

**RECEIVED**

By Alameda County Environmental Health at 3:40 pm, Jun 23, 2014

April 22, 2014

Ms. Karel Detterman  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, CA 9502-6577

Subject: Soil and Groundwater Investigation Workplan  
RO3132, Site Cleanup Program Case  
Franklin Home Heating, 1428-1432 Franklin St Oakland, CA

Dear Ms. Detterman:

This enclosed report has been prepared by LRM Consulting, Inc. on behalf of Brian Mitchell of Northstar Equities, Inc. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge. If you have any questions, please contact Mr. Mehrdad Javaherian of LRM at 415-706-8935.

Sincerely,



Brian Mitchell  
Northstar Equities, Inc.

June 16, 2014

Ms. Karel Dettermen, P.G.  
Alameda County Health Care Services Agency (County)  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Subject: Soil and Groundwater Investigation  
Former Heating Oil Underground Storage Tanks  
1428-1432 Franklin Street  
Oakland, CA  
(RO # 03132)

Dear Ms. Dettermen:

LRM Consulting, Inc. (LRM) is pleased to present this brief letter report documenting soil and grab groundwater investigation activities performed on May 22, 2014 at the above-referenced site. The investigation targeted further delineation of the residual levels of petroleum hydrocarbons historically detected beneath the two former heating oil underground storage tanks (USTs) removed from the site in 2004 (see Figure 1). The investigation was performed in accordance to the workplan dated May 19, 2014, and approved by the County on May 21, 2014.

By way of background, two adjacent 300-gallon heating oil USTs were reportedly removed on January 15, 2004 from the 1430 Franklin Street property (AEI, 2011). Two soil samples were collected at the bottom of the tank pit excavation corresponding to a depth of 8 feet below ground surface (bgs). The two samples reportedly yielded maximum total petroleum hydrocarbon (TPH) as diesel (TPH-d) and gasoline (TPH-g) concentrations approximating 3,800 mg/kg and 1,700 mg/kg, respectively. Groundwater was reportedly observed at this depth, but not sampled, and a composited soil sample from the stockpiled soils associated with the excavation did not yield any hydrocarbon detections.

Given the use of the USTs for storage of heating oil (which is typically characterized with low toxicity and mobility), the likely age of the USTs (use of heating oils likely dates back more than 40 years), and given that the hydrocarbon detections in soils beneath the USTs occurred a decade ago, this investigation sought to determine the current extent of any hydrocarbon impacts in soil and groundwater beneath the former USTs, and based on those results, set forth recommendations for site closure in concert with the State Water Resource Control Board's low threat UST case closure policy, and/or other relevant actions.

### **Soil and Grab Groundwater Investigation Activities**

On May 22, 2014 and based on drilling (County), excavation (City of Oakland), and obstruction (City of Oakland) permits obtained for this project, LRM implemented the soil and groundwater investigation based on the aforementioned workplan (LRM, 2014)<sup>1</sup>. Figure 1 depicts the locations of four soil borings (SB-1 through SB-4) advanced at the site, including three within the footprint of the former UST

---

<sup>1</sup> LRM, 2014. Soil and Groundwater Investigation Workplan, Former Heating Oil Underground Storage Tanks, 1428-1432 Franklin Street, Oakland, CA. April 21.



excavation pit, and one upgradient sample location, which was moved to inside the onsite building at 1430 Franklin Street.

The borings were advanced to a depth of 30 feet below ground surface (bgs) in order to reach groundwater. Using a track-mounted Geoprobe drill rig operated by Vapor Tech Services, the borings were continuously cored and logged by LRM's Professional Geologist (see Appendix 1). As indicated on the boring logs, soils beneath the site were characterized by sands and clayey sands from the ground surface to approximately 20 feet bgs, and then by a clean sand layer from approximately 20 feet bgs down to the total explored depth of 30 feet bgs. Perforated casings were placed into each hole from approximately 25 to 30 feet bgs, with shallow groundwater encountered at an approximate depth of 26 to 27 feet bgs.

Per the workplan, at SB-1, a grab groundwater sample was collected (no soil samples were collected since this is an upgradient boring location and well away from the former UST footprint), while at borings SB-2 through SB-4 (within the UST footprint), soil samples were collected at 5-foot intervals, or corresponding to locations where PID field measurements were elevated. Grab groundwater samples were also collected at SB-2 through SB-4. Per the workplan, soil and groundwater samples were submitted to McCampbell Analytical, a National Environmental Laboratory Accreditation (NELAC) certified laboratory, and analyzed for TPH-d (Method 8015), TPH-g (Method 8260), and benzene, toluene, ethylbenzene, and xylenes (BTEX) (Method 8260). Per the County's request, semi-volatile organic compounds (SVOCs) (Method 8270), and fuel oxygenates (including MTBE using Method 8260) were also analyzed for in select samples.

Table 1 and Figure 2 depict the analytical results of soil samples collected from the three soil borings located within the UST footprint, with the laboratory analytical report included as Attachment I. As indicated on Figure 2, hydrocarbon detections were limited to boring SB-2, with one soil detection in SB-3. Specifically, detections at SB-2 included residual levels of TPH-g and TPH-d at levels below residential direct exposure environmental screening levels (ESLs) adopted by the Regional Water Quality Control Board ([Water Board], 2013) at shallow depths (5 and 10 feet bgs). Importantly, hydrocarbon constituents, including benzene, toluene, ethylbenzene, and xylenes (BTEX), and naphthalene remained below detection limits at these depths. At 20 feet bgs, concentrations of ethylbenzene (21 mg/kg), xylenes (43 mg/kg), and naphthalene (12 mg/kg) were detected, but all below the commercial/industrial land use soil ESLs. TPH-g (2,200 mg/kg) and TPH-d (1,100 mg/kg) detections, while above residential ESLs, were at or below the commercial/industrial ESLs. All hydrocarbon concentrations remained below detection limits in samples from SB-3, and with one exception (TPH-d at 1.1 mg/kg), from SB-4.

Table 2 and Figure 3 depict the analytical results of grab groundwater samples from all four boring locations, with the laboratory analytical report included as Attachment I. As indicated, no hydrocarbons, fuel oxygenates, or semi-volatile organic compounds (SVOCs) were detected at above detection limits at upgradient sample location inside the 1430 Franklin Street building; these results suggest the lack of hydrocarbons beneath the building footprint, and the absence of potential contributions to the site from offsite sources.

At SB-2, corresponding to the location of maximum detected concentrations in soil samples collected, hydrocarbon detections in groundwater included ethylbenzene (100 ug/L), xylenes (270 ug/L), naphthalene (78 ug/L), TPH-g (7,800 ug/L), and TPH-d (5,100 ug/L). Ethylbenzene and xylenes concentrations in this grab groundwater sample are below drinking water standards, while naphthalene, TPH-g and TPH-d concentrations exceed these standards; however, none of these detections pose an unacceptable indoor air quality threat based on the groundwater-to-indoor-air ESL comparison shown in Table 2.

## Conceptual Site Model

The following sections summarize the various components to the conceptual site model (CSM) of chemical occurrence, transport, and potential exposure at the site.

**Hydrogeology and Groundwater Occurrence:** Shallow, unconfined groundwater beneath the site occurs at approximately 26 feet bgs within a sand layer, which extend from approximately 20 feet bgs to the total explored depth of 30 feet bgs. Based on regional information (AEI, 2011)<sup>2</sup>, groundwater flow near the site occurs toward the northwest (see Figure 2).

**Primary Sources and Release Mechanisms:** As previously indicated, two 300-gallon heating oil USTs were reportedly removed from the site in 2004. With the detection of hydrocarbons in both soil and groundwater limited to the footprint of the former UST pit, it appears that historical leases from the USTs may have served as the primary source of hydrocarbons in the subsurface. Importantly, the USTs have been removed over a decade ago and no signs of ongoing sources in the form of separate phase hydrocarbons (SPHs) have been encountered at the site. The absence of benzene and SVOCs in all samples suggests the absence of fuel storage in the USTs and supports the use of the USTs for heating oil as reported.

While impacted soils at the site may be considered a secondary source, chemical concentrations in soil remain at or below commercial/industrial ESLs; hence, this secondary source is considered insignificant. Hydrocarbon impacts in groundwater occur at above drinking water standards, but below levels which pose unacceptable risks to indoor air.

Lastly, an important aspect of the CSM is that the primary source of the hydrocarbons in soil and groundwater (i.e, the USTs) is likely to have been out of usage decades ago, since heating oil tanks have generally not been in use in recent decades, giving way to more modern uses of heating. As such, the associated residual contamination measured in 2014 likely reflects impacts that have been in place for decades, are considered largely weathered, and characterized by limited mobility.

**Impacted Media:** Based on this investigation, impacted media at the site include soil and groundwater, with concentrations in soil remaining below commercial/industrial ESLs. Detections of hydrocarbons in groundwater at above drinking water standards were limited to naphthalene, TPH-g, and TPH-d, but none at levels which pose unacceptable indoor air quality risks.

While soil vapor beneath the site has not been investigated, the nature of the chemicals stored in the USTs and those detected in soil and groundwater do not lend themselves to significant impacts in vapor phase. As previously indicated, none of the chemicals detected in groundwater at the site occur at levels which pose unacceptable vapor intrusion risks based on ESL comparisons.

**Chemicals of Potential Concern (COPCs):** Consistent with the reported use of the USTs for storage of heating oil, chemicals detected in soil and groundwater were limited to TPH-g, TPH-d, and naphthalene. With minor exceptions of low levels of toluene, ethylbenzene and xylenes, BTEX compounds were largely below detection limits, with benzene remaining undetected in all soil and groundwater samples. Importantly, soil COPCs, including TPH-g, TPH-d, and naphthalene remain at or below commercial ESLs. These same constituents a considered groundwater COPCs, with concentrations above drinking water standards but below levels which may pose a threat to indoor air quality.

Importantly, analysis of SVOCs in groundwater and fuel oxygenates in both soil and groundwater yielded non-detect concentrations for all related chemicals analyzed; these findings remain consistent with the reported use of the USTs for storage of heating oils.

---

<sup>2</sup> AEI, 2011. Phase I Environmental Site Assessment, 1428-1432 Franklin Street, Oakland, CA, December 12.



**Fate and Transport Mechanisms at the Site:** With the reported surface release of solvents in the southern portion of the former Motor Pool Area building, precipitation and subsequent leaching action through soils were likely the primary transport mechanisms that allowed the VOCs to migrate vertically through the loess material to the underlying groundwater. Once reaching the shallow groundwater-bearing zone, VOCs appear to have migrated laterally in response to the predominant groundwater flow direction toward the southwest, governed by advective and dispersive transport. The stability of the dissolved VOC plume is reflected by concentration trends over time near the suspected release area and at the downgradient portion of the plume, as shown in the concentration hydrographs below.

**Potential Exposure Pathways and Receptors:** Daily onsite workers, potential future construction/maintenance workers, and hypothetical future residents may be considered as potential receptors at the site. With respect to these receptor groups, potential complete exposure pathways associated with hydrocarbons in soils include direct exposure via ingestion and dermal contact with soils, and inhalation of volatiles and/or particulates in soils. However, because no hydrocarbons were reported above their respective direct exposure residential ESLs in surface soils (< 10 feet bgs), this pathway is considered incomplete for all receptor groups. Moreover, the impacts (and former USTs) are located beneath the sidewalk, with the paved ground surface further eliminating the potential for direct exposure.

Given that groundwater occurs at approximately 30 feet bgs, given the absence of onsite water supply wells, and because water supply is currently provided to the site and surrounding areas through municipal sources (i.e, East Bay Municipal Utility District [EBMUD]), direct exposure to groundwater is considered incomplete for daily site occupants and future construction/maintenance worker whom are unlikely to penetrate depths as low as 30 feet bgs. Correspondingly, the soil-leaching-to-groundwater pathway is also considered incomplete due to the absence of mechanisms for direct exposure to groundwater. Soil and groundwater are expected to be at equilibrium relative to leaching to groundwater, given that the use of the USTs likely dates back to several decades ago, and that the USTs were removed more than a decade ago.

There are no known existing restrictions on the development of shallow groundwater for beneficial uses, including restrictions of water supply well placement at the site; hence, direct exposure to groundwater may theoretically be considered complete should water supply wells be placed at the site in the future. However, practically speaking, this is unlikely, especially since the area of impact is located on the sidewalk and the site buildings are located upgradient and are not impacted per the results of boring SB-1. More importantly, shallow groundwater in the Oakland area is regionally impacted and not suitable for water supply well development, which as previously mentioned is already provided by EBMUD.

Indirect exposure to groundwater via indoor inhalation of volatiles from groundwater is also considered an incomplete pathway under existing site use, given that the impacted soils and groundwater occur in the sidewalk area and the groundwater sample from within the onsite building footprint yielded the absence of any hydrocarbon detections. Moreover, SVOCs and benzene remain undetected in all samples, and the sole naphthalene detection in groundwater is well below the groundwater-to-indoor air ESL (see Table 2).

## **Conclusions and Recommendations**

Based on the investigation results and the CSM for the site, LRM has developed the following conclusions for the site:

- 1) Soils encountered beneath the site included sands and clayey sands to an approximate depth of 20 feet bgs, followed by sands to the total explored depth of 30 feet bgs;

- 2) Groundwater beneath the site occurs within the sand unit at approximately 26 to 27 feet bgs, with regional groundwater flow toward the west, placing the onsite buildings upgradient of the former USTs located on the sidewalk of Franklin Street;
- 3) Petroleum hydrocarbons in soils are primarily limited to the northern corner of the former UST tank pit, with detections largely limited to depths approximating 20 feet bgs; these include the presence of ethylbenzene, xylenes, naphthalene, TPH-g, and TPH-d, all at or below commercial/industrial soil ESLs. Benzene remains absent in all soil samples;
- 4) Petroleum hydrocarbons in groundwater are largely co-located with the detections of hydrocarbons in the northern corner of the former UST pit, including ethylbenzene, xylenes, naphthalene, TPH-g, and TPH-d. Of these chemicals, naphthalene, TPH-g, and TPH-d levels occur above drinking water standards, but below levels which may pose unacceptable indoor air risks;
- 5) The absence of benzene, fuel oxygenates, and SVOCs in groundwater from both within the UST footprint and beneath the onsite building help confirm that the former heating oil USTs (removed in 2004) did not contain automotive fuels;


In concert with the above conclusions, LRM recommends that the site is a good candidate for closure with no further action necessary. The rationale for this recommendation includes:

- 1) The former heating oil USTs were removed from the sidewalk in 2004, and were likely not in use for many decades before;
- 2) The chemicals of potential concern at the site are limited to TPH-g and TPH-d, and limited levels of naphthalene, reflecting storage of heating oils used in the former USTs. In the absence of the more volatile, mobile, and toxic hydrocarbons (such as benzene and SVOCs), potential exposure and associated health risks to the observed levels of hydrocarbons is considered minimal;
- 3) With the USTs removed, in the absence of soil impacts above commercial/industrial ESLs, and in the absence of SPHs, no ongoing sources of contamination are present at the site and soils beneath the sidewalk area do not pose any threats of exposure and unacceptable health risks; therefore, no active remediation of soil is considered warranted;
- 4) While groundwater concentrations of TPH-g, TPH-d, and naphthalene slightly exceed their respective drinking water standards, these impacts do not reveal an extensive impact to groundwater quality and are considered historical given the use of the USTs for storing heating oil likely dates back to decades ago. As such, the presence of these chemicals in groundwater largely represents a benign presence of weathered and immobile hydrocarbons. In the absence of onsite and known offsite shallow water supply wells (with drinking water supplied by EBMUD), and with detected concentrations of hydrocarbons remaining below levels which may pose unacceptable vapor intrusion risks, active remediation or monitoring of groundwater is not considered warranted;
- 5) Based on the above rationale, the site is considered a strong candidate for no further action and closure under commercial/industrial land use. With the contamination is under the sidewalk and does not pose vapor intrusion risks, no restrictions on the use of the onsite building is deemed necessary. However, a land use covenant prohibiting development of shallow groundwater at the site for potable purposes may be necessary as a deed restriction in support of site closure.

**Closing**

LRM greatly appreciates your assistance with this project and we look forward to your input on the above-referenced conclusions and recommendations. If you have any questions, please contact Mehrdad Javaherian at 415-706-8935, or at [mehrdad@endpoint-inc.com](mailto:mehrdad@endpoint-inc.com).

Sincerely,  
**LRM Consulting, Inc.**

  
Mehrdad Javaherian, Ph.D., MPH, PE, LEED® GA  
Principal



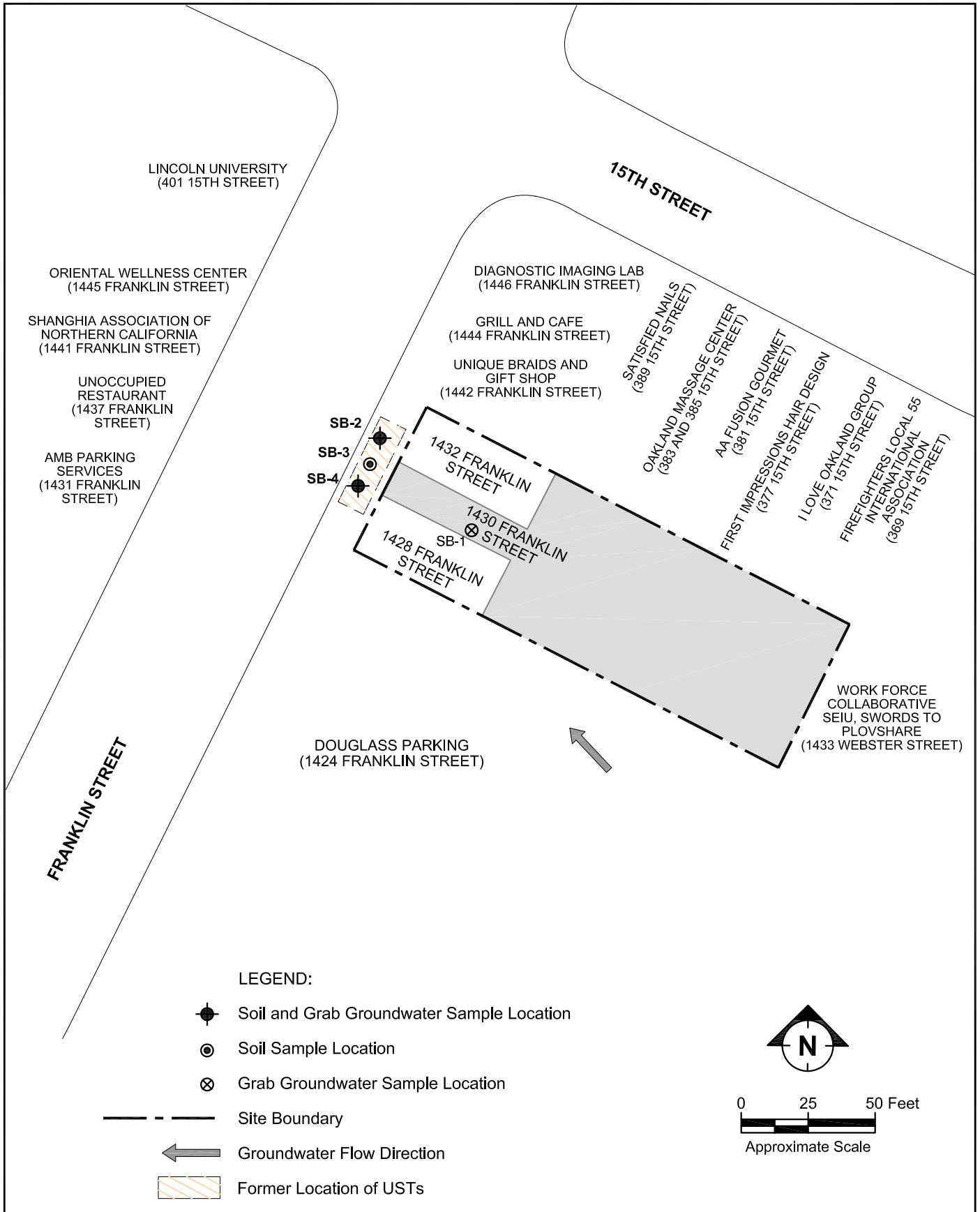
Attachments:

- Figure 1 – Site Plan with Sample Locations
- Figure 2 – Soil Analytical Results
- Figure 3 – Grab Groundwater Analytical Results

Attachment I – Laboratory Analytical Report

## **FIGURES**





**SITE PLAN WITH SAMPLE LOCATIONS**  
 CALIFORNIA RURAL LEGAL ASSISTANCE, INC.  
 1428, 1430, & 1432 FRANKLIN STREET  
 OAKLAND, CALIFORNIA  
 MAY 22, 2014

FIGURE:  
**1**

SB-3	5'	10'	20'
B	<0.005	<0.005	<0.005
T	<0.005	<0.005	<0.005
E	<0.005	<0.005	<0.005
X	<0.005	<0.005	<0.005
Napthalene	<0.005	<0.005	<0.005
TPH-g	<0.25	<0.25	<0.25
TPH-d	<1	<1	<1

SB-2	5'	10'	20'
B	<0.005	<0.005	<0.005
T	0.014	<0.005	<0.005
E	<0.005	<0.005	21
X	<0.005	0.016	43
Napthalene	<0.005	<0.005	12
TPH-g	0.86	32	2,200
TPH-d	16	28	1,100

ORIENTAL WELLNESS CENTER  
(1445 FRANKLIN STREET)

SHANGHIA ASSOCIATION OF  
NORTHERN CALIFORNIA  
(1441 FRANKLIN STREET)

UNOCCUPIED  
RESTAURANT  
(1437 FRANKLIN  
STREET)

AMB PARKING  
SERVICES  
(1431 FRANKLIN  
STREET)

DIAGNOSTIC IMAGING LAB  
(1446 FRANKLIN STREET)

GRILL AND CAFE  
(1444 FRANKLIN STREET)

UNIQUE BRAIDS AND  
GIFT SHOP  
(1442 FRANKLIN STREET)

SB-2  
SB-3  
SB-4

1432 FRANKLIN  
STREET

1430 FRANKLIN  
STREET

1428 FRANKLIN  
STREET

SB-1  
NS

SB-4	5'	10'	20'
B	<0.005	<0.005	<0.005
T	<0.005	<0.005	<0.005
E	<0.005	<0.005	<0.005
X	<0.005	<0.005	<0.005
Napthalene	<0.005	<0.005	<0.005
TPH-g	<0.25	<0.25	<0.25
TPH-d	<1	1.1	<1

DOUGLASS PARKING  
(1424 FRANKLIN STREET)

15TH STREET

FRANKLIN STREET

SATISFIED NAILS  
(389 15TH STREET)

OAKLAND MASSAGE CENTER  
(385 15TH STREET)

AA FLUSION GOURMET  
(381 15TH STREET)







FIRST IMPRESSIONS HAIR DESIGN  
(377 15TH STREET)

I LOVE OAKLAND GROUP  
(371 15TH STREET)

FIREFIGHTERS LOCAL 55  
ASSOCIATION  
(369 15TH STREET)

WORK FORCE  
COLLABORATIVE  
SEIU, SWORDS TO  
PLOVSHARE  
(1433 WEBSTER STREET)

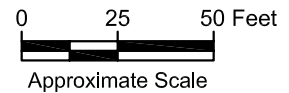
LEGEND:

-  Soil and Grab Groundwater Sample Location
-  Soil Sample Location
-  Grab Groundwater Sample Location
-  Site Boundary
-  Groundwater Flow Direction
-  Former Location of USTs

NA = Not analyzed

NS = Soil not sampled

All concentrations in mg/kg



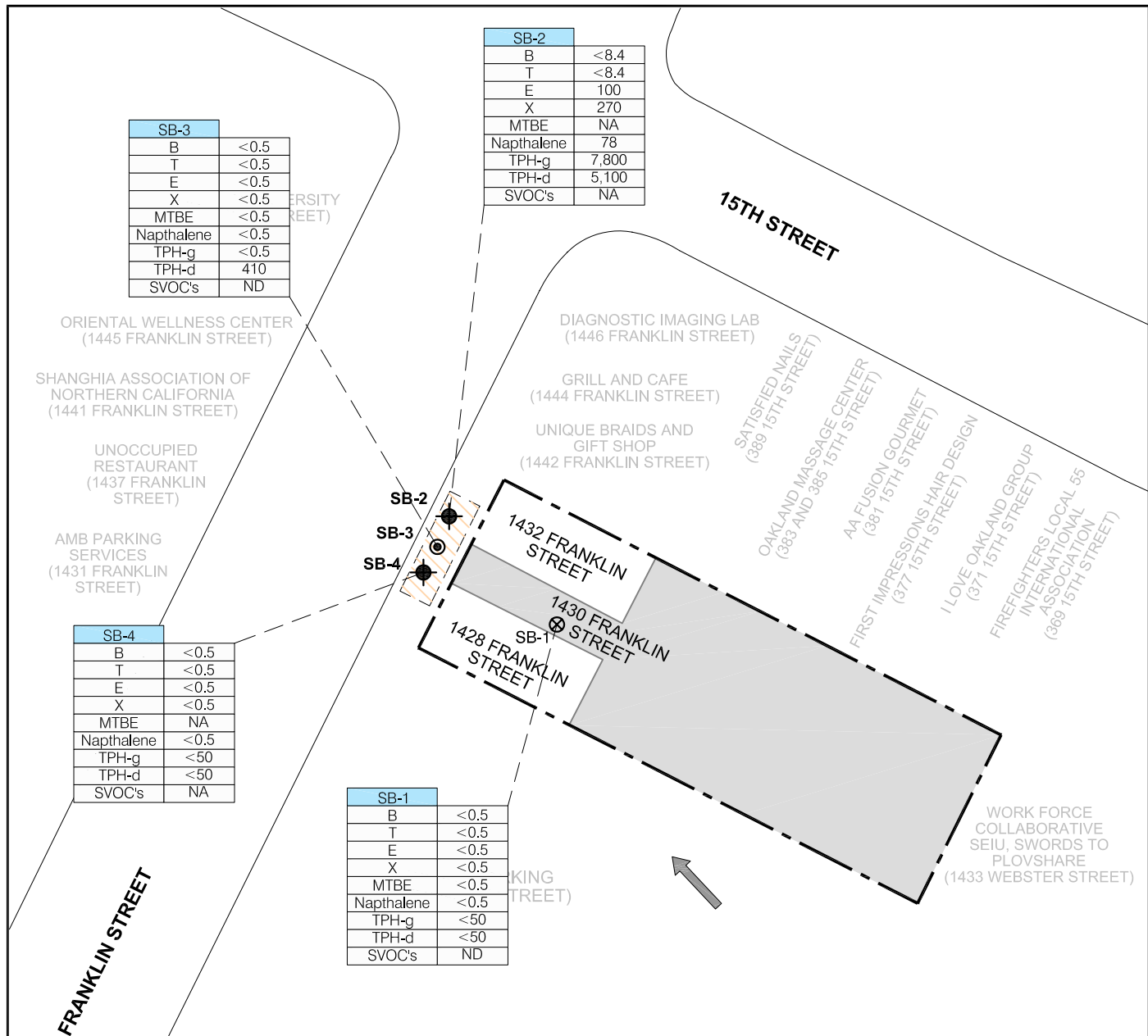
Base Map: "Site Plan and Sample Location, Figure 2 by Enercon, undated."



**SOIL ANALYTICAL RESULTS**  
CALIFORNIA RURAL LEGAL ASSISTANCE, INC.  
1428, 1430, & 1432 FRANKLIN STREET  
OAKLAND, CALIFORNIA  
MAY 22, 2014

FIGURE:

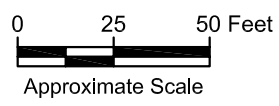
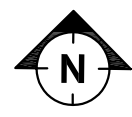
**2**



NA = Not analyzed  
 ND = Non-detect  
 All concentrations in  $\mu\text{g/L}$

**LEGEND:**

- Soil and Grab Groundwater Sample Location
- Soil Sample Location
- Grab Groundwater Sample Location
- Site Boundary
- Groundwater Flow Direction
- Former Location of USTs



Base Map: "Site Plan and Sample Location, Figure 2 by Enercon, undated."



**GRAB GROUNDWATER ANALYTICAL RESULTS**  
 CALIFORNIA RURAL LEGAL ASSISTANCE, INC.  
 1428, 1430, & 1432 FRANKLIN STREET  
 OAKLAND, CALIFORNIA  
 MAY 22, 2014

FIGURE:  
3

## **TABLES**

**Table 1. Concentrations of Petroleum Hydrocarbons in Soil  
1428-1432 Franklin Street, Oakland, CA**

Boring ID	Sample Date	Sample Depth (ft)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	TPH-g	TPH-d
SB-2-1	5/22/2014	3	<0.005	<b>0.014</b>	<0.005	<0.005	<0.005	<b>0.86</b>	<b>16</b>
SB-2-2	5/22/2014	10	<0.005	<0.005	<0.005	<b>0.016</b>	<0.005	<b>32</b>	<b>28</b>
SB-2-4	5/22/2014	20	<0.005	<0.005	<b>21</b>	<b>43</b>	<b>12</b>	<b>2200</b>	<b>1100</b>
SB-3-1	5/22/2014	5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.25	<1
SB-3-2	5/22/2014	10	<0.005	<0.005	<0.005	<0.005	<0.005	<0.25	<1
SB-3-3	5/22/2014	15	<0.005	<0.005	<0.005	<0.005	<0.005	<0.25	<1
SB-4-1	5/22/2014	5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.25	<1
SB-4-2	5/22/2014	10	<0.005	<0.005	<0.005	<0.005	<0.005	<0.25	<b>1.1</b>
SB-4-4	5/22/2014	20	<0.005	<0.005	<0.005	<0.005	<0.005	<0.25	<1

Residential ESL- Direct Exposure	0.74	1000	4.8	600	3.1	770	240
Commercial ESL- Direct Exposure	3.7	4900	24	2,600	15	4000	1,100
ESL-Soil Leaching to Groundwater	0.044	2.9	3.3	2.3	1.2	500*	110*

All concentrations in mg/kg

\* Value represents ceiling value.

**Table 2. Concentrations of Petroleum Hydrocarbons in Groundwater  
1428-1432 Franklin Street, Oakland, CA**

Boring ID	Sample Date	Sample Depth (ft)	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	TPH-g	TPH-d
SB-1-GW	5/22/2014	26	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50
SB-2-GW	5/22/2014	26	<8.4	<8.4	<b>100</b>	<b>270</b>	<b>78</b>	<b>7,800</b>	<b>5,100</b>
SB-3-GS	5/22/2014	26	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<b>410</b>
SB-4-GW	5/22/2014	26	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50

Drinking Water Standards	1	150	300.0	1800	6.1	100	100
Groundwater ESLs for Protection of Vapor Intrusion- Commercial-Coarse Mix	270	95,000*	3,100.0	37,000*	1600	NA	NA

All concentrations in ug/L

Value represents residential land use

**APPENDIX I**  
**BORING LOGS**

PROJECT:

1428-1432 FRANKLIN STREET  
Oakland, California

## Log of Boring SB-1

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: Marc Hachey  
Drilled By: Vapor Tech

Date started: 5/22/14

Date finished: 5/22/14

Drilling method: Direct Push

Permit No.: NA

Permit Issued by:

Sampling: Geoprobe

DEPTH (feet)	SAMPLES				PID (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (feet)			
1						SP	SAND with SILT (SP) dark brown, slightly moist, fine to medium grained sand
2							becoming moderate brown to light brown, with trace fine gravel
3							
4						SC	CLAYEY SAND (SC) moderate and gray-brown, slightly moist to moist
5							
6							SILTY SAND (SM) orange-brown with gray-brown, slightly moist, some clay
7							
8						SM	
9							
10							
11							
12							CLAYEY/SILTY (SM/SC) moderate, orange, and dark gray-brown, slightly moist to moist, fine to medium sand
13						SM/ SC	becoming clayey sand to sandy clay, moist (SC/CL)
14							
15							
16							CLAYEY SAND (SC) gray-brown with iron staining, slightly moist, medium sand with zones of sandy lean clay
17						SC	
18							some thin zones of slightly higher moisture (SC)
19							
20						SM	SAND (SM) mostly gray to orange brown, slightly moist, silty fine to medium sand with some coarse sand
21							SAND (SP) gray-brown, slightly moist with 6" zone of moist at 21', fine to medium sand with silt and clay
22						SP	
23							less, moist and less clayey
24							
25							
26						SP	∇ SAND (SP) gray to moderate brown, wet, fine to medium, poorly graded sand
27							
28							
29							
30							

Boring terminated at a depth of 27 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater encountered at a depth of 25.5 feet during drilling.



Project No.:

Figure:

1



PROJECT:

1428-1432 FRANKLIN STREET  
Oakland, California

# Log of Boring SB-2

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: Marc Hachey  
Drilled By: Vapor Tech

Date started: 5/22/14

Date finished: 5/22/14

Drilling method: Direct Push

Permit No.: NA

Permit Issued by:

Sampling: Geoprobe

DEPTH (feet)	SAMPLES				PID (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (feet)			
1							6 inches Asphalt Concrete (AC)
							6 inches Aggregate Base (AB)
2					2.0		SAND (SP) mixed gray and orange brown, moist fine to medium sand with silt
3					9.1		
4					4.5		
5							
6					1.2	SP	moist with zones of wet, some clay
7							
8							
9							slight hydrocarbon odor
10					10.1		
11							
12							
13							strong hydrocarbon odor
14					28.5		CLAY/SAND (SC/CL) gray-brown, moist, clayey sand to sandy clay
15							
16					700		
17						SC/ CL	
18							
19					13.65		
20							
21					1750		
22					1660		SAND (SM) interlayered, moderate and gray-brown, moist to very moist, silty sand
23					1660	SM	
24							
25					1025		becoming gray to gray-brown, moist to wet, silty sand to silt with sand (SM/SP)
26							
27							SAND (SP) gray to gray-brown, very moist to wet, fine to medium sand
28					1240	SP	
29							
30					1450		

Boring terminated at a depth of 30 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater encountered at a depth of 26 feet during drilling.



Project No.:

Figure:

RICHMOND - LRM 1428-1432 FRANKLIN.GPJ T&R.GDT 6/4/14

PROJECT:

1428-1432 FRANKLIN STREET  
Oakland, California

## Log of Boring SB-3

PAGE 1 OF 1

Boring location: See Site Plan, Figure 2

Logged by: Marc Hachey  
Drilled By: Vapor Tech

Date started: 5/22/14

Date finished: 5/22/14

Drilling method: Direct Push

Permit No.: NA

Permit Issued by:

Sampling: Geoprobe

DEPTH (feet)	SAMPLES				PID (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (feet)			
1							6 inches Asphalt Concrete (AC)
							6 inches Aggregate Base (AB)
2						SP	SAND (SP) mixed mixed orange and gray-brown, moist to wet, fine to medium sand with silt and clay
3							
4							
5							
6							
7					385		SAND (SM/SC) mostly orange brown with some gray-brown, moist, clayey, silty fine sand
8							
9							
10					625	SM/ SC	
11							
12					200		
13							
14							CLAY (CL) moderate to gray-brown, moist, sandy lean clay
15							
16					190	CL	
17							
18					202		SAND (SC) moderate brown, moist, clayey fine to medium sand
19						SC	
20					180		becoming less clayey, more silty, slightly moist
21					2.0		
22							SAND (SM/SP) moderate and gray-brown, moist, silty, fine to medium sand to sand with silt
23					118	SM/ SP	
24							
25					2.5		becoming wet
26							
27					0.9		SAND (SP) moderate brown, very moist to wet, fine to medium sand with silt
28						SP	
29					55		
30							

Boring terminated at a depth of 30 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater encountered at a depth of 24 feet during drilling.



Project No.:

Figure:

3

PROJECT:

1428-1432 FRANKLIN STREET  
Oakland, California

# Log of Boring SB-4

PAGE 1 OF 2

Boring location: See Site Plan, Figure 2

Logged by: Marc Hachey  
Drilled By: Vapor Tech

Date started: 5/22/14

Date finished: 5/22/14

Drilling method: Direct Push

Permit No.: NA

Permit Issued by:

Sampling: Geoprobe

DEPTH (feet)	SAMPLES				PID (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (feet)			
1							SAND (SC) moderate, orange and gray-brown, moist, clayey sand
2							
3							
4							
5							
6					1.5	SC	
7							
8					5.5		
9							
10							
11							SAND (SC) moderate to orange brown, slightly moist, clayey, fine to medium sand
12							
13							
14					47		
15							
16					5.5		
17							
18							
19						SC	
20					1.2		
21							becoming very moist
22					28		
23							
24					14		
25							becoming very moist to wet
26					2.0		
27							
28					32	SP	
29							
30					2.0		

RICHMOND - LRM 1428-1432 FRANKLIN.GPJ T&R.GDT 6/4/14



Project No.:

Figure:

4a

PROJECT:

1428-1432 FRANKLIN STREET  
Oakland, California

# Log of Boring SB-4

PAGE 2 OF 2

DEPTH (feet)	SAMPLES				PID (ppm)	LITHOLOGY	MATERIAL DESCRIPTION
	Sample Number	Sample	Blow Count	Recovery (feet)			
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

RICHMOND - LRM 1428-1432 FRANKLIN.GPJ T&R.GDT 6/4/14

Boring terminated at a depth of 30 feet below ground surface.  
Boring backfilled with cement grout.  
Groundwater encountered at a depth of 23 feet during drilling.



Project No.:  
Figure: 4b

**APPENDIX II**  
**LABORATORY ANALYTICAL REPORTS**



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1405896

**Report Created for:** LRM Consulting, Inc.  
1534 Plaza Lane, #145  
Burlingame, CA 94010

**Project Contact:** Mehrdad Javaherian  
**Project P.O.:**  
**Project Name:** #1428-1430 Franklin St

**Project Received:** 05/22/2014

Analytical Report reviewed & approved for release on 06/02/2014 by:

Question about  
your data?

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:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**WorkOrder:** 1405896

### Glossary Abbreviation

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

### Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
e11	stoddard solvent/mineral spirit (?)



# Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/23/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Benzene, Toluene, Ethylbenzene & Xylenes (BTEX) by P&T and GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-3-3	1405896-009A	Soil	05/22/2014 12:10	GC16	90788
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	ND		0.0050	1	05/29/2014 01:30
Ethylbenzene	ND		0.0050	1	05/29/2014 01:30
Toluene	ND		0.0050	1	05/29/2014 01:30
Xylenes, Total	ND		0.0050	1	05/29/2014 01:30
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	99		70-130		05/29/2014 01:30
Toluene-d8	102		70-130		05/29/2014 01:30
4-BFB	121		70-130		05/29/2014 01:30





## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/22/14-5/23/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-2-1</b>	<b>1405896-001A</b>	<b>Soil</b>	<b>05/22/2014 10:25</b>	<b>GC16</b>	<b>90755</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>0.86</b>		0.25	1	05/27/2014 12:53
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	102		70-130		05/27/2014 12:53
<b>SB-2-2</b>	<b>1405896-002A</b>	<b>Soil</b>	<b>05/22/2014 10:35</b>	<b>GC16</b>	<b>90755</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>32</b>		1.0	4	05/28/2014 21:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	102		70-130		05/28/2014 21:55
<b>SB-2-4</b>	<b>1405896-004A</b>	<b>Soil</b>	<b>05/22/2014 10:55</b>	<b>GC16</b>	<b>90755</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>2200</b>		250	1000	05/28/2014 16:02
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	101		70-130		05/28/2014 16:02
<b>SB-3-1</b>	<b>1405896-007A</b>	<b>Soil</b>	<b>05/22/2014 11:45</b>	<b>GC16</b>	<b>90755</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		0.25	1	05/28/2014 23:21
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	103		70-130		05/28/2014 23:21
<b>SB-3-2</b>	<b>1405896-008A</b>	<b>Soil</b>	<b>05/22/2014 11:55</b>	<b>GC16</b>	<b>90755</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		0.25	1	05/29/2014 00:04
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	103		70-130		05/29/2014 00:04

(Cont.)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/22/14-5/23/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-3-3</b>	<b>1405896-009A</b>	<b>Soil</b>	<b>05/22/2014 12:10</b>	<b>GC16</b>	<b>90788</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		0.25	1	05/29/2014 01:30
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	103		70-130		05/29/2014 01:30
<b>SB-4-1</b>	<b>1405896-013A</b>	<b>Soil</b>	<b>05/22/2014 13:10</b>	<b>GC16</b>	<b>90755</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		0.25	1	05/29/2014 00:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	102		70-130		05/29/2014 00:47
<b>SB-4-2</b>	<b>1405896-014A</b>	<b>Soil</b>	<b>05/22/2014 13:20</b>	<b>GC16</b>	<b>90764</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		0.25	1	05/27/2014 12:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	101		70-130		05/27/2014 12:10



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/22/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### MTBE and BTEX by GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-2-1</b>	<b>1405896-001A</b>	<b>Soil</b>	<b>05/22/2014 10:25</b>	<b>GC16</b>	<b>90755</b>

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	05/27/2014 12:53
Ethylbenzene	ND	0.0050	1	05/27/2014 12:53
Naphthalene	ND	0.0050	1	05/27/2014 12:53
Toluene	<b>0.014</b>	0.0050	1	05/27/2014 12:53
Xylenes, Total	ND	0.0050	1	05/27/2014 12:53
Surrogates	REC (%)	Limits		
Dibromofluoromethane	101	70-130		05/27/2014 12:53
Toluene-d8	100	70-130		05/27/2014 12:53

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-2-2</b>	<b>1405896-002A</b>	<b>Soil</b>	<b>05/22/2014 10:35</b>	<b>GC16</b>	<b>90755</b>

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	05/28/2014 17:31
Ethylbenzene	ND	0.0050	1	05/28/2014 17:31
Naphthalene	ND	0.0050	1	05/28/2014 17:31
Toluene	ND	0.0050	1	05/28/2014 17:31
Xylenes, Total	<b>0.016</b>	0.0050	1	05/28/2014 17:31
Surrogates	REC (%)	Limits		
Dibromofluoromethane	100	70-130		05/28/2014 17:31
Toluene-d8	118	70-130		05/28/2014 17:31

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-2-4</b>	<b>1405896-004A</b>	<b>Soil</b>	<b>05/22/2014 10:55</b>	<b>GC16</b>	<b>90755</b>

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	1.0	200	05/27/2014 13:36
Ethylbenzene	<b>21</b>	1.0	200	05/27/2014 13:36
Naphthalene	<b>12</b>	1.0	200	05/27/2014 13:36
Toluene	ND	1.0	200	05/27/2014 13:36
Xylenes, Total	<b>43</b>	1.0	200	05/27/2014 13:36
Surrogates	REC (%)	Limits		
Dibromofluoromethane	105	70-130		05/27/2014 13:36
Toluene-d8	121	70-130		05/27/2014 13:36

(Cont.)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/22/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### MTBE and BTEX by GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-3-1</b>	<b>1405896-007A</b>	<b>Soil</b>	<b>05/22/2014 11:45</b>	<b>GC16</b>	<b>90755</b>

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	05/28/2014 23:21
Ethylbenzene	ND	0.0050	1	05/28/2014 23:21
Naphthalene	ND	0.0050	1	05/28/2014 23:21
Toluene	ND	0.0050	1	05/28/2014 23:21
Xylenes, Total	ND	0.0050	1	05/28/2014 23:21
Surrogates	REC (%)	Limits		
Dibromofluoromethane	100	70-130		05/28/2014 23:21
Toluene-d8	102	70-130		05/28/2014 23:21

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-3-2</b>	<b>1405896-008A</b>	<b>Soil</b>	<b>05/22/2014 11:55</b>	<b>GC16</b>	<b>90755</b>

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	05/29/2014 00:04
Ethylbenzene	ND	0.0050	1	05/29/2014 00:04
Naphthalene	ND	0.0050	1	05/29/2014 00:04
Toluene	ND	0.0050	1	05/29/2014 00:04
Xylenes, Total	ND	0.0050	1	05/29/2014 00:04
Surrogates	REC (%)	Limits		
Dibromofluoromethane	99	70-130		05/29/2014 00:04
Toluene-d8	102	70-130		05/29/2014 00:04

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-4-1</b>	<b>1405896-013A</b>	<b>Soil</b>	<b>05/22/2014 13:10</b>	<b>GC16</b>	<b>90755</b>

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.0050	1	05/29/2014 00:47
Ethylbenzene	ND	0.0050	1	05/29/2014 00:47
Naphthalene	ND	0.0050	1	05/29/2014 00:47
Toluene	ND	0.0050	1	05/29/2014 00:47
Xylenes, Total	ND	0.0050	1	05/29/2014 00:47
Surrogates	REC (%)	Limits		
Dibromofluoromethane	98	70-130		05/29/2014 00:47
Toluene-d8	101	70-130		05/29/2014 00:47

(Cont.)



# Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/22/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## MTBE and BTEX by GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-4-2	1405896-014A	Soil	05/22/2014 13:20	GC16	90764
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	ND		0.0050	1	05/27/2014 12:10
Ethylbenzene	ND		0.0050	1	05/27/2014 12:10
Naphthalene	ND		0.0050	1	05/27/2014 12:10
Toluene	ND		0.0050	1	05/27/2014 12:10
Xylenes, Total	ND		0.0050	1	05/27/2014 12:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	103		70-130		05/27/2014 12:10
Toluene-d8	100		70-130		05/27/2014 12:10



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/22/14-5/23/14

**WorkOrder:** 1405896  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-2-1</b>	<b>1405896-001A</b>	<b>Soil</b>	<b>05/22/2014 10:25</b>	<b>GC2A</b>	<b>90763</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>16</b>		2.0	2	05/30/2014 11:57
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e7,e2	
C9	112		70-130		05/30/2014 11:57
<b>SB-2-2</b>	<b>1405896-002A</b>	<b>Soil</b>	<b>05/22/2014 10:35</b>	<b>GC9b</b>	<b>90763</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>28</b>		1.0	1	05/24/2014 07:01
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e11	
C9	98		70-130		05/24/2014 07:01
<b>SB-2-4</b>	<b>1405896-004A</b>	<b>Soil</b>	<b>05/22/2014 10:55</b>	<b>GC2A</b>	<b>90763</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>1100</b>		20	20	05/30/2014 09:24
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>	Analytical Comments: e11,c4	
C9	255	S	70-130		05/30/2014 09:24
<b>SB-3-1</b>	<b>1405896-007A</b>	<b>Soil</b>	<b>05/22/2014 11:45</b>	<b>GC6A</b>	<b>90763</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	05/28/2014 02:47
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	106		70-130		05/28/2014 02:47
<b>SB-3-2</b>	<b>1405896-008A</b>	<b>Soil</b>	<b>05/22/2014 11:55</b>	<b>GC6A</b>	<b>90763</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	05/28/2014 08:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	97		70-130		05/28/2014 08:46

(Cont.)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 5/22/14-5/23/14

**WorkOrder:** 1405896  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-3-3</b>	<b>1405896-009A</b>	<b>Soil</b>	<b>05/22/2014 12:10</b>	<b>GC6A</b>	<b>90770</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	05/23/2014 23:55
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	98		70-130		05/23/2014 23:55
<b>SB-4-1</b>	<b>1405896-013A</b>	<b>Soil</b>	<b>05/22/2014 13:10</b>	<b>GC9b</b>	<b>90763</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	05/24/2014 04:44
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	106		70-130		05/24/2014 04:44
<b>SB-4-2</b>	<b>1405896-014A</b>	<b>Soil</b>	<b>05/22/2014 13:20</b>	<b>GC9b</b>	<b>90763</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1.1		1.0	1	05/30/2014 03:24
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e2	
C9	106		70-130		05/30/2014 03:24



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/23/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90788  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90788  
1405926-001AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	-	0.0050	-	-	-	-
Benzene	ND	0.0482	0.0050	0.050	-	96.5	70-130
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	-	0.050	-	-	-	-
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	-	0.0050	-	-	-	-
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	-	0.0040	-	-	-	-
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	-	0.0040	-	-	-	-
1,1-Dichloroethene	ND	0.0539	0.0050	0.050	-	108	70-130
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)





## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/23/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90788  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90788  
 1405926-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	-	0.0050	-	-	-	-
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	-	0.0050	-	-	-	-
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	-	0.0050	-	-	-	-
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0503	0.0050	0.050	-	101	70-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	-	0.0050	-	-	-	-
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	0.131	0.188		0.18	105	107	70-130
Toluene-d8	0.137	0.194		0.18	110	111	70-130
4-BFB	0.0116	0.0157		0.018	92	89	70-130

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/23/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90788  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90788  
 1405926-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzene	0.0468	0.0482	0.050	ND	93.7	96.3	70-130	2.79	30
1,1-Dichloroethene	0.0516	0.0528	0.050	ND	103	106	70-130	2.31	30
Toluene	0.0485	0.0503	0.050	ND	97.1	101	70-130	3.51	30
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.186	0.185	0.18		106	106	70-130	0	30
Toluene-d8	0.189	0.190	0.18		108	109	70-130	0.415	30
4-BFB	0.0156	0.0158	0.018		89	90	70-130	1.24	30



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90755  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90755  
 1405866-008EMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	-	0.0050	-	-	-	-
Benzene	ND	0.0442	0.0050	0.050	-	88.5	70-130
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	-	0.050	-	-	-	-
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	-	0.0050	-	-	-	-
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	-	0.0040	-	-	-	-
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	-	0.0040	-	-	-	-
1,1-Dichloroethene	ND	-	0.0050	-	-	-	-
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90755  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90755  
 1405866-008EMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	-	0.0050	-	-	-	-
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	-	0.0050	-	-	-	-
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0472	0.0050	0.050	-	94.3	70-130
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0466	0.0050	0.050	-	93.2	70-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	-	0.0050	-	-	-	-
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	0.130	0.188		0.18	104	108	70-130
Toluene-d8	0.140	0.188		0.18	112	108	70-130
4-BFB	0.0112	-		0.0125	90	-	-

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC10  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90755  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90755  
 1405866-008EMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzene	0.0426	0.0435	0.050	ND	85.3	87	70-130	2.00	30
Methyl-t-butyl ether (MTBE)	0.0457	0.0486	0.050	ND	91.5	97.3	70-130	6.17	30
Toluene	0.0459	0.0465	0.050	ND	91.7	92.9	70-130	1.29	30
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.188	0.192	0.18		108	110	70-130	1.79	30
Toluene-d8	0.190	0.190	0.18		109	109	70-130	0	30

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/27/14  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90764  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90764  
 1405896-014AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	-	0.0050	-	-	-	-
Benzene	ND	0.0465	0.0050	0.050	-	92.9	70-130
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	-	0.050	-	-	-	-
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	-	0.0050	-	-	-	-
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	-	0.0040	-	-	-	-
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	-	0.0040	-	-	-	-
1,1-Dichloroethene	ND	-	0.0050	-	-	-	-
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/27/14  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90764  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90764  
 1405896-014AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	-	0.0050	-	-	-	-
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	-	0.0050	-	-	-	-
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0437	0.0050	0.050	-	87.3	70-130
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0464	0.0050	0.050	-	92.9	70-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	-	0.0050	-	-	-	-
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

#### Surrogate Recovery

Dibromofluoromethane	0.126	0.173		0.18	101	99	70-130
Toluene-d8	0.127	0.172		0.18	102	98	70-130
4-BFB	0.0140	-		0.0125	112	-	-

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/27/14  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90764  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90764  
 1405896-014AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzene	0.0454	0.0446	0.050	ND	90.8	89.1	70-130	1.87	30
Methyl-t-butyl ether (MTBE)	0.0420	0.0413	0.050	ND	84	82.6	70-130	1.62	30
Toluene	0.0450	0.0439	0.050	ND	90.1	87.8	70-130	2.53	30
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.173	0.171	0.18		99	98	70-130	1.24	30
Toluene-d8	0.168	0.167	0.18		96	96	70-130	0	30





## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC11A, GC11B  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90763  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90763  
 1405896-014AMS/MSD

### QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	41.2	1.0	40	-	103	70-130
<b>Surrogate Recovery</b>							
C9	30.8	26.3		25	123	105	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	42.8	42.7	40	1.147	104	104	70-130	0	30
<b>Surrogate Recovery</b>									
C9	26.5	26.4	25		106	106	70-130	0	30

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC2B  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 90770  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-90770  
 1405904-017CMS/MSD

### QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	42.6	1.0	40	-	106	70-130
<b>Surrogate Recovery</b>							
C9	27.6	27.0		25	110	108	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	NR	NR	0	58	NR	NR	-	NR	
<b>Surrogate Recovery</b>									
C9	NR	NR	0		NR	NR	-	NR	

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



# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1405896

ClientCode: LRM C

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQUIS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**  
 Mehrdad Javaherian  
 LRM Consulting, Inc.  
 1534 Plaza Lane, #145  
 Burlingame, CA 94010  
 (415) 706-8935    FAX:

Email: mjavaherian@lrm-consulting.com  
 cc/3rd Party:  
 PO:  
 ProjectNo: #1428-1430 Franklin St

**Bill to:**  
 Accounts Payable  
 LRM Consulting, Inc.  
 1534 Plaza Lane, #145  
 Burlingame, CA 94010

**Requested TAT: 5 days**

*Date Received:* 05/22/2014

*Date Printed:* 05/29/2014

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1405896-001	SB-2-1	Soil	5/22/2014 10:25	<input type="checkbox"/>	A	A											
1405896-002	SB-2-2	Soil	5/22/2014 10:35	<input type="checkbox"/>	A	A											
1405896-004	SB-2-4	Soil	5/22/2014 10:55	<input type="checkbox"/>	A	A											
1405896-007	SB-3-1	Soil	5/22/2014 11:45	<input type="checkbox"/>	A	A											
1405896-008	SB-3-2	Soil	5/22/2014 11:55	<input type="checkbox"/>	A	A											
1405896-009	SB-3-3	Soil	5/22/2014 12:10	<input type="checkbox"/>	A	A											
1405896-013	SB-4-1	Soil	5/22/2014 13:10	<input type="checkbox"/>	A	A											
1405896-014	SB-4-2	Soil	5/22/2014 13:20	<input type="checkbox"/>	A	A											

**Test Legend:**

1	GAS8260_S	2	TPH(D)_S	3		4		5	
6		7		8		9		10	
11		12							

The following SampIDs: 001A, 002A, 004A, 007A, 008A, 009A, 013A, 014A contain testgroup.

**Prepared by: Ana Venegas**

**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:** LRM CONSULTING, INC.

**QC Level:** LEVEL 2

**Work Order:** 1405896

**Project:** #1428-1430 Franklin St

**Client Contact:** Mehrdad Javaherian

**Date Received:** 5/22/2014

**Comments:**

**Contact's Email:** mjavaherian@lrm-consulting.com

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1405896-001A	SB-2-1	Soil	SW8015B (Diesel)	1	8OZ GJ	<input type="checkbox"/>	5/22/2014 10:25	5 days		<input type="checkbox"/>	
			TPH(g) & MBTEX by 8260B			<input type="checkbox"/>					
1405896-002A	SB-2-2	Soil	SW8015B (Diesel)	1	Acetate Liner	<input type="checkbox"/>	5/22/2014 10:35	5 days		<input type="checkbox"/>	
			TPH(g) & MBTEX by 8260B			<input type="checkbox"/>					
1405896-003A	SB-2-3	Soil		1	8OZ GJ	<input type="checkbox"/>	5/22/2014 10:45			<input checked="" type="checkbox"/>	
1405896-004A	SB-2-4	Soil	SW8015B (Diesel)	1	Acetate Liner	<input type="checkbox"/>	5/22/2014 10:55	5 days		<input type="checkbox"/>	
			TPH(g) & MBTEX by 8260B			<input type="checkbox"/>					
1405896-005A	SB-2-5	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 11:00			<input checked="" type="checkbox"/>	
1405896-006A	SB-2-6	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 11:10			<input checked="" type="checkbox"/>	
1405896-007A	SB-3-1	Soil	SW8015B (Diesel)	1	8OZ GJ	<input type="checkbox"/>	5/22/2014 11:45	5 days		<input type="checkbox"/>	
			TPH(g) & MBTEX by 8260B			<input type="checkbox"/>					
1405896-008A	SB-3-2	Soil	SW8015B (Diesel)	1	Acetate Liner	<input type="checkbox"/>	5/22/2014 11:55	5 days		<input type="checkbox"/>	
			TPH(g) & MBTEX by 8260B			<input type="checkbox"/>					
1405896-009A	SB-3-3	Soil	SW8015B (Diesel)	1	Acetate Liner	<input type="checkbox"/>	5/22/2014 12:10	5 days		<input type="checkbox"/>	
			TPH(g) & BTEX by 8260B			<input type="checkbox"/>					
1405896-010A	SB-3-4	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 12:20			<input checked="" type="checkbox"/>	
1405896-011A	SB-3-5	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 12:25			<input checked="" type="checkbox"/>	

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

**Bottle Legend:**

8OZ GJ = 8oz Glass Jar

Acetate Liner = Acetate Liner



## WORK ORDER SUMMARY

**Client Name:** LRM CONSULTING, INC.

**QC Level:** LEVEL 2

**Work Order:** 1405896

**Project:** #1428-1430 Franklin St

**Client Contact:** Mehrdad Javaherian

**Date Received:** 5/22/2014

**Comments:**

**Contact's Email:** mjavaherian@lrn-consulting.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1405896-012A	SB-3-6	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 12:35			<input checked="" type="checkbox"/>	
1405896-013A	SB-4-1	Soil	SW8015B (Diesel)	1	8OZ GJ	<input type="checkbox"/>	5/22/2014 13:10	5 days		<input type="checkbox"/>	
			TPH(g) & MBTEX by 8260B			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1405896-014A	SB-4-2	Soil	SW8015B (Diesel)	1	Acetate Liner	<input type="checkbox"/>	5/22/2014 13:20	5 days		<input type="checkbox"/>	
			TPH(g) & MBTEX by 8260B			<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1405896-015A	SB-4-3	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 13:45			<input checked="" type="checkbox"/>	
1405896-016A	SB-4-4	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 13:50			<input checked="" type="checkbox"/>	
1405896-017A	SB-4-5	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 13:55			<input checked="" type="checkbox"/>	
1405896-018A	SB-4-6	Soil		1	Acetate Liner	<input type="checkbox"/>	5/22/2014 14:00			<input checked="" type="checkbox"/>	

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

**Bottle Legend:**

8OZ GJ = 8oz Glass Jar

Acetate Liner = Acetate Liner







### Sample Receipt Checklist

Client Name: **LRM Consulting, Inc.** Date and Time Received: **5/22/2014 7:35:37 PM**  
 Project Name: **#1428-1430 Franklin St** LogIn Reviewed by: **Ana Venegas**  
 WorkOrder N°: **1405896** Matrix: Soil 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   
 Container/Temp Blank temperature Cooler Temp: 4.7°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: pH<2; 522: pH<4)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:





# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1405896 A

**Report Created for:** LRM Consulting, Inc.  
1534 Plaza Lane, #145  
Burlingame, CA 94010

**Project Contact:** Mehrdad Javaherian  
**Project P.O.:**  
**Project Name:** #1428-1430 Franklin St

**Project Received:** 05/22/2014

Analytical Report reviewed & approved for release on 06/06/2014 by:

Question about  
your data?

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

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





## Glossary of Terms & Qualifier Definitions

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**WorkOrder:** 1405896

### Glossary Abbreviation

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

### Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
e11	stoddard solvent/mineral spirit (?)



# Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 6/2/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Benzene, Toluene, Ethylbenzene & Xylenes (BTEX) by P&T and GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-4-4	1405896-016A	Soil	05/22/2014 13:50	GC16	91086
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	ND		0.0050	1	06/05/2014 11:10
Ethylbenzene	ND		0.0050	1	06/05/2014 11:10
Naphthalene	ND		0.0050	1	06/05/2014 11:10
Toluene	ND		0.0050	1	06/05/2014 11:10
Xylenes, Total	ND		0.0050	1	06/05/2014 11:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	94		70-130		06/05/2014 11:10
Toluene-d8	95		70-130		06/05/2014 11:10
4-BFB	116		70-130		06/05/2014 11:10



# Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 6/2/14

**WorkOrder:** 1405896  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-4-4	1405896-016A	Soil	05/22/2014 13:50	GC16	91086
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		0.25	1	06/05/2014 11:10
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Toluene-d8	104		70-130		06/05/2014 11:10



# Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428-1430 Franklin St  
**Date Received:** 5/22/14 19:35  
**Date Prepared:** 6/2/14

**WorkOrder:** 1405896  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

## Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-4-4	1405896-016A	Soil	05/22/2014 13:50	GC6B	91043
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		1.0	1	06/05/2014 05:07
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	100		70-130		06/05/2014 05:07



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 6/2/14  
**Date Analyzed:** 6/3/14  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 91086  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-91086  
 1406039-004AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	-	0.0050	-	-	-	-
Benzene	ND	0.0458	0.0050	0.050	-	91.6	70-130
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	-	0.050	-	-	-	-
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	-	0.0050	-	-	-	-
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	-	0.0040	-	-	-	-
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	-	0.0040	-	-	-	-
1,1-Dichloroethene	ND	0.0425	0.0050	0.050	-	84.9	70-130
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 6/2/14  
**Date Analyzed:** 6/3/14  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 91086  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-91086  
 1406039-004AMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	-	0.0050	-	-	-	-
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	-	0.0050	-	-	-	-
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	-	0.0050	-	-	-	-
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0484	0.0050	0.050	-	96.8	70-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	-	0.0050	-	-	-	-
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	0.114	0.171		0.18	91	98	70-130
Toluene-d8	0.118	0.163		0.18	95	93	70-130
4-BFB	0.0144	0.0187		0.018	116	107	70-130

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 6/2/14  
**Date Analyzed:** 6/3/14  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 91086  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-91086  
 1406039-004AMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Benzene	0.0408	0.0412	0.050	ND	81.6	82.4	70-130	1.02	30
1,1-Dichloroethene	0.0386	0.0392	0.050	ND	77.2	78.3	70-130	1.47	30
Toluene	0.0425	0.0426	0.050	ND	84.9	85.3	70-130	0.416	30
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.168	0.167	0.18		96	96	70-130	0	30
Toluene-d8	0.158	0.157	0.18		90	90	70-130	0	30
4-BFB	0.0185	0.0184	0.018		106	105	70-130	0.798	30





## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 6/2/14  
**Date Analyzed:** 6/2/14  
**Instrument:** GC6B  
**Matrix:** Soil  
**Project:** #1428-1430 Franklin St

**WorkOrder:** 1405896  
**BatchID:** 91043  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg  
**Sample ID:** MB/LCS-91043  
 1406030-001AMS/MSD

### QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	38.5	1.0	40	-	96.2	70-130
<b>Surrogate Recovery</b>							
C9	24.0	23.2		25	96	93	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	NR	NR	0	5.2	NR	NR	-	NR	
<b>Surrogate Recovery</b>									
C9	NR	NR	0		NR	NR	-	NR	

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



# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1405896 **A** ClientCode: LRMC

WaterTrax  
  WriteOn  
  EDF  
  Excel  
  Fax  
 Email  
  HardCopy  
  ThirdParty  
  J-flag

**Report to:**  
 Mehrdad Javaherian  
 LRM Consulting, Inc.  
 1534 Plaza Lane, #145  
 Burlingame, CA 94010  
 (415) 706-8935 FAX:

Email: mjavaherian@lrm-consulting.com  
 cc/3rd Party:  
 PO:  
 ProjectNo: #1428-1430 Franklin St

**Bill to:**  
 Accounts Payable  
 LRM Consulting, Inc.  
 1534 Plaza Lane, #145  
 Burlingame, CA 94010

**Requested TAT: 5 days**  
**Date Received: 05/22/2014**  
**Date Add-On: 06/02/2014**  
**Date Printed: 06/03/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1405896-016	SB-4-4	Soil	5/22/2014 13:50	<input type="checkbox"/>	A	A	A										

**Test Legend:**

1	BTEX_8260B_S	2	GAS8260_S	3	TPH(D)_S	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Ana Venegas**

**Add-On Prepared By: Jena Alfaro**

**Comments:** G.Btex,Napthalene by 8260 and D added to 016 STAT 6/2/14

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:** LRM CONSULTING, INC.

**QC Level:** LEVEL 2

**Work Order:** 1405896

**Project:** #1428-1430 Franklin St

**Client Contact:** Mehrdad Javaherian

**Date Received:** 5/22/2014

**Comments:** G,Btex,Napthalene by 8260 and D added to 016 STAT 6/2/14

**Contact's Email:** mjavaherian@lrm-consulting.com

**Date Add-On:** 6/2/2014

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1405896-016A	SB-4-4	Soil	SW8015B (Diesel)	1	Acetate Liner	5/22/2014 13:50	5 days		<input type="checkbox"/>	
			TPH(g) & BTEX by 8260B				5 days		<input type="checkbox"/>	

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

**Bottle Legend:**

Acetate Liner = Acetate Liner



# McC Campbell Analytical, Inc.

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

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH  1 DAY  2 DAY  3 DAY  5 DAY

GeoTracker EDF  PDF  EDD  Write On (DW)  EQUIS  10 DAY

Effluent Sample Requiring "J" flag  UST Clean Up Fund Project ; Claim # \_\_\_\_\_

Report To: Mehrdad Javaherian Bill To: \_\_\_\_\_  
Company: LRM Consulting

Tele: (415) 706-8935 E-Mail: mehrdad@lrm-consulting.com  
Fax: ( ) \_\_\_\_\_

Project #: \_\_\_\_\_ Project Name: 1430 Franklin St.

Project Location: \_\_\_\_\_ Purchase Order# \_\_\_\_\_

Sampler Signature: [Signature]

### Analysis Request

BTEX/MTBE & TPH as Gas (8021/8015)	
TPH as Diesel (8015)	
Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	
Total Petroleum Hydrocarbons (418.1)	
EPA 505/608 / 8081 (CI Pesticides)	
EPA 608 / 8082 PCB's ; Aroclors / Congeners	
EPA 507 / 8141 (NP Pesticides)	
EPA 515 / 8151 (Acidic CI Herbicides)	
BTEX/MTBE & TPH as Gas (8260)	
EPA 524.2 / 624 / 8260 (VOCs)	
EPA 525.2 / 625 / 8270 (SVOCs)	
EPA 8270 SIM / 8310 (PAHs / PNAS)	
CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	
LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	
Metals (200.7 / 200.8 / 6010 / 6020)	
Filter sample for DISSOLVED metals analysis	
<u>Naphthalene (8260B)</u>	
<u>TPH-g and BTEX (8260B)</u>	

SAMPLE ID	Location/ Field Point Name	SAMPLING		# Containers	MATRIX								METHOD PRESERVED							
		Date	Time		Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	HCL	HNO <sub>3</sub>	Other					
SB-3-6	30'	5-22	12:35	1						/										
SB-4-1	5'		1:10	1						/										
SB-4-2	10'		1:20	1						/										
SB-4-3	15'		1:45	1						/										
SB-4-4	20'		1:50	1						/										
SB-4-5	25'		1:55	1						/										
SB-4-6	30'		2:00	1						/										

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

Relinquished By: <u>[Signature]</u>	Date: <u>5-22-14</u>	Time: <u>2:30</u>	Received By: <u>[Signature]</u>
Relinquished By: <u>[Signature]</u>	Date: <u>5/23/14</u>	Time: <u>1:15</u>	Received By: <u>[Signature]</u>
Relinquished By: _____	Date: _____	Time: _____	Received By: _____

ICE/° \_\_\_\_\_  
 GOOD CONDITION \_\_\_\_\_  
 HEAD SPACE ABSENT \_\_\_\_\_  
 DECHLORINATED IN LAB \_\_\_\_\_  
 APPROPRIATE CONTAINERS \_\_\_\_\_  
 PRESERVED IN LAB \_\_\_\_\_

COMMENTS: Added 6/2/14 SDTAT

VOAS O&G METALS OTHER HAZARDOUS: \_\_\_\_\_  
 PRESERVATION \_\_\_\_\_ pH < 2 \_\_\_\_\_



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1405899 **Amended:** 06/16/2014

**Report Created for:** LRM Consulting, Inc.  
1534 Plaza Lane, #145  
Burlingame, CA 94010

**Project Contact:** Mehrdad Javaherian  
**Project P.O.:**  
**Project Name:** #1428 Franklin

**Project Received:** 05/22/2014

Analytical Report reviewed & approved for release on 06/02/2014 by:

Question about  
your data?

[Click here to email  
McC Campbell](#)

Angela Rydelius,  
Laboratory Manager

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





## Glossary of Terms & Qualifier Definitions

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**WorkOrder:** 1405899

### Glossary Abbreviation

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

### Analytical Qualifiers

a4	the reporting limits were raised due to the sample's matrix prohibiting a full volume extraction.
b1	aqueous sample that contains greater than ~1 vol. % sediment
e2	diesel range compounds are significant; no recognizable pattern
e7	oil range compounds are significant
e11	stoddard solvent/mineral spirit (?)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/30/14

**WorkOrder:** 1405899  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-1</b>	<b>1405899-001C</b>	<b>Water</b>	<b>05/22/2014 13:40</b>	<b>GC28</b>	<b>91011</b>

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
tert-Amyl methyl ether (TAME)	ND	0.50	1	05/30/2014 13:56
Benzene	ND	0.50	1	05/30/2014 13:56
t-Butyl alcohol (TBA)	ND	2.0	1	05/30/2014 13:56
Diisopropyl ether (DIPE)	ND	0.50	1	05/30/2014 13:56
Ethylbenzene	ND	0.50	1	05/30/2014 13:56
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	05/30/2014 13:56
Methyl-t-butyl ether (MTBE)	ND	0.50	1	05/30/2014 13:56
Naphthalene	ND	0.50	1	05/30/2014 13:56
Toluene	ND	0.50	1	05/30/2014 13:56
Xylenes, Total	ND	0.50	1	05/30/2014 13:56
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	Analytical Comments: b1	
Dibromofluoromethane	100	70-130		05/30/2014 13:56
Toluene-d8	102	70-130		05/30/2014 13:56
4-BFB	98	70-130		05/30/2014 13:56

<b>SB-2</b>	<b>1405899-002B</b>	<b>Water</b>	<b>05/22/2014 13:39</b>	<b>GC16</b>	<b>91010</b>
-------------	---------------------	--------------	-------------------------	-------------	--------------

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	ND	8.4	17	05/30/2014 16:37
Ethylbenzene	<b>100</b>	8.4	17	05/30/2014 16:37
Naphthalene	<b>78</b>	8.4	17	05/30/2014 16:37
Toluene	ND	8.4	17	05/30/2014 16:37
Xylenes, Total	<b>270</b>	8.4	17	05/30/2014 16:37
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	Analytical Comments: b1	
Dibromofluoromethane	100	70-130		05/30/2014 16:37
Toluene-d8	92	70-130		05/30/2014 16:37
4-BFB	125	70-130		05/30/2014 16:37

(Cont.)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/30/14

**WorkOrder:** 1405899  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-3	1405899-003C	Water	05/22/2014 13:51	GC28	91011

Analytes	Result	RL	DF	Date Analyzed
tert-Amyl methyl ether (TAME)	ND	0.50	1	05/30/2014 14:35
Benzene	ND	0.50	1	05/30/2014 14:35
t-Butyl alcohol (TBA)	ND	2.0	1	05/30/2014 14:35
Diisopropyl ether (DIPE)	ND	0.50	1	05/30/2014 14:35
Ethylbenzene	ND	0.50	1	05/30/2014 14:35
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	05/30/2014 14:35
Methyl-t-butyl ether (MTBE)	ND	0.50	1	05/30/2014 14:35
Naphthalene	ND	0.50	1	05/30/2014 14:35
Toluene	ND	0.50	1	05/30/2014 14:35
Xylenes, Total	ND	0.50	1	05/30/2014 14:35
Surrogates	REC (%)	Limits	Analytical Comments: b1	
Dibromofluoromethane	104	70-130		05/30/2014 14:35
Toluene-d8	103	70-130		05/30/2014 14:35
4-BFB	100	70-130		05/30/2014 14:35

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-4	1405899-004B	Water	05/22/2014 14:20	GC16	91010

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	05/30/2014 15:54
Ethylbenzene	ND	0.50	1	05/30/2014 15:54
Naphthalene	ND	0.50	1	05/30/2014 15:54
Toluene	ND	0.50	1	05/30/2014 15:54
Xylenes, Total	ND	0.50	1	05/30/2014 15:54
Surrogates	REC (%)	Limits	Analytical Comments: b1	
Dibromofluoromethane	106	70-130		05/30/2014 15:54
Toluene-d8	90	70-130		05/30/2014 15:54
4-BFB	106	70-130		05/30/2014 15:54





## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/23/14

**WorkOrder:** 1405899  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-1	1405899-001B	Water	05/22/2014 13:40	GC21	90800
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		2.4	1	05/23/2014 18:04
Acenaphthylene	ND		2.4	1	05/23/2014 18:04
Acetochlor	ND		2.4	1	05/23/2014 18:04
Anthracene	ND		2.4	1	05/23/2014 18:04
Benzidine	ND		12	1	05/23/2014 18:04
Benzo (a) anthracene	ND		2.4	1	05/23/2014 18:04
Benzo (b) fluoranthene	ND		2.4	1	05/23/2014 18:04
Benzo (k) fluoranthene	ND		2.4	1	05/23/2014 18:04
Benzo (g,h,i) perylene	ND		2.4	1	05/23/2014 18:04
Benzo (a) pyrene	ND		2.4	1	05/23/2014 18:04
Benzyl Alcohol	ND		12	1	05/23/2014 18:04
1,1-Biphenyl	ND		2.4	1	05/23/2014 18:04
Bis (2-chloroethoxy) Methane	ND		2.4	1	05/23/2014 18:04
Bis (2-chloroethyl) Ether	ND		2.4	1	05/23/2014 18:04
Bis (2-chloroisopropyl) Ether	ND		2.4	1	05/23/2014 18:04
Bis (2-ethylhexyl) Adipate	ND		2.4	1	05/23/2014 18:04
Bis (2-ethylhexyl) Phthalate	ND		4.9	1	05/23/2014 18:04
4-Bromophenyl Phenyl Ether	ND		12	1	05/23/2014 18:04
Butylbenzyl Phthalate	ND		2.4	1	05/23/2014 18:04
4-Chloroaniline	ND		4.9	1	05/23/2014 18:04
4-Chloro-3-methylphenol	ND		12	1	05/23/2014 18:04
2-Chloronaphthalene	ND		2.4	1	05/23/2014 18:04
2-Chlorophenol	ND		2.4	1	05/23/2014 18:04
4-Chlorophenyl Phenyl Ether	ND		2.4	1	05/23/2014 18:04
Chrysene	ND		2.4	1	05/23/2014 18:04
Dibenzo (a,h) anthracene	ND		2.4	1	05/23/2014 18:04
Dibenzofuran	ND		2.4	1	05/23/2014 18:04
Di-n-butyl Phthalate	ND		2.4	1	05/23/2014 18:04
1,2-Dichlorobenzene	ND		2.4	1	05/23/2014 18:04
1,3-Dichlorobenzene	ND		2.4	1	05/23/2014 18:04
1,4-Dichlorobenzene	ND		2.4	1	05/23/2014 18:04
3,3-Dichlorobenzidine	ND		4.9	1	05/23/2014 18:04
2,4-Dichlorophenol	ND		2.4	1	05/23/2014 18:04
Diethyl Phthalate	ND		2.4	1	05/23/2014 18:04
2,4-Dimethylphenol	ND		2.4	1	05/23/2014 18:04
Dimethyl Phthalate	ND		2.4	1	05/23/2014 18:04
4,6-Dinitro-2-methylphenol	ND		12	1	05/23/2014 18:04
2,4-Dinitrophenol	ND		31	1	05/23/2014 18:04

(Cont.)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/23/14

**WorkOrder:** 1405899  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-1	1405899-001B	Water	05/22/2014 13:40	GC21	90800
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
2,4-Dinitrotoluene	ND		2.4	1	05/23/2014 18:04
2,6-Dinitrotoluene	ND		2.4	1	05/23/2014 18:04
Di-n-octyl Phthalate	ND		2.4	1	05/23/2014 18:04
1,2-Diphenylhydrazine	ND		2.4	1	05/23/2014 18:04
Fluoranthene	ND		2.4	1	05/23/2014 18:04
Fluorene	ND		2.4	1	05/23/2014 18:04
Hexachlorobenzene	ND		2.4	1	05/23/2014 18:04
Hexachlorobutadiene	ND		2.4	1	05/23/2014 18:04
Hexachlorocyclopentadiene	ND		12	1	05/23/2014 18:04
Hexachloroethane	ND		2.4	1	05/23/2014 18:04
Indeno (1,2,3-cd) pyrene	ND		2.4	1	05/23/2014 18:04
Isophorone	ND		2.4	1	05/23/2014 18:04
2-Methylnaphthalene	ND		2.4	1	05/23/2014 18:04
2-Methylphenol (o-Cresol)	ND		2.4	1	05/23/2014 18:04
3 &/or 4-Methylphenol (m,p-Cresol)	ND		2.4	1	05/23/2014 18:04
Naphthalene	ND		2.4	1	05/23/2014 18:04
2-Nitroaniline	ND		12	1	05/23/2014 18:04
3-Nitroaniline	ND		12	1	05/23/2014 18:04
4-Nitroaniline	ND		12	1	05/23/2014 18:04
Nitrobenzene	ND		2.4	1	05/23/2014 18:04
2-Nitrophenol	ND		12	1	05/23/2014 18:04
4-Nitrophenol	ND		12	1	05/23/2014 18:04
N-Nitrosodiphenylamine	ND		2.4	1	05/23/2014 18:04
N-Nitrosodi-n-propylamine	ND		2.4	1	05/23/2014 18:04
Pentachlorophenol	ND		12	1	05/23/2014 18:04
Phenanthrene	ND		2.4	1	05/23/2014 18:04
Phenol	ND		2.4	1	05/23/2014 18:04
Pyrene	ND		2.4	1	05/23/2014 18:04
1,2,4-Trichlorobenzene	ND		2.4	1	05/23/2014 18:04
2,4,5-Trichlorophenol	ND		2.4	1	05/23/2014 18:04
2,4,6-Trichlorophenol	ND		2.4	1	05/23/2014 18:04

(Cont.)



# Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/23/14

**WorkOrder:** 1405899  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

## Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-1	1405899-001B	Water	05/22/2014 13:40	GC21	90800

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	Analytical Comments: b1	
2-Fluorophenol	40	8-130		05/23/2014 18:04
Phenol-d5	30	5-130		05/23/2014 18:04
Nitrobenzene-d5	80	20-140		05/23/2014 18:04
2-Fluorobiphenyl	94	40-140		05/23/2014 18:04
2,4,6-Tribromophenol	115	16-180		05/23/2014 18:04
4-Terphenyl-d14	132	40-170		05/23/2014 18:04

(Cont.)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/23/14

**WorkOrder:** 1405899  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-3	1405899-003B	Water	05/22/2014 13:51	GC21	90800
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acenaphthene	ND		2.2	1	05/23/2014 18:32
Acenaphthylene	ND		2.2	1	05/23/2014 18:32
Acetochlor	ND		2.2	1	05/23/2014 18:32
Anthracene	ND		2.2	1	05/23/2014 18:32
Benzidine	ND		11	1	05/23/2014 18:32
Benzo (a) anthracene	ND		2.2	1	05/23/2014 18:32
Benzo (b) fluoranthene	ND		2.2	1	05/23/2014 18:32
Benzo (k) fluoranthene	ND		2.2	1	05/23/2014 18:32
Benzo (g,h,i) perylene	ND		2.2	1	05/23/2014 18:32
Benzo (a) pyrene	ND		2.2	1	05/23/2014 18:32
Benzyl Alcohol	ND		11	1	05/23/2014 18:32
1,1-Biphenyl	ND		2.2	1	05/23/2014 18:32
Bis (2-chloroethoxy) Methane	ND		2.2	1	05/23/2014 18:32
Bis (2-chloroethyl) Ether	ND		2.2	1	05/23/2014 18:32
Bis (2-chloroisopropyl) Ether	ND		2.2	1	05/23/2014 18:32
Bis (2-ethylhexyl) Adipate	ND		2.2	1	05/23/2014 18:32
Bis (2-ethylhexyl) Phthalate	ND		4.3	1	05/23/2014 18:32
4-Bromophenyl Phenyl Ether	ND		11	1	05/23/2014 18:32
Butylbenzyl Phthalate	ND		2.2	1	05/23/2014 18:32
4-Chloroaniline	ND		4.3	1	05/23/2014 18:32
4-Chloro-3-methylphenol	ND		11	1	05/23/2014 18:32
2-Chloronaphthalene	ND		2.2	1	05/23/2014 18:32
2-Chlorophenol	ND		2.2	1	05/23/2014 18:32
4-Chlorophenyl Phenyl Ether	ND		2.2	1	05/23/2014 18:32
Chrysene	ND		2.2	1	05/23/2014 18:32
Dibenzo (a,h) anthracene	ND		2.2	1	05/23/2014 18:32
Dibenzofuran	ND		2.2	1	05/23/2014 18:32
Di-n-butyl Phthalate	ND		2.2	1	05/23/2014 18:32
1,2-Dichlorobenzene	ND		2.2	1	05/23/2014 18:32
1,3-Dichlorobenzene	ND		2.2	1	05/23/2014 18:32
1,4-Dichlorobenzene	ND		2.2	1	05/23/2014 18:32
3,3-Dichlorobenzidine	ND		4.3	1	05/23/2014 18:32
2,4-Dichlorophenol	ND		2.2	1	05/23/2014 18:32
Diethyl Phthalate	ND		2.2	1	05/23/2014 18:32
2,4-Dimethylphenol	ND		2.2	1	05/23/2014 18:32
Dimethyl Phthalate	ND		2.2	1	05/23/2014 18:32
4,6-Dinitro-2-methylphenol	ND		11	1	05/23/2014 18:32
2,4-Dinitrophenol	ND		27	1	05/23/2014 18:32

(Cont.)



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/23/14

**WorkOrder:** 1405899  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

### Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-3	1405899-003B	Water	05/22/2014 13:51	GC21	90800
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
2,4-Dinitrotoluene	ND		2.2	1	05/23/2014 18:32
2,6-Dinitrotoluene	ND		2.2	1	05/23/2014 18:32
Di-n-octyl Phthalate	ND		2.2	1	05/23/2014 18:32
1,2-Diphenylhydrazine	ND		2.2	1	05/23/2014 18:32
Fluoranthene	ND		2.2	1	05/23/2014 18:32
Fluorene	ND		2.2	1	05/23/2014 18:32
Hexachlorobenzene	ND		2.2	1	05/23/2014 18:32
Hexachlorobutadiene	ND		2.2	1	05/23/2014 18:32
Hexachlorocyclopentadiene	ND		11	1	05/23/2014 18:32
Hexachloroethane	ND		2.2	1	05/23/2014 18:32
Indeno (1,2,3-cd) pyrene	ND		2.2	1	05/23/2014 18:32
Isophorone	ND		2.2	1	05/23/2014 18:32
2-Methylnaphthalene	ND		2.2	1	05/23/2014 18:32
2-Methylphenol (o-Cresol)	ND		2.2	1	05/23/2014 18:32
3 &/or 4-Methylphenol (m,p-Cresol)	ND		2.2	1	05/23/2014 18:32
Naphthalene	ND		2.2	1	05/23/2014 18:32
2-Nitroaniline	ND		11	1	05/23/2014 18:32
3-Nitroaniline	ND		11	1	05/23/2014 18:32
4-Nitroaniline	ND		11	1	05/23/2014 18:32
Nitrobenzene	ND		2.2	1	05/23/2014 18:32
2-Nitrophenol	ND		11	1	05/23/2014 18:32
4-Nitrophenol	ND		11	1	05/23/2014 18:32
N-Nitrosodiphenylamine	ND		2.2	1	05/23/2014 18:32
N-Nitrosodi-n-propylamine	ND		2.2	1	05/23/2014 18:32
Pentachlorophenol	ND		11	1	05/23/2014 18:32
Phenanthrene	ND		2.2	1	05/23/2014 18:32
Phenol	ND		2.2	1	05/23/2014 18:32
Pyrene	ND		2.2	1	05/23/2014 18:32
1,2,4-Trichlorobenzene	ND		2.2	1	05/23/2014 18:32
2,4,5-Trichlorophenol	ND		2.2	1	05/23/2014 18:32
2,4,6-Trichlorophenol	ND		2.2	1	05/23/2014 18:32

(Cont.)



# Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/23/14

**WorkOrder:** 1405899  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L

## Semi-Volatile Organics by GC/MS (Basic Target List)

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
SB-3	1405899-003B	Water	05/22/2014 13:51	GC21	90800

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	Analytical Comments: b1	
2-Fluorophenol	39	8-130		05/23/2014 18:32
Phenol-d5	33	5-130		05/23/2014 18:32
Nitrobenzene-d5	66	20-140		05/23/2014 18:32
2-Fluorobiphenyl	77	40-140		05/23/2014 18:32
2,4,6-Tribromophenol	100	16-180		05/23/2014 18:32
4-Terphenyl-d14	114	40-170		05/23/2014 18:32



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/30/14

**WorkOrder:** 1405899  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-1</b>	<b>1405899-001C</b>	<b>Water</b>	<b>05/22/2014 13:40</b>	<b>GC28</b>	<b>91011</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	05/30/2014 13:56
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: b1	
Toluene-d8	104		70-130		05/30/2014 13:56
<b>SB-2</b>	<b>1405899-002B</b>	<b>Water</b>	<b>05/22/2014 13:39</b>	<b>GC16</b>	<b>91010</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	<b>7800</b>		840	17	05/30/2014 16:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: b1	
Toluene-d8	101		70-130		05/30/2014 16:37
<b>SB-3</b>	<b>1405899-003C</b>	<b>Water</b>	<b>05/22/2014 13:51</b>	<b>GC28</b>	<b>91011</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	05/30/2014 14:35
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: b1	
Toluene-d8	105		70-130		05/30/2014 14:35
<b>SB-4</b>	<b>1405899-004B</b>	<b>Water</b>	<b>05/22/2014 14:20</b>	<b>GC16</b>	<b>91010</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH(g)	ND		50	1	05/30/2014 15:54
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: b1	
Toluene-d8	99		70-130		05/30/2014 15:54



## Analytical Report

**Client:** LRM Consulting, Inc.  
**Project:** #1428 Franklin  
**Date Received:** 5/22/14 20:31  
**Date Prepared:** 5/22/14

**WorkOrder:** 1405899  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L

### Total Extractable Petroleum Hydrocarbons

Client ID	Lab ID	Matrix/ExtType	Date Collected	Instrument	Batch ID
<b>SB-1</b>	<b>1405899-001A</b>	<b>Water</b>	<b>05/22/2014 13:40</b>	<b>GC6A</b>	<b>90758</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	05/26/2014 03:29
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: b1	
C9	98		70-130		05/26/2014 03:29
<b>SB-2</b>	<b>1405899-002A</b>	<b>Water</b>	<b>05/22/2014 13:39</b>	<b>GC6A</b>	<b>90758</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>5100</b>		50	1	05/26/2014 07:06
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e11,a4,b1	
C9	105		70-130		05/26/2014 07:06
<b>SB-3</b>	<b>1405899-003A</b>	<b>Water</b>	<b>05/22/2014 13:51</b>	<b>GC6A</b>	<b>90758</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	<b>410</b>		100	1	05/26/2014 08:18
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: e7,e2,b1	
C9	99		70-130		05/26/2014 08:18
<b>SB-4</b>	<b>1405899-004A</b>	<b>Water</b>	<b>05/22/2014 14:20</b>	<b>GC6A</b>	<b>90758</b>
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	05/26/2014 04:41
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>	Analytical Comments: b1	
C9	97		70-130		05/26/2014 04:41





# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/30/14  
**Date Analyzed:** 5/30/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 91010  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-91010  
 1405899-004BMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	100	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	15.8	5.0	20	-	79.2	70-130
Benzene	ND	17.3	5.0	20	-	86.5	70-130
Bromobenzene	ND	-	5.0	-	-	-	-
Bromochloromethane	ND	-	5.0	-	-	-	-
Bromodichloromethane	ND	-	5.0	-	-	-	-
Bromoform	ND	-	5.0	-	-	-	-
Bromomethane	ND	-	5.0	-	-	-	-
2-Butanone (MEK)	ND	-	20	-	-	-	-
t-Butyl alcohol (TBA)	ND	63.0	20	80	-	78.8	70-130
n-Butyl benzene	ND	-	5.0	-	-	-	-
sec-Butyl benzene	ND	-	5.0	-	-	-	-
tert-Butyl benzene	ND	-	5.0	-	-	-	-
Carbon Disulfide	ND	-	5.0	-	-	-	-
Carbon Tetrachloride	ND	-	5.0	-	-	-	-
Chlorobenzene	ND	17.5	5.0	20	-	87.6	70-130
Chloroethane	ND	-	5.0	-	-	-	-
Chloroform	ND	-	5.0	-	-	-	-
Chloromethane	ND	-	5.0	-	-	-	-
2-Chlorotoluene	ND	-	5.0	-	-	-	-
4-Chlorotoluene	ND	-	5.0	-	-	-	-
Dibromochloromethane	ND	-	5.0	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	2.0	-	-	-	-
1,2-Dibromoethane (EDB)	ND	16.8	5.0	20	-	84.2	70-130
Dibromomethane	ND	-	5.0	-	-	-	-
1,2-Dichlorobenzene	ND	-	5.0	-	-	-	-
1,3-Dichlorobenzene	ND	-	5.0	-	-	-	-
1,4-Dichlorobenzene	ND	-	5.0	-	-	-	-
Dichlorodifluoromethane	ND	-	5.0	-	-	-	-
1,1-Dichloroethane	ND	-	5.0	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	18.7	5.0	20	-	93.7	70-130
1,1-Dichloroethene	ND	17.6	5.0	20	-	87.8	70-130
cis-1,2-Dichloroethene	ND	-	5.0	-	-	-	-
trans-1,2-Dichloroethene	ND	-	5.0	-	-	-	-
1,2-Dichloropropane	ND	-	5.0	-	-	-	-
1,3-Dichloropropane	ND	-	5.0	-	-	-	-
2,2-Dichloropropane	ND	-	5.0	-	-	-	-
1,1-Dichloropropene	ND	-	5.0	-	-	-	-
cis-1,3-Dichloropropene	ND	-	5.0	-	-	-	-
trans-1,3-Dichloropropene	ND	-	5.0	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/30/14  
**Date Analyzed:** 5/30/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 91010  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-91010  
 1405899-004BMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	17.3	5.0	20	-	86.4	70-130
Ethylbenzene	ND	-	5.0	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	17.3	5.0	20	-	86.3	70-130
Freon 113	ND	-	5.0	-	-	-	-
Hexachlorobutadiene	ND	-	5.0	-	-	-	-
Hexachloroethane	ND	-	5.0	-	-	-	-
2-Hexanone	ND	-	5.0	-	-	-	-
Isopropylbenzene	ND	-	5.0	-	-	-	-
4-Isopropyl toluene	ND	-	5.0	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	15.7	5.0	20	-	78.4	70-130
Methylene chloride	ND	-	5.0	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	5.0	-	-	-	-
Naphthalene	ND	-	5.0	-	-	-	-
n-Propyl benzene	ND	-	5.0	-	-	-	-
Styrene	ND	-	5.0	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	5.0	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	5.0	-	-	-	-
Tetrachloroethene	ND	-	5.0	-	-	-	-
Toluene	ND	17.0	5.0	20	-	85.1	70-130
1,2,3-Trichlorobenzene	ND	-	5.0	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	5.0	-	-	-	-
1,1,1-Trichloroethane	ND	-	5.0	-	-	-	-
1,1,2-Trichloroethane	ND	-	5.0	-	-	-	-
Trichloroethene	ND	18.6	5.0	20	-	92.8	70-130
Trichlorofluoromethane	ND	-	5.0	-	-	-	-
1,2,3-Trichloropropane	ND	-	5.0	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	5.0	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	5.0	-	-	-	-
Vinyl Chloride	ND	-	5.0	-	-	-	-
Xylenes, Total	ND	-	5.0	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	261	44.0		45	104	98	70-130
Toluene-d8	223	37.0		45	89	82	70-130
4-BFB	26.8	4.55		4.5	107	101	70-130

(Cont.)



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/30/14  
**Date Analyzed:** 5/30/14  
**Instrument:** GC16  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 91010  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-91010  
 1405899-004BMS/MSD

### QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	18.3	18.0	20	ND	91.3	89.9	70-130	1.49	20
Benzene	18.9	18.8	20	ND	94.7	93.9	70-130	0.847	20
t-Butyl alcohol (TBA)	78.3	75.2	80	ND	97.9	94	70-130	4.06	20
Chlorobenzene	19.0	18.6	20	ND	95.2	93.1	70-130	2.19	20
1,2-Dibromoethane (EDB)	19.1	18.7	20	ND	95.5	93.4	70-130	2.19	20
1,2-Dichloroethane (1,2-DCA)	21.1	21.2	20	ND	106	106	70-130	0	20
1,1-Dichloroethene	19.0	18.9	20	ND	95.2	94.3	70-130	0.885	20
Diisopropyl ether (DIPE)	19.6	19.5	20	ND	98	97.3	70-130	0.711	20
Ethyl tert-butyl ether (ETBE)	19.6	19.5	20	ND	97.9	97.5	70-130	0.393	20
Methyl-t-butyl ether (MTBE)	18.1	18.0	20	ND	90.7	90.2	70-130	0.451	20
Toluene	18.3	18.0	20	ND	91.4	90.2	70-130	1.35	20
Trichloroethene	20.5	20.1	20	ND	102	100	70-130	1.96	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	45.7	45.9	45		101	102	70-130	0.525	20
Toluene-d8	37.9	37.6	45		84	84	70-130	0	20
4-BFB	4.56	4.47	4.5		101	99	70-130	2.08	20

(Cont.)



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/30/14  
**Date Analyzed:** 5/30/14  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 91011  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-91011  
 1405A80-001BMS/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	16.7	0.50	20	-	83.4	70-130
Benzene	ND	18.6	0.50	20	-	93.1	70-130
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	57.8	2.0	80	-	72.3	70-130
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	19.7	0.50	20	-	98.4	70-130
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	18.1	0.50	20	-	90.7	70-130
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	17.2	0.50	20	-	86.1	70-130
1,1-Dichloroethene	ND	18.7	0.50	20	-	93.7	70-130
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/30/14  
**Date Analyzed:** 5/30/14  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 91011  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-91011  
 1405A80-001BMS/MSD

## QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	17.7	0.50	20	-	88.3	70-130
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	17.5	0.50	20	-	87.6	70-130
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	16.6	0.50	20	-	83	70-130
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	18.3	0.50	20	-	91.6	70-130
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	20.2	0.50	20	-	101	70-130
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

### Surrogate Recovery

Dibromofluoromethane	24.6	44.2		45	99	98	70-130
Toluene-d8	26.2	45.6		45	105	101	70-130
4-BFB	2.56	4.47		4.5	102	99	70-130

(Cont.)



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/30/14  
**Date Analyzed:** 5/30/14  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 91011  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-91011  
 1405A80-001BMS/MSD

## QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	19.6	19.9	20	ND	98	99.4	70-130	1.50	20
Benzene	19.3	19.5	20	ND	96.3	97.6	70-130	1.34	20
t-Butyl alcohol (TBA)	74.0	73.0	80	ND	92.5	91.3	70-130	1.34	20
Chlorobenzene	20.0	20.4	20	ND	99.8	102	70-130	2.34	20
1,2-Dibromoethane (EDB)	20.3	20.6	20	ND	101	103	70-130	1.72	20
1,2-Dichloroethane (1,2-DCA)	19.7	20.1	20	ND	98.3	100	70-130	2.05	20
1,1-Dichloroethene	18.8	19.6	20	ND	94.2	98.1	70-130	4.09	20
Diisopropyl ether (DIPE)	19.1	19.3	20	ND	95.6	96.5	70-130	0.916	20
Ethyl tert-butyl ether (ETBE)	20.2	20.2	20	ND	101	101	70-130	0	20
Methyl-t-butyl ether (MTBE)	19.7	19.8	20	ND	98.6	99.1	70-130	0.494	20
Toluene	18.2	18.4	20	ND	90.7	91.8	70-130	1.16	20
Trichloroethene	21.5	22.0	20	ND	107	110	70-130	2.42	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	47.5	47.5	45		106	106	70-130	0	20
Toluene-d8	43.6	44.2	45		97	98	70-130	1.46	20
4-BFB	4.32	4.40	4.5		96	98	70-130	1.84	20



## Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/22/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC11B  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 90758  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-90758

### QC Summary Report for SW8015B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	960	50	1000	-	96	70-130
<b>Surrogate Recovery</b>							
C9	655	640		625	105	102	70-130

(Cont.)



# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/23/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC21  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 90800  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L  
**Sample ID:** MB/LCS-90800

## QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acenaphthene	ND	17.8	1.0	20	-	88.8	47-145
Acenaphthylene	ND	-	1.0	-	-	-	-
Anthracene	ND	-	1.0	-	-	-	-
Benzidine	ND	-	5.0	-	-	-	-
Benzo (a) anthracene	ND	-	1.0	-	-	-	-
Benzo (b) fluoranthene	ND	-	1.0	-	-	-	-
Benzo (k) fluoranthene	ND	-	1.0	-	-	-	-
Benzo (g,h,i) perylene	ND	-	1.0	-	-	-	-
Benzo (a) pyrene	ND	-	1.0	-	-	-	-
Bis (2-chloroethoxy) Methane	ND	-	1.0	-	-	-	-
Bis (2-chloroethyl) Ether	ND	-	1.0	-	-	-	-
Bis (2-chloroisopropyl) Ether	ND	-	1.0	-	-	-	-
Bis (2-ethylhexyl) Adipate	ND	-	1.0	-	-	-	-
Bis (2-ethylhexyl) Phthalate	ND	-	2.0	-	-	-	-
4-Bromophenyl Phenyl Ether	ND	-	5.0	-	-	-	-
Butylbenzyl Phthalate	ND	-	1.0	-	-	-	-
4-Chloro-3-methylphenol	ND	21.0	1.0	20	-	105	22-147
2-Chloronaphthalene	ND	-	1.0	-	-	-	-
2-Chlorophenol	ND	12.8	1.0	20	-	63.9	23-134
4-Chlorophenyl Phenyl Ether	ND	-	1.0	-	-	-	-
Chrysene	ND	-	1.0	-	-	-	-
Dibenzo (a,h) anthracene	ND	-	1.0	-	-	-	-
Di-n-butyl Phthalate	ND	-	1.0	-	-	-	-
1,2-Dichlorobenzene	ND	-	1.0	-	-	-	-
1,3-Dichlorobenzene	ND	-	1.0	-	-	-	-
1,4-Dichlorobenzene	ND	11.9	1.0	20	-	59.3	20-124
3,3-Dichlorobenzidine	ND	-	2.0	-	-	-	-
2,4-Dichlorophenol	ND	-	1.0	-	-	-	-
Diethyl Phthalate	ND	-	1.0	-	-	-	-
2,4-Dimethylphenol	ND	-	1.0	-	-	-	-
Dimethyl Phthalate	ND	-	1.0	-	-	-	-
4,6-Dinitro-2-methylphenol	ND	-	5.0	-	-	-	-
2,4-Dinitrophenol	ND	-	5.0	-	-	-	-
2,4-Dinitrotoluene	ND	19.3	1.0	20	-	96.5	39-139
2,6-Dinitrotoluene	ND	-	1.0	-	-	-	-
Di-n-octyl Phthalate	ND	-	2.0	-	-	-	-
1,2-Diphenylhydrazine	ND	-	1.0	-	-	-	-
Fluoranthene	ND	-	1.0	-	-	-	-
Fluorene	ND	-	1.0	-	-	-	-
Hexachlorobenzene	ND	-	1.0	-	-	-	-

(Cont.)





# Quality Control Report

**Client:** LRM Consulting, Inc.  
**Date Prepared:** 5/23/14  
**Date Analyzed:** 5/23/14  
**Instrument:** GC21  
**Matrix:** Water  
**Project:** #1428 Franklin

**WorkOrder:** 1405899  
**BatchID:** 90800  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8270C  
**Unit:** µg/L  
**Sample ID:** MB/LCS-90800

## QC Summary Report for SW8270C

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Hexachlorobutadiene	ND	-	1.0	-	-	-	-
Hexachlorocyclopentadiene	ND	-	5.0	-	-	-	-
Hexachloroethane	ND	-	1.0	-	-	-	-
Indeno (1,2,3-cd) pyrene	ND	-	1.0	-	-	-	-
Isophorone	ND	-	1.0	-	-	-	-
2-Methylphenol (o-cresol)	ND	-	1.0	-	-	-	-
3 &/or 4-Methylphenol (m,p-Cresol)	ND	-	1.0	-	-	-	-
Naphthalene	ND	-	1.0	-	-	-	-
Nitrobenzene	ND	-	1.0	-	-	-	-
2-Nitrophenol	ND	-	5.0	-	-	-	-
4-Nitrophenol	ND	93.1	5.0	100	-	93.1	0-132
N-Nitrosodimethylamine	ND	-	5.0	-	-	-	-
N-Nitrosodiphenylamine	ND	-	1.0	-	-	-	-
N-Nitrosodi-n-propylamine	ND	20.3	1.0	20	-	101	0-230
Pentachlorophenol	ND	41.7	5.0	40	-	104	14-176
Phenanthrene	ND	-	1.0	-	-	-	-
Phenol	ND	14.4	1.0	20	-	71.8	5-112
Pyrene	ND	19.0	1.0	20	-	94.9	52-115
1,2,4-Trichlorobenzene	ND	12.9	1.0	20	-	64.6	44-142
2,4,6-Trichlorophenol	ND	-	1.0	-	-	-	-
<b>Surrogate Recovery</b>							
2-Fluorophenol	11.7	14.2		20	59	71	8-130
Phenol-d5	13.2	19.0		20	66	95	5-130
Nitrobenzene-d5	11.9	18.8		20	59	94	20-140
2-Fluorobiphenyl	12.7	23.1		20	63	115	40-140
2,4,6-Tribromophenol	19.7	26.9		20	98	134	30-180
Terphenyl-d14	26.6	29.6		20	133	148	40-170



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1405899

ClientCode: LRM C

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQuIS   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**  
 Mehrdad Javaherian  
 LRM Consulting, Inc.  
 1534 Plaza Lane, #145  
 Burlingame, CA 94010  
 (415) 706-8935    FAX:

Email: mjavaherian@lrm-consulting.com  
 cc/3rd Party:  
 PO:  
 ProjectNo: #1428 Franklin

**Bill to:**  
 Accounts Payable  
 LRM Consulting, Inc.  
 1534 Plaza Lane, #145  
 Burlingame, CA 94010

**Requested TAT: 5 days**  
  
**Date Received: 05/22/2014**  
**Date Printed: 05/23/2014**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1405899-001	SB-1	Water	5/22/2014 13:40	<input type="checkbox"/>	C	B	C	A									
1405899-002	SB-2	Water	5/22/2014 13:39	<input type="checkbox"/>			B	A									
1405899-003	SB-3	Water	5/22/2014 13:51	<input type="checkbox"/>	C	B	C	A									
1405899-004	SB-4	Water	5/22/2014 14:20	<input type="checkbox"/>			B	A									

**Test Legend:**

1	8260B_W	2	8270D_W	3	GAS8260_W	4	TPH(D)_W	5	
6		7		8		9		10	
11		12							

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

**Prepared by: Shana Carter**

**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:** LRM CONSULTING, INC.

**QC Level:** LEVEL 2

**Work Order:** 1405899

**Project:** #1428 Franklin

**Client Contact:** Mehrdad Javaherian

**Date Received:** 5/22/2014

**Comments:**

**Contact's Email:** mjavaherian@lrn-consulting.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1405899-001A	SB-1	Water	SW8015B (Diesel)	2	VOA w/ HCl	<input type="checkbox"/>	5/22/2014 13:40	5 days	5%+	<input type="checkbox"/>	
1405899-001B	SB-1	Water	SW8270C (SVOCs)	1	1LA	<input type="checkbox"/>	5/22/2014 13:40	5 days	5%+	<input type="checkbox"/>	
1405899-001C	SB-1	Water	TPH(g) & 8260 (Basic List) by P&T GCMS SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, t-Butyl alcohol (TBA), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	5/22/2014 13:40	5 days	5%+	<input type="checkbox"/>	
1405899-002A	SB-2	Water	SW8015B (Diesel)	2	VOA w/ HCl	<input type="checkbox"/>	5/22/2014 13:39	5 days	2%+	<input type="checkbox"/>	
1405899-002B	SB-2	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	5/22/2014 13:39	5 days	2%+	<input type="checkbox"/>	
1405899-003A	SB-3	Water	SW8015B (Diesel)	2	VOA w/ HCl	<input type="checkbox"/>	5/22/2014 13:51	5 days	2%+	<input type="checkbox"/>	
1405899-003B	SB-3	Water	SW8270C (SVOCs)	1	1LA	<input type="checkbox"/>	5/22/2014 13:51	5 days	5%+	<input type="checkbox"/>	
1405899-003C	SB-3	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	1LA	<input type="checkbox"/>	5/22/2014 13:51	5 days	5%+	<input type="checkbox"/>	

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

**Bottle Legend:**

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



## WORK ORDER SUMMARY

**Client Name:** LRM CONSULTING, INC.

**QC Level:** LEVEL 2

**Work Order:** 1405899

**Project:** #1428 Franklin

**Client Contact:** Mehrdad Javaherian

**Date Received:** 5/22/2014

**Comments:**

**Contact's Email:** mjavaherian@lrm-consulting.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1405899-003C	SB-3	Water	SW8260B (VOCs) <Benzene, Diisopropyl ether (DIPE), Ethyl tert-butyl ether (ETBE), Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, t-Butyl alcohol (TBA), tert-Amyl methyl ether (TAME), Toluene, Xylenes, Total>	2	1LA	<input type="checkbox"/>	5/22/2014 13:51	5 days	5%+	<input type="checkbox"/>	
1405899-004A	SB-4	Water	SW8015B (Diesel)	2	VOA w/ HCl	<input type="checkbox"/>	5/22/2014 14:20	5 days	5%+	<input type="checkbox"/>	
1405899-004B	SB-4	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	2	VOA w/ HCl	<input type="checkbox"/>	5/22/2014 14:20	5 days	5%+	<input type="checkbox"/>	

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

**Bottle Legend:**

1LA = 1L Amber Glass Jar, Unpreserved

VOA w/ HCl = 43mL VOA w/ HCl





### Sample Receipt Checklist

Client Name: **LRM Consulting, Inc.** Date and Time Received: **5/22/2014 8:31:37 PM**  
 Project Name: **#1428 Franklin** LogIn Reviewed by: **Shana Carter**  
 WorkOrder N°: **1405899** Matrix: Water Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

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

#### Sample Receipt Information

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

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

All samples received within holding time? Yes  No   
 Container/Temp Blank temperature Cooler Temp: 0.1°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: pH<2; 522: pH<4)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments: