0	<2.0	4.7	<2.0	<2.0	<2.0	<10	<10
MW-4	45.5 ^J	<50	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<10	<10
ESL	180	180	46	130	43	100	1,800	NA	NA	NA	18,000	2.5

Notes:

- ESLs for DIPE, ETBE, and TAME have not been established by the RWQCB.
- Concentrations exceeding their respective ESLs are presented in **bold**.
- ^J Indicates an estimated value, as reported by laboratory.

The greatest constituent concentrations in groundwater were observed in MW-1. MW-1 is located immediately downgradient of the former location of UST#1 and UST#2, where the highest concentrations were observed during UST removal and excavation. Concentrations of TPHd, TPHg, BTEX, and dissolved lead all exceeded their respective ESLs in the sample collected from MW-1. Constituent concentrations exceeding their respective ESLs were also observed in the sample collected from MW-2, near the former location of UST#3.

Samples collected from MW-3 and MW-4 did not have any constituent concentrations exceeding their respective ESLs. TPHd and MTBE were detected in the sample from MW-3, at concentrations of 123 and 4.7 micrograms per liter (µg/L), respectively. TPHd was detected in the sample from MW-4 at a concentration of 45.5 µg/L.

Groundwater analytical results are generally consistent with data collected during UST removal in April 2011 and monitoring well installation in January 2012. A groundwater concentration map, including iso-concentration lines for TPHg, is included as **Figure 4**.

Conclusions and Future Work

Based on the sample results from the drilling work and groundwater monitoring events, constituent impacts to groundwater appear greatest in the vicinity of former UST#1. Based on soil analytical results collected during monitoring well installation during January 2012, the vertical extent of petroleum hydrocarbon impacts appears defined to depths of approximately 20 feet or less. The lateral extent of constituent impacts to soil and groundwater downgradient of MW-1 remain undefined. Near the source area, constituent concentrations in soil and groundwater indicate that vadose zone impacts may be present.


The *Site Conceptual Model with Soil and Groundwater Investigation Results Report*, indicated that downgradient monitoring wells and a soil vapor survey in the source area may be warranted. Sierra West is currently awaiting response and directive from ACEH to conduct additional assessment work at the Site.

Sierra West appreciates this opportunity to provide environmental services at the Former F&M Auto Service UST Site. If you have any questions regarding this report, please contact Jeff Bensch or Brian Whalen at (916) 863-3220.

Sincerely,
Sierra West Consultants, Inc.



Jeffrey C. Bensch, P.E.
Principal Engineer



Brian Whalen, G.I.T.
Project Geologist

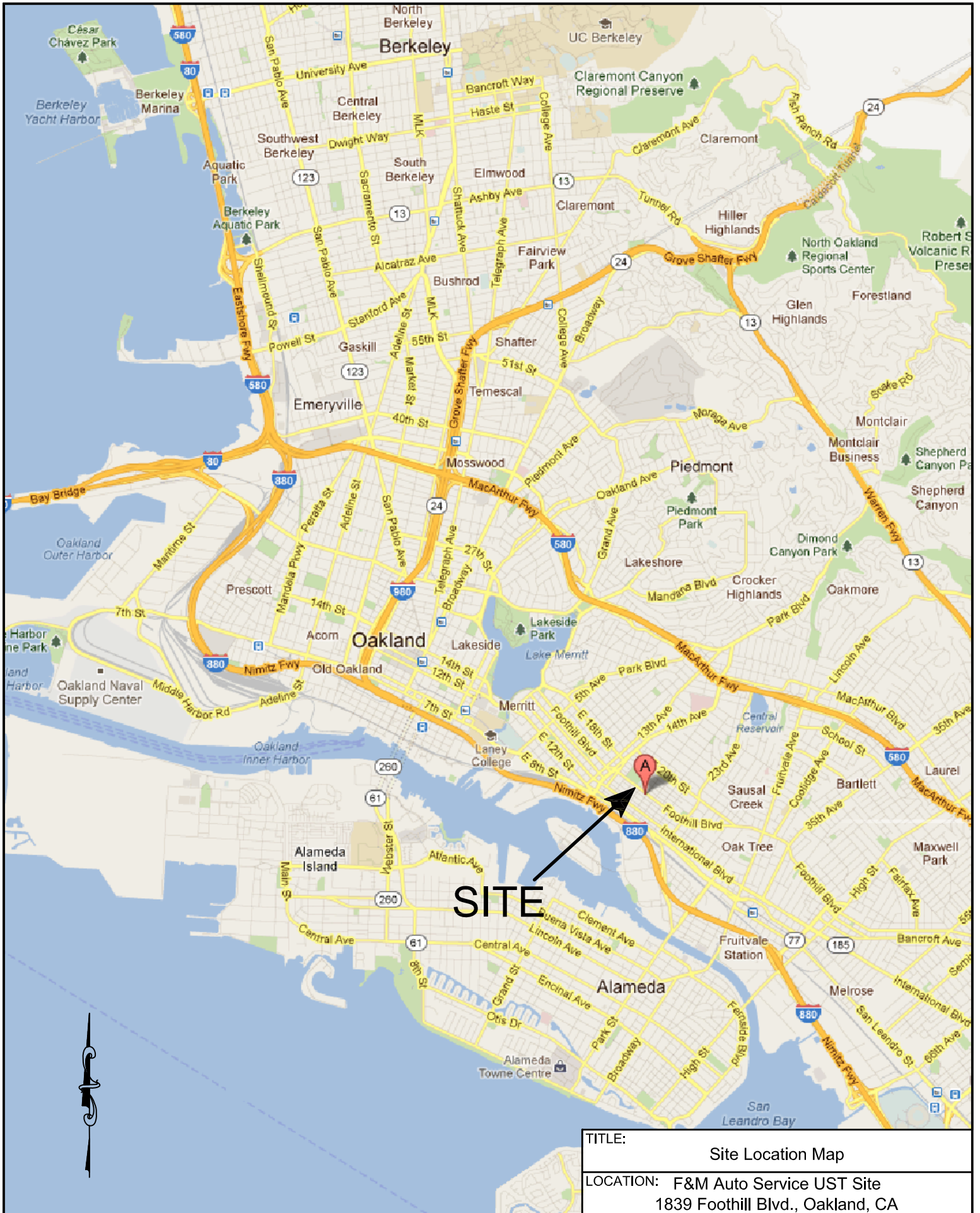
Cc: Ms. Mary Wright, Property Owner
Mr. James Balsley, Prospective Property Owner
Ms. Marissa Rodarte, Orphan Site Cleanup Fund

Figures:
Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Groundwater Elevation Map
Figure 4 – Groundwater Concentration Map

Tables:
Table 1 – Groundwater Elevation and Analytical Results

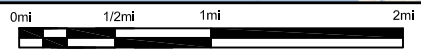
Attachments:
Attachment A – Well Sampling and Gauging Field Sheets
Attachment B – Groundwater Sampling Laboratory Analytical Report

Figures



SITE

TITLE:	Site Location Map
LOCATION:	F&M Auto Service UST Site 1839 Foothill Blvd., Oakland, CA



SCALE 1" = 1 mile
(Scale is approximate)

Source: Google Maps, 2012



FIGURE:
1



Legend:

- ⊕ - Monitoring Well
- - Soil Boring

Notes:

- 1) Well locations based on survey data provided by Virgil Chavez Land Surveying on 1/31/2012.
- 2) Locations of USTs and former Site structures are approximate.
- 3) Former Site structures were demolished on March 31, 2011.
- 4) USTs were removed on April 6, 2011.



TITLE:

Site Plan

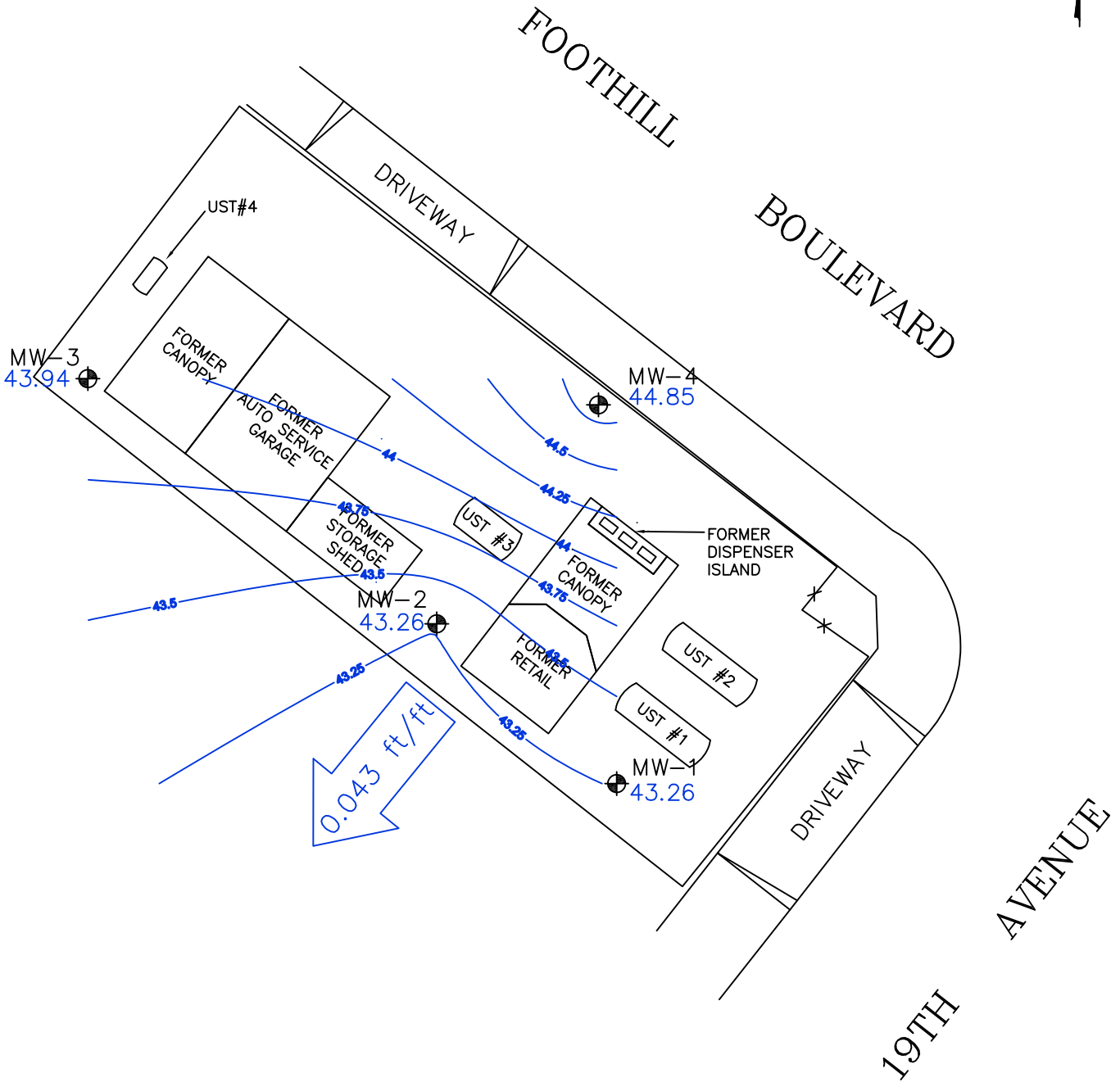
LOCATION:

F&M Auto Service UST Site
1839 Foothill Blvd., Oakland, CA



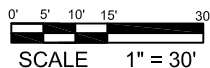
FIGURE:

2



Legend:

⊕ - Monitoring Well



Notes:

- 1) Groundwater elevation was measured on April 20, 2012.
- 2) Well locations based on survey data provided by Virgil Chavez Land Surveying on 1/31/2012.
- 3) Locations of USTs and former Site structures are approximate.
- 4) Former Site structures were demolished on March 31, 2011.
- 5) USTs were removed on April 6, 2011.

TITLE:

Groundwater Elevation Map

LOCATION:

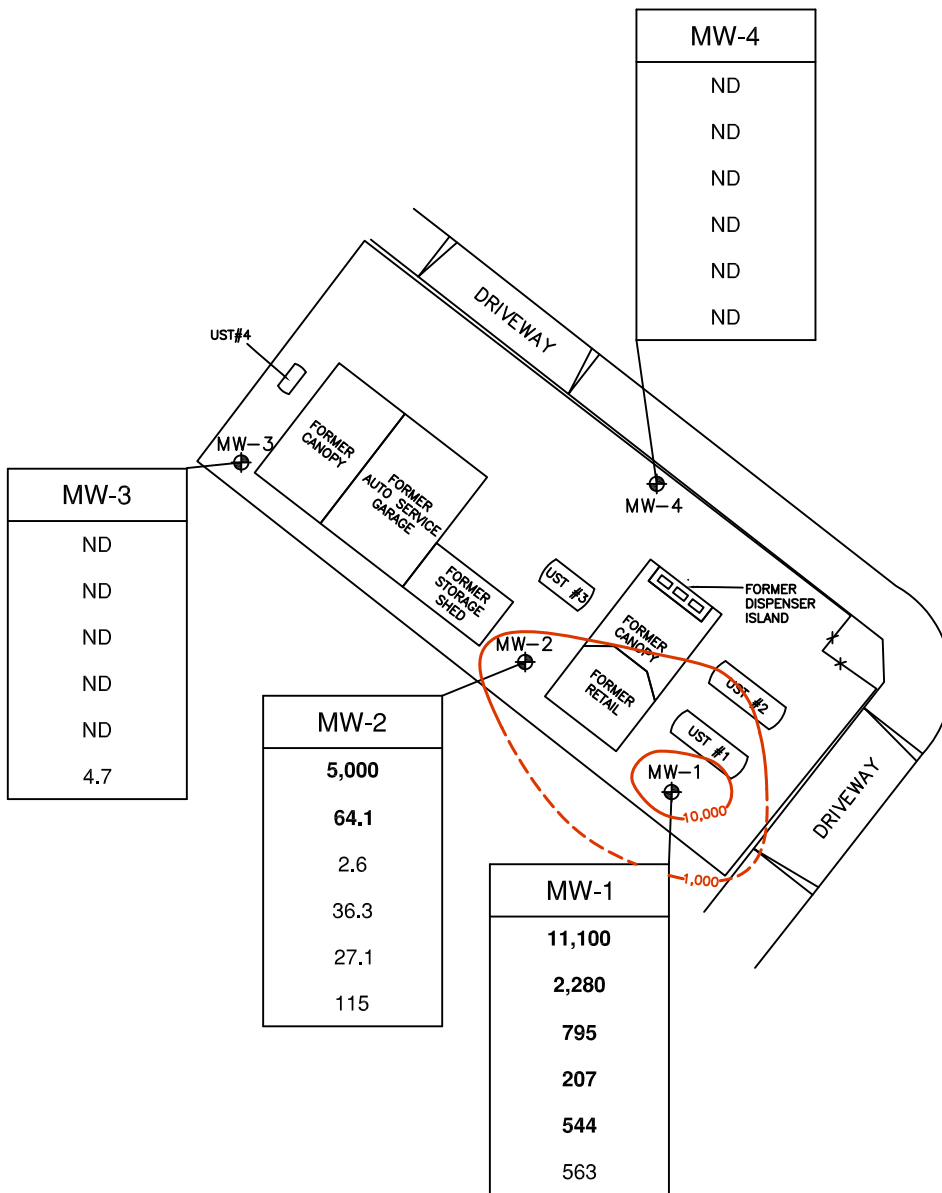
F&M Auto Service UST Site
1839 Foothill Blvd., Oakland, CA



SIERRA WEST
CONSULTANTS, INC.

FIGURE:

3



Legend:

⊕ - Monitoring Well



---1,000--- - TPHg Isocontour (Dashed where inferred)

Well / Boring ID	TPHg
Benzene	-
Toluene	-
Ethylbenzene	-
Xylenes	-
MTBE	-

- Grab Groundwater Concentrations in micrograms per liter (ug/L).
- Concentrations exceeding Environmental Screening Limits presented in bold.
- Concentrations below laboratory detection limits presented as ND.

Notes:

- 1) Well locations based on survey data provided by Virgil Chavez Land Surveying on 1/31/2012.
- 2) Locations of USTs and former Site structures are approximate.
- 3) Former Site structures were demolished on March 31, 2011.
- 4) USTs were removed on April 6, 2011.

TITLE: Groundwater Concentration Map
April 20, 2012

LOCATION: F&M Auto Service UST Site
1839 Foothill Blvd., Oakland, CA



FIGURE:
4

Tables

TABLE 1
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS
Former F&M Auto Service UST Site
1839 Foothill Boulevard, Oakland, California

SAMPLE LOCATION (TOC Elevation) ¹	DATE SAMPLED	DEPTH TO WATER (ft. bgs)	GROUND-WATER ELEVATION (ft. msl)	TPHd (µg/L)	TPHg (µg/L)	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL-BENZENE (µg/L)	XYLENES (µg/L)	OXYGENATES					LEAD (µg/L)
										MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	
MW-1	1/31/2012	8.73	40.98	2,220	27,800	2,750	3,470	577	2,840	507	<100	<100	<100	<500	86.4
	49.71	4/20/2012	6.45	43.26	802	11,100	2,280	795	207	544	563	<100	<100	<100	<500
MW-2	1/31/2012	8.97	41.56	1,120	3,390	38.8	2.8 ²	7.6 ²	9.5 ²	116	<20	4.5 ²	<20	<100	63.5
	50.53	4/20/2012	7.27	43.26	743	5,000	64.1	2.6 ²	36.3	27.1	115	<10	4.6 ²	<10	<50
MW-3	1/31/2012	7.25	43.34	324	<50	<1.0	<1.0	<1.0	<2.0	6.1	<2.0	<2.0	<2.0	<10	14.1
	50.59	4/20/2012	6.65	43.94	123	<50	<1.0	<1.0	<1.0	<2.0	4.7	<2.0	<2.0	<2.0	<10
MW-4	1/31/2012	6.52	43.95	50.2 ²	<50	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<10	<10
	50.47	4/20/2012	5.62	44.85	45.5 ²	<50	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<10
Environmental Screening Limits ³				180	180	46	130	43	100	1,800	--	--	--	18,000	2.5

Notes:

¹ = Wells surveyed by Virgil Chavez Land Surveying on 1/31/2012.

² = Estimated value

³ = Environmental Screening Limits referenced from *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Table B (California Regional Water Quality Control Board, San Francisco Bay Region, May 2008), for shallow soils on commercial land use sites where groundwater is not a current or potential source of drinking water. Concentrations exceeding their respective ESLs are presented in **bold**.

ft. bgs = Feet below ground surface (measured from top of casing)

ft. msl = Feet above mean sea level

µg/L = Micrograms per liter

TPHd = Total petroleum hydrocarbons as diesel
TPHg = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tertiary butyl ether
DIPE = Diisopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tert-amyl methyl ether
TBA = Tert butanol
LEAD = Dissolved lead

**Attachment A –
Well Sampling and Gauging Field Sheets**

SIERRA WEST CONSULTANTS
Groundwater/Liquid Level Data
(Measurements in feet)

Project Address: F&M Auto
1839 Foothill Blvd.
Oakland, CA

Date: 4-20-12

Project: F&M Auto

Recorded by: Jerry Gonzalez

Well No.	Time	Well Elev. TOC	Depth to Groundwater	Measured Total Depth	Groundwater Elevation	Depth to Product	Product Thickness	Comments
MW-1	11:29		6.45	23.70				Under Pressure
MW-2	11:27		7.27	23.80				↓
MW-3	11:25		6.65	23.70				
MW-4	11:23		5.62	23.83				

Notes:

Site: F&M Auto
1839 Foothill Blvd.
Oakland, CA

Sampling Date: 4-20-17
 Project No.: _____
 Well Designation: MW-1

Is there standing water in the well box? NO YES Above TOC Below TOC
 Is top of casing cut level? NO YES If no, see remarks
 Is well cap sealed and locked? 3" NO YES If no, see remarks
 Height of well casing riser (in inches): _____
 Well cover type: 8" or 12" UV 4" EMCO 8" or 12" BK _____ 8" Christy _____
 12" Christy _____ 8" M&D _____ 12" M&D _____ 12" DWP _____
 12" CNI _____ 36" CNI _____ 12" Pomeco _____ Other: _____
 General condition of wellhead assembly: Excellent _____ Good Fair _____ Poor _____

Purging Equipment: _____ 2" disposable bailer _____ Submersible pump
 _____ 2" PVC bailer _____ Dedicated bailer
 _____ 4" PVC bailer Centrifugal pump
 Sampled with: Disposable bailer Teflon bailer _____ Disposable Tubing _____

Well Diameter: 2" 4" _____ 6" _____ 8" _____
 Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.
Initial Measurement Recharge Measurement
 Time: 1:29 Time: 1:15 Calculated purge: 8.2
 Depth of well: 23.70 Depth to water: 3.65 Actual purge: 8.5
 Depth to water: 6.45

Start purge: 12:39 Sampling time: 1:20

Time	Temperature	E.C.	pH	DO	ORP	Volume
12:40	20.28	672	7.08	592	-76.8	1
12:41	19.39	672	6.99	234	-55.2	2
12:47	22.32	698	6.93	294	-50	3

Sample appearance: _____ Lock: _____

Equipment replaced: (check all that apply) Note condition of replaced item(s)
 2" Locking Cap: _____ Lock: _____ 7/32 Allenhead: _____
 4" Locking Cap: _____ Lock-Dolphin: _____ 9/16 Bolt: _____
 6" Locking Cap: _____ Pinned Allenhead (DWP): _____

Remarks: odor in well

Signature: [Signature]

Site: F&M Auto

Sampling Date: 4-20-12

1839 Foothill Blvd.

Project No.: _____

Oakland, CA

Well Designation: MW-2

Is there standing water in the well box? NO YES Above TOC _____ Below TOC _____
 Is top of casing cut level? NO YES If no, see remarks
 Is well cap sealed and locked? 2 NO YES If no, see remarks
 Height of well casing riser (in inches): _____
 Well cover type: 8" or 12" UV _____ 12" EMCO _____ 8" or 12" BK _____ 8" Christy _____
 12" Christy _____ 8" M&D 6" 12" M&D _____ 12" DWP _____
 12" CNI _____ 36" CNI _____ 12" Pomeco _____ Other: _____
 General condition of wellhead assembly: Excellent _____ Good _____ Fair _____ Poor _____

Purging Equipment: _____ 2" disposable bailer _____ Submersible pump
 _____ 2" PVC bailer _____ Dedicated bailer
 _____ 4" PVC bailer _____ Centrifugal pump
 Sampled with: Disposable bailer Teflon bailer _____ Disposable Tubing _____

Well Diameter: 2" 4" _____ 6" _____ 8" _____
 Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.
Initial Measurement Recharge Measurement^{10.58}
 Time: 11:27 Time: 13:05 Calculated purge: 9.9
 Depth of well: 23.80 Depth to water: 9.22 Actual purge: 8.5
 Depth to water: 7.27

Start purge: 12:22 Sampling time: 13:05

Time	Temperature	E.C.	pH	DO	ORP	Volume
1223	18.29	716	6.84	2.09	10.2	
1224	18.69	724	6.83	1.44	2.1	
1232	20.92	738	7.10	2.84	9.9	

Sample appearance: _____ Lock: NO

Equipment replaced: (check all that apply) Note condition of replaced item(s)
 2" Locking Cap: _____ Lock: _____ 7/32 Allenhead: _____
 4" Locking Cap: _____ Lock-Dolphin: _____ 9/16 Bolt: _____
 6" Locking Cap: _____ Pinned Allenhead (DWP): _____

Remarks: water in well

Signature: [Signature]

Site: F&M Auto

Sampling Date: 9-20-12

1839 Foothill Blvd.

Project No.: _____

Oakland, CA

Well Designation: MW-3

Is there standing water in the well box?	<input checked="" type="radio"/> NO	<input type="radio"/> YES	Above TOC	Below TOC
Is top of casing cut level?	<input type="radio"/> NO	<input checked="" type="radio"/> YES	If no, see remarks	
Is well cap sealed and locked?	<input checked="" type="radio"/> NO	<input checked="" type="radio"/> YES	If no, see remarks	
Height of well casing riser (in inches):	<u>4</u>			
Well cover type: 8" or 12" UV	<u>12" EMCO</u>	<u>8" or 12" BK</u>	<u>8" Christy</u>	
12" Christy	<u>8" M&D</u>	<u>12" M&D</u>	<u>12" DWP</u>	
12" CNI	<u>36" CNI</u>	<u>12" Pomeco</u>	Other: _____	
General condition of wellhead assembly:	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>

Purging Equipment: _____ 2" disposable bailer _____ Submersible pump
 _____ 2" PVC bailer _____ Dedicated bailer
 _____ 4" PVC bailer Centrifugal pump
 Sampled with: Disposable bailer Teflon bailer _____ Disposable Tubing _____

Well Diameter: 2" 4" _____ 6" _____ 8" _____
 Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.
Initial Measurement Recharge Measurement 0.06
 Time: 1125 Time: 1240 Calculated purge: 8.1
 Depth of well: 23.70 Depth to water: 8.75 Actual purge: 8.5
 Depth to water: 6.65

Start purge: 1204 Sampling time: 1245

Time	Temperature	E.C.	pH	DO	ORP	Volume
<u>1205</u>	<u>18.66</u>	<u>779</u>	<u>6.86</u>	<u>3.83</u>	<u>53.2</u>	<u>1</u>
<u>1206</u>	<u>18.63</u>	<u>805</u>	<u>6.83</u>	<u>2.51</u>	<u>54.0</u>	<u>2</u>
<u>1213</u>	<u>21.26</u>	<u>789</u>	<u>6.94</u>	<u>3.64</u>	<u>53.6</u>	<u>3</u>

Sample appearance: _____ Lock: _____

Equipment replaced: (check all that apply) Note condition of replaced item(s)
 2" Locking Cap: _____ Lock: _____ 7/32 Allenhead: _____
 4" Locking Cap: _____ Lock-Dolphin: _____ 9/16 Bolt: _____
 6" Locking Cap: _____ Pinned Allenhead (DWP): _____

Remarks: _____

Signature: [Signature]

Site: F&M Auto
1839 Foothill Blvd.
Oakland, CA

Sampling Date: 4-20-12
 Project No.: _____
 Well Designation: MW 4

Is there standing water in the well box? NO YES Above TOC Below TOC
 Is top of casing cut level? NO YES If no, see remarks
 Is well cap sealed and locked? NO YES If no, see remarks
 Height of well casing riser (in inches): 2
 Well cover type: 8" or 12" UV _____ 12" EMCO _____ 8" or 12" BK _____ 8" Christy _____
 12" Christy _____ 8" M&D X 12" M&D _____ 12" DWP _____
 12" CNI _____ 36" CNI _____ 12" Pomeco _____ Other: _____
 General condition of wellhead assembly: Excellent _____ Good _____ Fair _____ Poor _____

Purging Equipment: _____ 2" disposable bailer _____ Submersible pump
 _____ 2" PVC bailer _____ Dedicated bailer
 _____ 4" PVC bailer _____ Centrifugal pump
 Sampled with: Disposable bailer X Teflon bailer _____ Disposable Tubing _____

Well Diameter: 2" X 4" _____ 6" _____ 8" _____
 Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.
Initial Measurement Recharge Measurement
 Time: 1123 Time: 1225 Calculated purge: 8.7
 Depth of well: 23.83 Depth to water: 8.55 Actual purge: 9.0
 Depth to water: 5.62

Start purge: 1149 Sampling time: ~~1149~~ 1230

Time	Temperature	E.C.	pH	DO	ORP	Volume
1148	20.99	644	6.63	2.97	55.6	1
1149	19.09	669	6.70	2.95	51.9	2
1156	22.32	682	6.84	3.10	53.1	D14 3

Sample appearance: _____ Lock: _____

Equipment replaced: (check all that apply) Note condition of replaced item(s)
 2" Locking Cap: _____ Lock: _____ 7/32 Allenhead: _____
 4" Locking Cap: _____ Lock-Dolphin: _____ 9/16 Bolt: _____
 6" Locking Cap: _____ Pinned Allenhead (DWP): _____

Remarks: _____

Signature: [Signature]

**Attachment B –
Groundwater Sampling Laboratory Analytical Report**

Technical Report for

Sierra West Consultants, Inc.

T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Accutest Job Number: C21457

Sampling Date: 04/20/12

Report to:

**Sierra West Consultants, Inc.
4227 Sunrise Blvd Suite#220
Fair Oaks, CA 95628
jbensch@sierra-west.net; bwhalen@sierra-west.net
ATTN: Jeff Bensch**

Total number of pages in report: 59



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

**Kesavalu M. Bagawandoss,
Ph.D., J.D., Lab Director**

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Test results relate only to samples analyzed.

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2.5: C21457-3: MW-3	11
2.6: C21457-3F: MW-3	19
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Sample Summary

Sierra West Consultants, Inc.

Job No: C21457

T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C21457-1	04/20/12	13:20 SA	04/20/12	AQ	Ground Water	MW-1
C21457-1F	04/20/12	13:20 SA	04/20/12	AQ	Groundwater Filtered	MW-1
C21457-2	04/20/12	13:05 SA	04/20/12	AQ	Ground Water	MW-2
C21457-2F	04/20/12	13:05 SA	04/20/12	AQ	Groundwater Filtered	MW-2
C21457-3	04/20/12	12:45 SA	04/20/12	AQ	Ground Water	MW-3
C21457-3F	04/20/12	12:45 SA	04/20/12	AQ	Groundwater Filtered	MW-3
C21457-4	04/20/12	12:30 SA	04/20/12	AQ	Ground Water	MW-4
C21457-4F	04/20/12	12:30 SA	04/20/12	AQ	Groundwater Filtered	MW-4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-1		Date Sampled: 04/20/12
Lab Sample ID: C21457-1		Date Received: 04/20/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N30310.D	50	04/24/12	TF	n/a	n/a	VN982
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2280	50	10	ug/l	
108-88-3	Toluene	795	50	10	ug/l	
100-41-4	Ethylbenzene	207	50	10	ug/l	
1330-20-7	Xylene (total)	544	100	23	ug/l	
108-20-3	Di-Isopropyl ether	ND	100	11	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	100	11	ug/l	
1634-04-4	Methyl Tert Butyl Ether	563	50	10	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	100	20	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	500	120	ug/l	
	TPH-GRO (C6-C10)	11100	2500	1300	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		60-130%
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1		Date Sampled: 04/20/12
Lab Sample ID: C21457-1		Date Received: 04/20/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8015B M SW846 3510C		
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG33410.D	1	04/25/12	JH	04/23/12	OP5835	GGG898
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.802	0.10	0.025	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
630-01-3	Hexacosane	79%		45-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1		
Lab Sample ID: C21457-1F		Date Sampled: 04/20/12
Matrix: AQ - Groundwater Filtered		Date Received: 04/20/12
		Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	10.5	10	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2473

(2) Prep QC Batch: MP4863

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-2		Date Sampled: 04/20/12
Lab Sample ID: C21457-2		Date Received: 04/20/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N30311.D	5	04/24/12	TF	n/a	n/a	VN982
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	64.1	5.0	1.0	ug/l	
108-88-3	Toluene	2.6	5.0	1.0	ug/l	J
100-41-4	Ethylbenzene	36.3	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	27.1	10	2.3	ug/l	
108-20-3	Di-Isopropyl ether	ND	10	1.1	ug/l	
637-92-3	Ethyl Tert Butyl Ether	4.6	10	1.1	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	115	5.0	1.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	10	2.0	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	50	12	ug/l	
	TPH-GRO (C6-C10)	5000	250	130	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2		Date Sampled: 04/20/12
Lab Sample ID: C21457-2		Date Received: 04/20/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8015B M SW846 3510C		
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG33411.D	1	04/25/12	JH	04/23/12	OP5835	GGG898
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.743	0.10	0.025	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
630-01-3	Hexacosane	71%		45-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2		
Lab Sample ID: C21457-2F		Date Sampled: 04/20/12
Matrix: AQ - Groundwater Filtered		Date Received: 04/20/12
		Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	< 10	10	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2473

(2) Prep QC Batch: MP4863

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-3		Date Sampled: 04/20/12
Lab Sample ID: C21457-3		Date Received: 04/20/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N30312.D	1	04/24/12	TF	n/a	n/a	VN982
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Halogenated and Aromatic List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.22	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	1.0	0.20	ug/l	
67-66-3	Chloroform	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.22	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.20	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4.7	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.40	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	2.4	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3	
Lab Sample ID: C21457-3	Date Sampled: 04/20/12
Matrix: AQ - Ground Water	Date Received: 04/20/12
Method: SW846 8260B	Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA	

VOA Halogenated and Aromatic List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.20	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3		
Lab Sample ID: C21457-3		Date Sampled: 04/20/12
Matrix: AQ - Ground Water		Date Received: 04/20/12
Method: SW846 8270C SW846 3510C		Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y15142.D	1	04/24/12	MT	04/24/12	OP5837	EY684
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	19	3.8	ug/l	
95-57-8	2-Chlorophenol	ND	4.7	1.3	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.7	1.3	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.7	1.1	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.7	1.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	19	3.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.4	1.2	ug/l	
95-48-7	2-Methylphenol	ND	4.7	1.6	ug/l	
	3&4-Methylphenol	ND	9.4	1.5	ug/l	
88-75-5	2-Nitrophenol	ND	4.7	0.94	ug/l	
100-02-7	4-Nitrophenol	ND	9.4	0.94	ug/l	
87-86-5	Pentachlorophenol	ND	9.4	1.6	ug/l	
108-95-2	Phenol	ND	4.7	0.94	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.7	0.94	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.7	0.94	ug/l	
83-32-9	Acenaphthene	ND	4.7	1.3	ug/l	
208-96-8	Acenaphthylene	ND	4.7	1.1	ug/l	
62-53-3	Aniline	ND	4.7	1.1	ug/l	
120-12-7	Anthracene	ND	4.7	1.2	ug/l	
103-33-3	Azobenzene	ND	4.7	1.1	ug/l	
92-87-5	Benzidine	ND	19	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.7	1.3	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.7	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.7	1.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.7	1.4	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.7	1.3	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.7	1.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.7	1.2	ug/l	
100-51-6	Benzyl Alcohol	ND	4.7	1.6	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.7	1.3	ug/l	
106-47-8	4-Chloroaniline	ND	4.7	1.0	ug/l	
86-74-8	Carbazole	ND	4.7	1.4	ug/l	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	04/20/12
Lab Sample ID:	C21457-3	Date Received:	04/20/12
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
218-01-9	Chrysene	ND	4.7	1.5	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.7	1.1	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.7	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.7	0.94	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.7	1.4	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.7	1.1	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.7	1.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.7	1.2	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.7	1.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.7	1.2	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.4	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.7	1.2	ug/l	
132-64-9	Dibenzofuran	ND	4.7	1.3	ug/l	
122-39-4	Diphenylamine	ND	4.7	1.3	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.7	1.3	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.7	1.7	ug/l	
84-66-2	Diethyl phthalate	ND	4.7	1.0	ug/l	
131-11-3	Dimethyl phthalate	ND	4.7	1.7	ug/l	
123-91-1	1,4-Dioxane	ND	4.7	0.94	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	9.4	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.7	1.4	ug/l	
86-73-7	Fluorene	ND	4.7	1.4	ug/l	
118-74-1	Hexachlorobenzene	ND	4.7	1.3	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.7	1.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.7	0.94	ug/l	
67-72-1	Hexachloroethane	ND	4.7	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.7	1.3	ug/l	
78-59-1	Isophorone	ND	4.7	1.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.7	1.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	1.2	ug/l	
88-74-4	2-Nitroaniline	ND	4.7	1.0	ug/l	
99-09-2	3-Nitroaniline	ND	4.7	1.2	ug/l	
100-01-6	4-Nitroaniline	ND	4.7	1.1	ug/l	
91-20-3	Naphthalene	ND	4.7	1.2	ug/l	
98-95-3	Nitrobenzene	ND	4.7	0.94	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	4.7	0.94	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.7	0.99	ug/l	
85-01-8	Phenanthrene	ND	4.7	1.2	ug/l	
129-00-0	Pyrene	ND	4.7	1.5	ug/l	
110-86-1	Pyridine	ND	9.4	0.94	ug/l	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3		Date Sampled: 04/20/12
Lab Sample ID: C21457-3		Date Received: 04/20/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8270C SW846 3510C		
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

ABN Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	1.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	1% ^a		10-100%
4165-62-2	Phenol-d5	1% ^a		7-100%
118-79-6	2,4,6-Tribromophenol	13% ^a		25-115%
4165-60-0	Nitrobenzene-d5	75%		25-100%
321-60-8	2-Fluorobiphenyl	76%		25-106%
1718-51-0	Terphenyl-d14	88%		35-130%

(a) Surrogate was outside control limits due to matrix interference (Heavy emulsion formed during extraction process).

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3		
Lab Sample ID: C21457-3		Date Sampled: 04/20/12
Matrix: AQ - Ground Water		Date Received: 04/20/12
Method: SW846 8082 SW846 3510C		Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PP025500.D	1	04/24/12	PL	04/24/12	OP5839	GPP849
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.094	0.019	ug/l	
11104-28-2	Aroclor 1221	ND	0.094	0.047	ug/l	
11141-16-5	Aroclor 1232	ND	0.094	0.047	ug/l	
53469-21-9	Aroclor 1242	ND	0.094	0.047	ug/l	
12672-29-6	Aroclor 1248	ND	0.094	0.047	ug/l	
11097-69-1	Aroclor 1254	ND	0.094	0.047	ug/l	
11096-82-5	Aroclor 1260	ND	0.094	0.028	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	78%		41-134%
877-09-8	Tetrachloro-m-xylene	63%		41-134%
2051-24-3	Decachlorobiphenyl	79%		41-134%
2051-24-3	Decachlorobiphenyl	104%		41-134%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3		
Lab Sample ID: C21457-3		Date Sampled: 04/20/12
Matrix: AQ - Ground Water		Date Received: 04/20/12
Method: SW846 8015B M SW846 3510C		Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG33412.D	1	04/25/12	JH	04/23/12	OP5835	GGG898
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.123	0.094	0.024	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
630-01-3	Hexacosane	66%		45-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3	Date Sampled: 04/20/12
Lab Sample ID: C21457-3	Date Received: 04/20/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Oil and Grease	< 5.7	5.7	mg/l	1	04/30/12	RL	EPA 1664A
HEM Petroleum Hydrocarbons	< 5.7	5.7	mg/l	1	05/01/12	RL	EPA 1664A

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-3	Date Sampled: 04/20/12
Lab Sample ID: C21457-3F	Date Received: 04/20/12
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Cadmium	< 2.0	2.0	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²
Chromium	< 10	10	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²
Lead	< 10	10	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²
Nickel	50.2	5.0	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²
Zinc	< 20	20	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2473

(2) Prep QC Batch: MP4863

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-4		Date Sampled: 04/20/12
Lab Sample ID: C21457-4		Date Received: 04/20/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N30313.D	1	04/24/12	TF	n/a	n/a	VN982
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

BTEX, Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.22	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.22	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.40	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	2.4	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4		
Lab Sample ID: C21457-4		Date Sampled: 04/20/12
Matrix: AQ - Ground Water		Date Received: 04/20/12
Method: SW846 8015B M SW846 3510C		Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG33413.D	1	04/25/12	JH	04/23/12	OP5835	GGG898
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.0455	0.094	0.024	mg/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
630-01-3	Hexacosane	69%		45-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4		
Lab Sample ID: C21457-4F		Date Sampled: 04/20/12
Matrix: AQ - Groundwater Filtered		Date Received: 04/20/12
		Percent Solids: n/a
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	< 10	10	ug/l	1	04/26/12	04/27/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2473

(2) Prep QC Batch: MP4863

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C21457**Account:** SWCICAFO Sierra West Consultants, Inc.**Project:** T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN982-MB	N30303.D	1	04/24/12	TF	n/a	n/a	VN982

The QC reported here applies to the following samples:**Method:** SW846 8260B

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.22	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	1.0	0.20	ug/l	
67-66-3	Chloroform	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.20	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.22	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.20	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.40	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	2.4	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.30	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN982-MB	N30303.D	1	04/24/12	TF	n/a	n/a	VN982

The QC reported here applies to the following samples:

Method: SW846 8260B

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	
	TPH-GRO (C6-C10)	ND	50	25	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	96%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN982-BS	N30304.D	1	04/24/12	TF	n/a	n/a	VN982
VN982-BSD	N30305.D	1	04/24/12	TF	n/a	n/a	VN982

The QC reported here applies to the following samples:

Method: SW846 8260B

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	20.4	102	21.6	108	6	60-130/30
75-27-4	Bromodichloromethane	20	19.9	100	21.1	106	6	60-130/30
75-25-2	Bromoform	20	19.9	100	21.3	107	7	60-130/30
108-90-7	Chlorobenzene	20	19.8	99	21.1	106	6	60-130/30
75-00-3	Chloroethane	20	20.4	102	21.1	106	3	60-130/30
67-66-3	Chloroform	20	20.4	102	21.5	108	5	60-130/30
56-23-5	Carbon tetrachloride	20	21.1	106	22.5	113	6	60-130/30
75-34-3	1,1-Dichloroethane	20	20.1	101	21.1	106	5	60-130/30
75-35-4	1,1-Dichloroethylene	20	19.9	100	21.0	105	5	60-130/30
106-93-4	1,2-Dibromoethane	20	21.1	106	22.3	112	6	60-130/30
107-06-2	1,2-Dichloroethane	20	20.7	104	21.9	110	6	60-130/30
78-87-5	1,2-Dichloropropane	20	20.6	103	22.0	110	7	60-130/30
108-20-3	Di-Isopropyl ether	20	19.0	95	20.1	101	6	60-130/30
124-48-1	Dibromochloromethane	20	21.0	105	22.3	112	6	60-130/30
75-71-8	Dichlorodifluoromethane	20	19.0	95	19.3	97	2	60-130/30
156-59-2	cis-1,2-Dichloroethylene	20	20.1	101	21.1	106	5	60-130/30
10061-01-5	cis-1,3-Dichloropropene	20	21.6	108	22.9	115	6	60-130/30
541-73-1	m-Dichlorobenzene	20	20.0	100	20.9	105	4	60-130/30
95-50-1	o-Dichlorobenzene	20	20.2	101	21.2	106	5	60-130/30
106-46-7	p-Dichlorobenzene	20	20.1	101	21.1	106	5	60-130/30
156-60-5	trans-1,2-Dichloroethylene	20	20.5	103	21.8	109	6	60-130/30
10061-02-6	trans-1,3-Dichloropropene	20	19.5	98	20.8	104	6	60-130/30
100-41-4	Ethylbenzene	20	20.3	102	21.5	108	6	60-130/30
637-92-3	Ethyl Tert Butyl Ether	20	20.4	102	21.6	108	6	60-130/30
74-83-9	Methyl bromide	20	20.0	100	20.9	105	4	60-130/30
74-87-3	Methyl chloride	20	16.9	85	17.6	88	4	60-130/30
75-09-2	Methylene chloride	20	20.0	100	21.0	105	5	60-130/30
1634-04-4	Methyl Tert Butyl Ether	20	20.3	102	21.5	108	6	60-130/30
994-05-8	Tert-Amyl Methyl Ether	20	20.3	102	21.4	107	5	60-130/30
75-65-0	Tert-Butyl Alcohol	100	94.6	95	99.8	100	5	60-130/30
71-55-6	1,1,1-Trichloroethane	20	20.8	104	22.0	110	6	60-130/30
79-34-5	1,1,2,2-Tetrachloroethane	20	21.5	108	22.8	114	6	60-130/30
79-00-5	1,1,2-Trichloroethane	20	20.6	103	21.9	110	6	60-130/30
127-18-4	Tetrachloroethylene	20	20.5	103	21.8	109	6	60-130/30
108-88-3	Toluene	20	20.2	101	21.4	107	6	60-130/30
79-01-6	Trichloroethylene	20	20.6	103	21.9	110	6	60-130/30

4.2.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN982-BS	N30304.D	1	04/24/12	TF	n/a	n/a	VN982
VN982-BSD	N30305.D	1	04/24/12	TF	n/a	n/a	VN982

The QC reported here applies to the following samples: Method: SW846 8260B

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
75-69-4	Trichlorofluoromethane	20	20.0	100	20.8	104	4	60-130/30
75-01-4	Vinyl chloride	20	22.3	112	23.1	116	4	60-130/30
1330-20-7	Xylene (total)	60	60.1	100	63.9	107	6	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	99%	60-130%
2037-26-5	Toluene-D8	99%	99%	60-130%
460-00-4	4-Bromofluorobenzene	98%	98%	60-130%

4.2.1
4

Laboratory Control Sample Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN982-LCS	N30306.D	1	04/24/12	TF	n/a	n/a	VN982

The QC reported here applies to the following samples:

Method: SW846 8260B

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
	TPH-GRO (C6-C10)	125	137	110	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

4.3.1
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C21457-3MS	N30321.D	1	04/24/12	TF	n/a	n/a	VN982
C21457-3MSD	N30322.D	1	04/24/12	TF	n/a	n/a	VN982
C21457-3	N30312.D	1	04/24/12	TF	n/a	n/a	VN982

The QC reported here applies to the following samples:

Method: SW846 8260B

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	C21457-3 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	20.0	100	20.6	103	3	60-130/25	
75-27-4	Bromodichloromethane	ND	20	19.5	98	20.0	100	3	60-130/25	
75-25-2	Bromoform	ND	20	18.7	94	19.1	96	2	60-130/25	
108-90-7	Chlorobenzene	ND	20	19.5	98	19.9	100	2	60-130/25	
75-00-3	Chloroethane	ND	20	20.2	101	20.4	102	1	60-130/25	
67-66-3	Chloroform	ND	20	20.2	101	20.7	104	2	60-130/25	
56-23-5	Carbon tetrachloride	ND	20	20.0	100	20.7	104	3	60-130/25	
75-34-3	1,1-Dichloroethane	ND	20	19.8	99	20.4	102	3	60-130/25	
75-35-4	1,1-Dichloroethylene	ND	20	19.6	98	20.2	101	3	60-130/25	
106-93-4	1,2-Dibromoethane	ND	20	21.1	106	20.9	105	1	60-130/25	
107-06-2	1,2-Dichloroethane	ND	20	20.2	101	20.6	103	2	60-130/25	
78-87-5	1,2-Dichloropropane	ND	20	20.3	102	20.9	105	3	60-130/25	
108-20-3	Di-Isopropyl ether	ND	20	18.7	94	19.1	96	2	60-130/25	
124-48-1	Dibromochloromethane	ND	20	20.5	103	20.7	104	1	60-130/25	
75-71-8	Dichlorodifluoromethane	ND	20	18.6	93	18.8	94	1	60-130/25	
156-59-2	cis-1,2-Dichloroethylene	ND	20	19.7	99	20.2	101	3	60-130/25	
10061-01-5	cis-1,3-Dichloropropene	ND	20	20.2	101	20.4	102	1	60-130/25	
541-73-1	m-Dichlorobenzene	ND	20	19.0	95	19.4	97	2	60-130/25	
95-50-1	o-Dichlorobenzene	ND	20	19.6	98	20.0	100	2	60-130/25	
106-46-7	p-Dichlorobenzene	ND	20	19.2	96	19.6	98	2	60-130/25	
156-60-5	trans-1,2-Dichloroethylene	ND	20	20.1	101	20.6	103	2	60-130/25	
10061-02-6	trans-1,3-Dichloropropene	ND	20	17.9	90	17.9	90	0	60-130/25	
100-41-4	Ethylbenzene	ND	20	19.9	100	20.3	102	2	60-130/25	
637-92-3	Ethyl Tert Butyl Ether	ND	20	20.1	101	20.4	102	1	60-130/25	
74-83-9	Methyl bromide	ND	20	9.7	49* a	10.8	54* a	11	60-130/25	
74-87-3	Methyl chloride	ND	20	16.4	82	16.1	81	2	60-130/25	
75-09-2	Methylene chloride	ND	20	19.3	97	19.6	98	2	60-130/25	
1634-04-4	Methyl Tert Butyl Ether	4.7	20	24.5	99	24.6	100	0	60-130/25	
994-05-8	Tert-Amyl Methyl Ether	ND	20	19.7	99	20.0	100	2	60-130/25	
75-65-0	Tert-Butyl Alcohol	ND	100	91.8	92	88.7	89	3	60-130/25	
71-55-6	1,1,1-Trichloroethane	ND	20	20.5	103	21.2	106	3	60-130/25	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	21.0	105	21.1	106	0	60-130/25	
79-00-5	1,1,2-Trichloroethane	ND	20	20.4	102	20.4	102	0	60-130/25	
127-18-4	Tetrachloroethylene	ND	20	19.8	99	20.1	101	2	60-130/25	
108-88-3	Toluene	ND	20	19.9	100	20.2	101	1	60-130/25	
79-01-6	Trichloroethylene	ND	20	20.8	104	21.1	106	1	60-130/25	

4.4.1
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C21457-3MS	N30321.D	1	04/24/12	TF	n/a	n/a	VN982
C21457-3MSD	N30322.D	1	04/24/12	TF	n/a	n/a	VN982
C21457-3	N30312.D	1	04/24/12	TF	n/a	n/a	VN982

The QC reported here applies to the following samples: **Method:** SW846 8260B

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	C21457-3		MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
		ug/l	Q						
75-69-4	Trichlorofluoromethane	ND	20	19.9	100	20.2	101	1	60-130/25
75-01-4	Vinyl chloride	ND	20	21.6	108	21.7	109	0	60-130/25
1330-20-7	Xylene (total)	ND	60	58.7	98	59.9	100	2	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C21457-3	Limits
1868-53-7	Dibromofluoromethane	100%	99%	95%	60-130%
2037-26-5	Toluene-D8	99%	99%	101%	60-130%
460-00-4	4-Bromofluorobenzene	99%	98%	98%	60-130%

(a) Outside laboratory control limits.

4.4.1
4

GC/MS Semi-volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-MB	Y15138.D	1	04/24/12	MT	04/24/12	OP5837	EY684

The QC reported here applies to the following samples:

Method: SW846 8270C

C21457-3

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	20	4.0	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.4	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.4	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	4.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.3	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.7	ug/l	
	3&4-Methylphenol	ND	10	1.6	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.0	ug/l	
100-02-7	4-Nitrophenol	ND	10	1.0	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.7	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.0	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.3	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.2	ug/l	
62-53-3	Aniline	ND	5.0	1.1	ug/l	
120-12-7	Anthracene	ND	5.0	1.3	ug/l	
103-33-3	Azobenzene	ND	5.0	1.2	ug/l	
92-87-5	Benzidine	ND	20	2.4	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.4	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.4	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.2	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.7	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.4	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.1	ug/l	
86-74-8	Carbazole	ND	5.0	1.5	ug/l	
218-01-9	Chrysene	ND	5.0	1.6	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.1	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.1	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-MB	Y15138.D	1	04/24/12	MT	04/24/12	OP5837	EY684

The QC reported here applies to the following samples:

Method: SW846 8270C

C21457-3

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.1	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.3	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.3	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.2	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.3	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.4	ug/l	
122-39-4	Diphenylamine	ND	5.0	1.4	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.4	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.8	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	1.1	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.8	ug/l	
123-91-1	1,4-Dioxane	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	10	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.5	ug/l	
86-73-7	Fluorene	ND	5.0	1.5	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.4	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.6	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	1.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.4	ug/l	
78-59-1	Isophorone	ND	5.0	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	1.3	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.3	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	1.1	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	1.3	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	1.1	ug/l	
91-20-3	Naphthalene	ND	5.0	1.2	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
62-75-9	N-Nitrosodimethylamine	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.1	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.3	ug/l	
129-00-0	Pyrene	ND	5.0	1.6	ug/l	
110-86-1	Pyridine	ND	10	1.0	ug/l	

Method Blank Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-MB	Y15138.D	1	04/24/12	MT	04/24/12	OP5837	EY684

The QC reported here applies to the following samples:

Method: SW846 8270C

C21457-3

CAS No.	Compound	Result	RL	MDL	Units	Q
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.2	ug/l	

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	44%	10-100%
4165-62-2	Phenol-d5	31%	7-100%
118-79-6	2,4,6-Tribromophenol	75%	25-115%
4165-60-0	Nitrobenzene-d5	78%	25-100%
321-60-8	2-Fluorobiphenyl	78%	25-106%
1718-51-0	Terphenyl-d14	82%	35-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-BS	Y15136.D	1	04/24/12	MT	04/24/12	OP5837	EY684
OP5837-BSD	Y15137.D	1	04/24/12	MT	04/24/12	OP5837	EY684

The QC reported here applies to the following samples:

Method: SW846 8270C

C21457-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	50	12.9	26	9.6	19	29	10-100/30
95-57-8	2-Chlorophenol	25	18.7	75	18.4	74	2	23-103/30
59-50-7	4-Chloro-3-methyl phenol	25	20.5	82	19.7	79	4	17-130/30
120-83-2	2,4-Dichlorophenol	25	21.2	85	21.1	84	0	23-108/30
105-67-9	2,4-Dimethylphenol	25	18.0	72	17.5	70	3	17-91/30
51-28-5	2,4-Dinitrophenol	25	12.4	50	8.4	34	38* a	17-111/30
534-52-1	4,6-Dinitro-o-cresol	25	17.2	69	13.7	55	23	22-115/30
95-48-7	2-Methylphenol	25	16.4	66	15.4	62	6	25-101/30
	3&4-Methylphenol	25	15.0	60	14.0	56	7	22-105/30
88-75-5	2-Nitrophenol	25	21.0	84	21.0	84	0	19-111/30
100-02-7	4-Nitrophenol	25	7.6	30	6.1	24	22	13-130/30
87-86-5	Pentachlorophenol	25	16.6	66	14.0	56	17	24-130/30
108-95-2	Phenol	25	8.8	35	8.5	34	3	5-130/30
95-95-4	2,4,5-Trichlorophenol	25	20.7	83	19.9	80	4	19-106/30
88-06-2	2,4,6-Trichlorophenol	25	20.3	81	19.2	77	6	18-107/30
83-32-9	Acenaphthene	25	21.2	85	21.3	85	0	25-130/30
208-96-8	Acenaphthylene	25	20.9	84	21.5	86	3	28-105/30
62-53-3	Aniline	25	16.4	66	14.8	59	10	23-98/30
120-12-7	Anthracene	25	21.3	85	21.8	87	2	35-108/30
103-33-3	Azobenzene	25	21.6	86	21.5	86	0	31-110/30
92-87-5	Benzidine	50	36.5	73	32.8	66	11	15-73/30
56-55-3	Benzo(a)anthracene	25	22.3	89	23.0	92	3	33-111/30
50-32-8	Benzo(a)pyrene	25	22.3	89	23.4	94	5	32-106/30
205-99-2	Benzo(b)fluoranthene	25	22.6	90	24.5	98	8	33-109/30
191-24-2	Benzo(g,h,i)perylene	25	20.7	83	19.9	80	4	31-111/30
207-08-9	Benzo(k)fluoranthene	25	23.5	94	24.6	98	5	34-111/30
101-55-3	4-Bromophenyl phenyl ether	25	20.1	80	20.5	82	2	34-107/30
85-68-7	Butyl benzyl phthalate	25	19.7	79	20.3	81	3	29-114/30
100-51-6	Benzyl Alcohol	25	15.5	62	15.2	61	2	24-108/30
91-58-7	2-Chloronaphthalene	25	20.8	83	21.2	85	2	23-130/30
106-47-8	4-Chloroaniline	25	18.4	74	17.7	71	4	23-103/30
86-74-8	Carbazole	25	23.1	92	23.4	94	1	36-109/30
218-01-9	Chrysene	25	22.7	91	23.4	94	3	34-111/30
111-91-1	bis(2-Chloroethoxy)methane	25	20.9	84	21.3	85	2	28-101/30
111-44-4	bis(2-Chloroethyl)ether	25	20.4	82	20.7	83	1	31-108/30
108-60-1	bis(2-Chloroisopropyl)ether	25	20.1	80	20.6	82	2	33-106/30

5.2.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-BS	Y15136.D	1	04/24/12	MT	04/24/12	OP5837	EY684
OP5837-BSD	Y15137.D	1	04/24/12	MT	04/24/12	OP5837	EY684

The QC reported here applies to the following samples:

Method: SW846 8270C

C21457-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
7005-72-3	4-Chlorophenyl phenyl ether	25	21.6	86	21.7	87	0	31-107/30
95-50-1	1,2-Dichlorobenzene	25	20.0	80	21.0	84	5	21-102/30
541-73-1	1,3-Dichlorobenzene	25	19.8	79	20.2	81	2	28-100/30
106-46-7	1,4-Dichlorobenzene	25	19.9	80	20.6	82	3	24-130/30
121-14-2	2,4-Dinitrotoluene	25	22.6	90	22.4	90	1	26-130/30
606-20-2	2,6-Dinitrotoluene	25	21.7	87	21.8	87	0	28-104/30
91-94-1	3,3'-Dichlorobenzidine	50	42.0	84	42.8	86	2	27-105/30
53-70-3	Dibenzo(a,h)anthracene	25	20.7	83	20.4	82	1	32-112/30
132-64-9	Dibenzofuran	25	21.5	86	21.7	87	1	31-108/30
122-39-4	Diphenylamine	25	22.0	88	22.0	88	0	27-110/30
84-74-2	Di-n-butyl phthalate	25	22.1	88	22.4	90	1	32-109/30
117-84-0	Di-n-octyl phthalate	25	21.8	87	23.1	92	6	30-120/30
84-66-2	Diethyl phthalate	25	19.2	77	19.4	78	1	32-109/30
131-11-3	Dimethyl phthalate	25	17.3	69	18.3	73	6	33-106/30
123-91-1	1,4-Dioxane	25	10.9	44	10.5	42	4	20-69/30
117-81-7	bis(2-Ethylhexyl)phthalate	25	21.1	84	21.6	86	2	29-116/30
206-44-0	Fluoranthene	25	24.5	98	25.0	100	2	35-114/30
86-73-7	Fluorene	25	21.8	87	22.1	88	1	31-106/30
118-74-1	Hexachlorobenzene	25	20.7	83	21.1	84	2	32-107/30
87-68-3	Hexachlorobutadiene	25	21.2	85	21.9	88	3	28-107/30
77-47-4	Hexachlorocyclopentadiene	25	18.7	75	19.0	76	2	19-94/30
67-72-1	Hexachloroethane	25	19.8	79	20.7	83	4	25-101/30
193-39-5	Indeno(1,2,3-cd)pyrene	25	19.8	79	19.1	76	4	31-113/30
78-59-1	Isophorone	25	21.3	85	21.6	86	1	26-111/30
90-12-0	1-Methylnaphthalene	25	21.5	86	21.7	87	1	22-102/30
91-57-6	2-Methylnaphthalene	25	21.3	85	21.4	86	0	26-112/30
88-74-4	2-Nitroaniline	25	21.6	86	21.5	86	0	30-109/30
99-09-2	3-Nitroaniline	25	19.9	80	19.3	77	3	22-107/30
100-01-6	4-Nitroaniline	25	23.5	94	22.4	90	5	29-111/30
91-20-3	Naphthalene	25	21.2	85	21.6	86	2	20-104/30
98-95-3	Nitrobenzene	25	20.7	83	21.4	86	3	22-105/30
62-75-9	N-Nitrosodimethylamine	25	12.8	51	12.5	50	2	20-71/30
621-64-7	N-Nitroso-di-n-propylamine	25	20.1	80	20.4	82	1	16-130/30
85-01-8	Phenanthrene	25	21.0	84	21.5	86	2	35-108/30
129-00-0	Pyrene	25	19.3	77	19.7	79	2	35-130/30
110-86-1	Pyridine	25	10.0	40	8.8	35	13	15-77/30

Blank Spike/Blank Spike Duplicate Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-BS	Y15136.D	1	04/24/12	MT	04/24/12	OP5837	EY684
OP5837-BSD	Y15137.D	1	04/24/12	MT	04/24/12	OP5837	EY684

The QC reported here applies to the following samples: Method: SW846 8270C

C21457-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
120-82-1	1,2,4-Trichlorobenzene	25	21.1	84	21.5	86	2	15-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	48%	45%	10-100%
4165-62-2	Phenol-d5	34%	33%	7-100%
118-79-6	2,4,6-Tribromophenol	84%	84%	25-115%
4165-60-0	Nitrobenzene-d5	84%	86%	25-100%
321-60-8	2-Fluorobiphenyl	82%	86%	25-106%
1718-51-0	Terphenyl-d14	81%	83%	35-130%

(a) Outside laboratory control limits.

5.2.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-MS	Y15159.D	1	04/25/12	MT	04/25/12	OP5837	EY685
OP5837-MSD	Y15160.D	1	04/25/12	MT	04/25/12	OP5837	EY685
C21488-5	Y15161.D	1	04/25/12	MT	04/24/12	OP5837	EY685

The QC reported here applies to the following samples:

Method: SW846 8270C

C21457-3

CAS No.	Compound	C21488-5 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		96.2	12.1	13	11.1	12	9	10-100/40
95-57-8	2-Chlorophenol	ND		48.1	ND	0* a	ND	0* a	nc	23-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		48.1	ND	0* a	ND	0* a	nc	17-130/36
120-83-2	2,4-Dichlorophenol	ND		48.1	2.4	5* a	2.5	5* a	4	23-108/26
105-67-9	2,4-Dimethylphenol	ND		48.1	ND	0* a	ND	0* a	nc	17-91/28
51-28-5	2,4-Dinitrophenol	ND		48.1	ND	0* a	ND	0* a	nc	17-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		48.1	8.0	17* a	6.7	14* a	18	22-115/26
95-48-7	2-Methylphenol	ND		48.1	ND	0* a	ND	0* a	nc	25-101/30
	3&4-Methylphenol	ND		48.1	ND	0* a	ND	0* a	nc	22-105/29
88-75-5	2-Nitrophenol	ND		48.1	9.9	21	9.9	21	0	19-111/30
100-02-7	4-Nitrophenol	ND		48.1	3.4	7* a	3.2	7* a	6	13-130/34
87-86-5	Pentachlorophenol	ND		48.1	6.6	14* a	6.2	13* a	6	24-130/36
108-95-2	Phenol	ND		48.1	ND	0* a	ND	0* a	nc	5-130/47
95-95-4	2,4,5-Trichlorophenol	ND		48.1	4.6	10* a	4.2	9* a	9	19-106/23
88-06-2	2,4,6-Trichlorophenol	ND		48.1	4.5	9* a	4.6	10* a	2	18-107/24
83-32-9	Acenaphthene	ND		48.1	11.7	24* a	10.9	23* a	7	25-130/32
208-96-8	Acenaphthylene	ND		48.1	11.5	24* a	10.6	22* a	8	28-105/21
62-53-3	Aniline	ND		48.1	6.7	14* a	6.9	14* a	3	23-98/28
120-12-7	Anthracene	ND		48.1	12.4	26* a	10.9	23* a	13	35-108/19
103-33-3	Azobenzene	ND		48.1	11.9	25* a	10.5	22* a	13	31-110/20
92-87-5	Benzidine	ND		96.2	ND	0* a	ND	0* a	nc	15-73/23
56-55-3	Benzo(a)anthracene	ND		48.1	13.1	27* a	11.3	24* a	15	33-111/19
50-32-8	Benzo(a)pyrene	ND		48.1	12.7	26* a	10.8	22* a	16	32-106/20
205-99-2	Benzo(b)fluoranthene	ND		48.1	13.6	28* a	11.4	24* a	18	33-109/20
191-24-2	Benzo(g,h,i)perylene	ND		48.1	10.7	22* a	9.4	20* a	13	31-111/21
207-08-9	Benzo(k)fluoranthene	ND		48.1	14.5	30* a	11.9	25* a	20	34-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		48.1	11.8	25* a	10.4	22* a	13	34-107/20
85-68-7	Butyl benzyl phthalate	ND		48.1	13.1	27* a	11.4	24* a	14	29-114/20
100-51-6	Benzyl Alcohol	ND		48.1	8.4	17* a	7.8	16* a	7	24-108/27
91-58-7	2-Chloronaphthalene	ND		48.1	11.4	24	10.7	22* a	6	23-130/29
106-47-8	4-Chloroaniline	ND		48.1	8.2	17* a	8.1	17* a	1	23-103/22
86-74-8	Carbazole	ND		48.1	13.5	28* a	11.5	24* a	16	36-109/20
218-01-9	Chrysene	ND		48.1	13.2	27* a	11.6	24* a	13	34-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		48.1	11.1	23* a	10.7	22* a	4	28-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		48.1	10.4	22* a	10.5	22* a	1	31-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		48.1	10.2	21* a	10.4	22* a	2	33-106/27

5.3.1
 5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C21457

Account: SWCICAFO Sierra West Consultants, Inc.

Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-MS	Y15159.D	1	04/25/12	MT	04/25/12	OP5837	EY685
OP5837-MSD	Y15160.D	1	04/25/12	MT	04/25/12	OP5837	EY685
C21488-5	Y15161.D	1	04/25/12	MT	04/24/12	OP5837	EY685

The QC reported here applies to the following samples:

Method: SW846 8270C

C21457-3

CAS No.	Compound	C21488-5 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
7005-72-3	4-Chlorophenyl phenyl ether	ND		48.1	12.4	26* a	11.1	23* a	11	31-107/20
95-50-1	1,2-Dichlorobenzene	ND		48.1	9.5	20* a	10	21	5	21-102/28
541-73-1	1,3-Dichlorobenzene	ND		48.1	9.3	19* a	9.6	20* a	3	28-100/28
106-46-7	1,4-Dichlorobenzene	ND		48.1	9.3	19* a	9.6	20* a	3	24-130/38
121-14-2	2,4-Dinitrotoluene	ND		48.1	12.5	26	10.9	23* a	14	26-130/37
606-20-2	2,6-Dinitrotoluene	ND		48.1	12.3	26* a	11.1	23* a	10	28-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		96.2	13.9	14* a	12.2	13* a	13	27-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		48.1	10.7	22* a	9.3	19* a	14	32-112/20
132-64-9	Dibenzofuran	ND		48.1	12.2	25* a	11.0	23* a	10	31-108/20
122-39-4	Diphenylamine	ND		48.1	12.2	25* a	10.8	22* a	12	27-110/29
84-74-2	Di-n-butyl phthalate	ND		48.1	13.8	29* a	12.4	26* a	11	32-109/20
117-84-0	Di-n-octyl phthalate	ND		48.1	12.9	27* a	11.0	23* a	16	30-120/24
84-66-2	Diethyl phthalate	ND		48.1	10.5	22* a	9.8	20* a	7	32-109/19
131-11-3	Dimethyl phthalate	ND		48.1	12.9	27* a	11.2	23* a	14	33-106/19
123-91-1	1,4-Dioxane	ND		48.1	8.1	17* a	8.3	17* a	2	20-69/32
117-81-7	bis(2-Ethylhexyl)phthalate	ND		48.1	12.1	25* a	10.8	22* a	11	29-116/21
206-44-0	Fluoranthene	ND		48.1	13.6	28* a	12.0	25* a	13	35-114/21
86-73-7	Fluorene	ND		48.1	12.3	26* a	11.0	23* a	11	31-106/19
118-74-1	Hexachlorobenzene	ND		48.1	12.1	25* a	11.0	23* a	10	32-107/20
87-68-3	Hexachlorobutadiene	ND		48.1	9.8	20* a	9.7	20* a	1	28-107/30
77-47-4	Hexachlorocyclopentadiene	ND		48.1	8.1	17* a	8.4	17* a	4	19-94/35
67-72-1	Hexachloroethane	ND		48.1	10.5	22* a	10.8	22* a	3	25-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		48.1	10.1	21* a	8.4	17* a	18	31-113/20
78-59-1	Isophorone	ND		48.1	11.1	23* a	10.8	22* a	3	26-111/26
90-12-0	1-Methylnaphthalene	2.0	J	48.1	12.2	21* a	12.0	21* a	2	22-102/25
91-57-6	2-Methylnaphthalene	ND		48.1	11.6	24* a	11.1	23* a	4	26-112/26
88-74-4	2-Nitroaniline	ND		48.1	12.3	26* a	11.0	23* a	11	30-109/20
99-09-2	3-Nitroaniline	ND		48.1	10.9	23	9.6	20* a	13	22-107/21
100-01-6	4-Nitroaniline	ND		48.1	13.1	27* a	10.9	23* a	18	29-111/21
91-20-3	Naphthalene	ND		48.1	11.3	24	11.3	24	0	20-104/28
98-95-3	Nitrobenzene	ND		48.1	10.9	23	11.1	23	2	22-105/28
62-75-9	N-Nitrosodimethylamine	ND		48.1	6.3	13* a	6.7	14* a	6	20-71/32
621-64-7	N-Nitroso-di-n-propylamine	ND		48.1	10.9	23	10.6	22	3	16-130/38
85-01-8	Phenanthrene	ND		48.1	12.3	26* a	10.9	23* a	12	35-108/20
129-00-0	Pyrene	ND		48.1	12.4	26* a	10.5	22* a	17	35-130/29
110-86-1	Pyridine	ND		48.1	4.9	10* a	5.2	11* a	6	15-77/40

5.3.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5837-MS	Y15159.D	1	04/25/12	MT	04/25/12	OP5837	EY685
OP5837-MSD	Y15160.D	1	04/25/12	MT	04/25/12	OP5837	EY685
C21488-5	Y15161.D	1	04/25/12	MT	04/24/12	OP5837	EY685

The QC reported here applies to the following samples: Method: SW846 8270C

C21457-3

CAS No.	Compound	C21488-5 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
120-82-1	1,2,4-Trichlorobenzene	ND	48.1	10.1	21	10.4	22	3	15-130/29	

CAS No.	Surrogate Recoveries	MS	MSD	C21488-5	Limits
367-12-4	2-Fluorophenol	4% * a	4% * a	48%	10-100%
4165-62-2	Phenol-d5	1% * a	1% * a	33%	7-100%
118-79-6	2,4,6-Tribromophenol	47%	52%	89%	25-115%
4165-60-0	Nitrobenzene-d5	83%	88%	87%	25-100%
321-60-8	2-Fluorobiphenyl	83%	85%	87%	25-106%
1718-51-0	Terphenyl-d14	92%	88%	66%	35-130%

(a) Outside control limits due to matrix interference.

5.3.1
5

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5839-MB	PP025502.D	1	04/24/12	PL	04/24/12	OP5839	GPP849

The QC reported here applies to the following samples:

Method: SW846 8082

C21457-3

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.10	0.020	ug/l	
11104-28-2	Aroclor 1221	ND	0.10	0.050	ug/l	
11141-16-5	Aroclor 1232	ND	0.10	0.050	ug/l	
53469-21-9	Aroclor 1242	ND	0.10	0.050	ug/l	
12672-29-6	Aroclor 1248	ND	0.10	0.050	ug/l	
11097-69-1	Aroclor 1254	ND	0.10	0.050	ug/l	
11096-82-5	Aroclor 1260	ND	0.10	0.030	ug/l	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	96%	41-134%
877-09-8	Tetrachloro-m-xylene	86%	41-134%
2051-24-3	Decachlorobiphenyl	89%	41-134%
2051-24-3	Decachlorobiphenyl	120%	41-134%

Method Blank Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5835-MB	HH022098.D1		04/24/12	JH	04/23/12	OP5835	GHH719

The QC reported here applies to the following samples:

Method: SW846 8015B M

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.0279	0.10	0.025	mg/l	J

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	99% 45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5839-BS	PP025503.D	1	04/24/12	PL	04/24/12	OP5839	GPP849
OP5839-BSD	PP025504.D	1	04/24/12	PL	04/24/12	OP5839	GPP849

The QC reported here applies to the following samples: Method: SW846 8082

C21457-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	0.4	0.39	98	0.36	90	8	40-140/30
11096-82-5	Aroclor 1260	0.4	0.40	100	0.36	90	11	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	90%	81%	41-134%
877-09-8	Tetrachloro-m-xylene	81%	73%	41-134%
2051-24-3	Decachlorobiphenyl	85%	77%	41-134%
2051-24-3	Decachlorobiphenyl	116%	103%	41-134%

6.2.1
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Blank Spike/Blank Spike Duplicate Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5835-BS	HH022099.D1		04/24/12	JH	04/23/12	OP5835	GHH719
OP5835-BSD	HH022100.D1		04/24/12	JH	04/23/12	OP5835	GHH719

The QC reported here applies to the following samples: Method: SW846 8015B M

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	1	0.776	78	0.775	78	0	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	93%	94%	45-140%

6.2.2
6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C21457
Account: SWCICAFO Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5835-MS	GG33479.D	1	04/26/12	JH	04/23/12	OP5835	GGG900
OP5835-MSD	GG33480.D	1	04/26/12	JH	04/23/12	OP5835	GGG900
C21459-9	GG33427.D	1	04/25/12	JH	04/23/12	OP5835	GGG899

The QC reported here applies to the following samples:

Method: SW846 8015B M

C21457-1, C21457-2, C21457-3, C21457-4

CAS No.	Compound	C21459-9 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	0.157	1.89	1.31	61	1.50	71	14	45-140/25

CAS No.	Surrogate Recoveries	MS	MSD	C21459-9	Limits
630-01-3	Hexacosane	73%	88%	86%	45-140%

6.3.1
6

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C21457
Account: SWCICAFO - Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

QC Batch ID: MP4863
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/26/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	8.5		
Antimony	6.0	.7	.51		
Arsenic	10	.7	.65		
Barium	200	.4	.35		
Beryllium	5.0	.2	.4		
Boron	100	.9	.64		
Cadmium	2.0	.2	.15	0.10	<2.0
Calcium	5000	7.1	12		
Chromium	10	.3	.41	-0.20	<10
Cobalt	5.0	.2	.3		
Copper	10	1.2	3		
Iron	200	6.4	12		
Lead	10	.7	.85	2.2	<10
Magnesium	5000	27	36		
Manganese	15	.1	1.3		
Molybdenum	20	.2	.22		
Nickel	5.0	.2	.12	-0.40	<5.0
Potassium	10000	18	44		
Selenium	10	1.8	2.2		
Silicon	100	1.2	6.9		
Silver	5.0	.3	.47		
Sodium	10000	15	13		
Strontium	10	.2	.24		
Thallium	10	.5	.54		
Tin	50	.2	.7		
Titanium	10	.4	.34		
Vanadium	10	.3	.3		
Zinc	20	.3	4.2	0.20	<20

Associated samples MP4863: C21457-1F, C21457-2F, C21457-3F, C21457-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.1.1
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C21457
 Account: SWCICAFO - Sierra West Consultants, Inc.
 Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

QC Batch ID: MP4863
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 04/26/12

Metal	C21488-5F		Spike/lot		QC
	Original	MS	MPIR4A	% Rec	
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium	0.50	529	500	105.7	75-125
Calcium					
Chromium	2.6	545	500	108.5	75-125
Cobalt					
Copper					
Iron	anr				
Lead	2.8	523	500	104.0	75-125
Magnesium					
Manganese	anr				
Molybdenum					
Nickel	12.7	518	500	101.1	75-125
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc	8.8	553	500	108.8	75-125

Associated samples MP4863: C21457-1F, C21457-2F, C21457-3F, C21457-4F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.1.2
 7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C21457
 Account: SWCICAFO - Sierra West Consultants, Inc.
 Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

QC Batch ID: MP4863
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 04/26/12

Metal	C21488-5F		SpikeLot		MSD RPD	QC Limit
	Original	MSD	MPIR4A	% Rec		
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium	0.50	524	500	104.7	0.9	20
Calcium						
Chromium	2.6	551	500	109.7	1.1	20
Cobalt						
Copper						
Iron	anr					
Lead	2.8	521	500	103.6	0.4	20
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	12.7	514	500	100.3	0.8	20
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	8.8	550	500	108.2	0.5	20

Associated samples MP4863: C21457-1F, C21457-2F, C21457-3F, C21457-4F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

7.1.2
7

SERIAL DILUTION RESULTS SUMMARY

Login Number: C21457
 Account: SWCICAFO - Sierra West Consultants, Inc.
 Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

QC Batch ID: MP4863
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 04/26/12

Metal	C21488-5F Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium	0.500	1.60	220.0(a)	0-10
Calcium				
Chromium	2.60	3.60	38.5 (a)	0-10
Cobalt				
Copper				
Iron	anr			
Lead	2.80	13.1	367.9(a)	0-10
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	12.7	12.1	4.7	0-10
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	8.80	8.20	6.8	0-10

Associated samples MP4863: C21457-1F, C21457-2F, C21457-3F, C21457-4F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

7.1.4
7

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C21457
Account: SWCICAFO - Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
HEM Oil and Grease	GP3725/GN8223	5.0	0.0	mg/l	40.0	37.1	92.8	78-114%
HEM Petroleum Hydrocarbons	GP3731/GN8235	5.0	0.0	mg/l	20.0	19.8	99.0	64-132%

Associated Samples:
Batch GP3725: C21457-3
Batch GP3731: C21457-3
(*) Outside of QC limits

8.1

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BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C21457
Account: SWCICAFO - Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
HEM Oil and Grease	GP3725/GN8223	mg/l	40.0	35.4	4.7	18%
HEM Petroleum Hydrocarbons	GP3731/GN8235	mg/l	20.0	19.6	1.0	28%

Associated Samples:
Batch GP3725: C21457-3
Batch GP3731: C21457-3
(*) Outside of QC limits

8.2
8

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C21457
Account: SWCICAFO - Sierra West Consultants, Inc.
Project: T0000003190-F&M Auto Service., 1839 Foothill Blvd, Oakland, CA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
HEM Oil and Grease	GP3725/GN8223	C21499-1	mg/l	1.2	40.0	38.4	93.0	78-114%

Associated Samples:

Batch GP3725: C21457-3

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

