



June 19, 2019

#5E27499-BG7

NMOCD District 2
811 S. First Street
Artesia, New Mexico 88210

SUBJECT: Remediation Closure Report for the Wabash 20 Fed Com 1H Release (2RP-4840), Artesia Eddy County, New Mexico

To Whom it May Concern:

On behalf of Marathon Oil Permian (Marathon), Souder, Miller & Associates (SMA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the Wabash 20 Fed Com 1H site. The site is in Unit A, Section 20, Township 18S, Range 26E, Eddy County, New Mexico, on Private land. Figure 1 illustrates the vicinity and site location on an USGS 7.5 minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	Wabash 20 Fed Com 1H	Company	Marathon Oil Permian LLC
API Number	30-015-38568	Location	32.738666 -104.396174
Incident Number	2RP-4840		
Estimated Date of Release	Unknown	Date Reported to NMOCD	June 12, 2018
Land Owner	Private	Reported To	NMOCD District II
Source of Release	Oil Storage Tank		
Released Volume	Unknown	Released Material	Oil
Recovered Volume	None	Net Release	Unknown
NMOCD Closure Criteria	<50 feet to groundwater per NMOCD		
SMA Response Dates	June 18 & 28, 2018; May 2019; June 6, 2019		

1.0 Background

On June 12, 2018, a release was discovered at the Wabash 20 Fed Com 1H site. During the removal of two oil tanks from the battery, light staining on rock and the liner was observed. The staining also breached the liner. The liner was then removed and SMA was called to begin initial sampling. Figure 1 illustrates the vicinity and site location; Figure 2 illustrates the release location. The initial and final C-141 form is included in Appendix A.

2.0 Site Information and Closure Criteria

The Wabash 20 Fed Com 1H is located approximately seven (7) miles south of Artesia, New Mexico on Private land.

As summarized in Table 2 and illustrated in Figure 1, depth to groundwater in the area is estimated to be 168 feet below grade surface (bgs). There are two (2) known water sources within ½-mile of the location, according to the New Mexico Office of the State Engineer (NMOSE) online water well database (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 7/6/2018). Two USGS wells are within the half mile radius, but were last sampled in 1909 and were therefore discounted by SMA. The nearest significant watercourse is the Rio Penasco, located approximately 1,766 feet to the north of the release site.

Based on the information presented herein, the SMA has determined the applicable NMOCD Closure Criteria for this site is for groundwater depth of greater than 100 feet bgs. Upon receiving the work plan, NMOCD considered the depth to groundwater to be less than 50 feet bgs, but the basis of this is unknown. Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization Activities and Findings

On June 28, 2018, SMA personnel arrived on site in response to the release associated with Wabash 20 Fed Com 1H. SMA performed site delineation activities by collecting soil samples around the release site and throughout the visibly stained area.

A total of two (2) sample locations (B1 and B2) were investigated using a power auger drill, to twenty (20), and ten (10) feet bgs, respectively. Samples were collected from each location at every 2.5 feet, for a total of fourteen (14) samples for laboratory analysis. Each sample was analyzed for motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D; one or two samples from each location was also analyzed for chloride using EPA Method 300.0 and benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B. Table 3 itemizes the sample results. Locations for these initial samples are depicted on Figure 2.

Laboratory samples were collected in accordance with the sampling protocol included in Appendix C. Samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

Results indicated that the impacted area of approximately 45 feet long by 30 feet wide, with a depths up to 17 feet bgs.

In the workplan dated October 10, 2018, SMA proposed excavating and removing contaminated soil in the impacted area to approximately 17 feet bgs.

4.0 Soil Remediation Summary

In accordance with the approved workplan, from April 17 to June 6, 2019, SMA returned to the site to oversee the excavation of contaminated soil. After approval from area utilities via 811, SMA guided the excavation activities by collecting soil samples for field screening. The walls and base were excavated until field screening results indicated that the NMOCD Closure Criteria would be met. NMOCD was notified on April 15, 2019 that closure samples were expected to be collected frequently throughout the project, beginning 48 hours from the notification.

SMA conducted confirmation samples from the walls and base of the excavation. The area around sample location B1 was excavated to a depth of 20 feet bgs and the area around sample location B2 was excavated to 5 feet bgs. The confirmation samples were collected from within the excavation in accordance with the sampling protocol included in Appendix C. Confirmation samples were comprised of five-point composites of the base (BH1 & BH2) and walls (SW1-SW7). A photo of the open excavation is included in Appendix E.

Figure 3 shows the extent of the excavation and sample locations. All laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D. Contaminated soils were removed and replaced with clean backfill material to return the surface to previous contours.

5.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Heather Patterson at 575-689-8801 or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:



Heather Patterson
Project Scientist

Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map

Figure 2: Surface Water Radius Map

Figure 3: Site and Sample Location Map

Tables:

Table 2: NMOCD Closure Criteria Justification

Table 3: Summary of Sample Results

Appendices:

Appendix A: Initial & Final C141

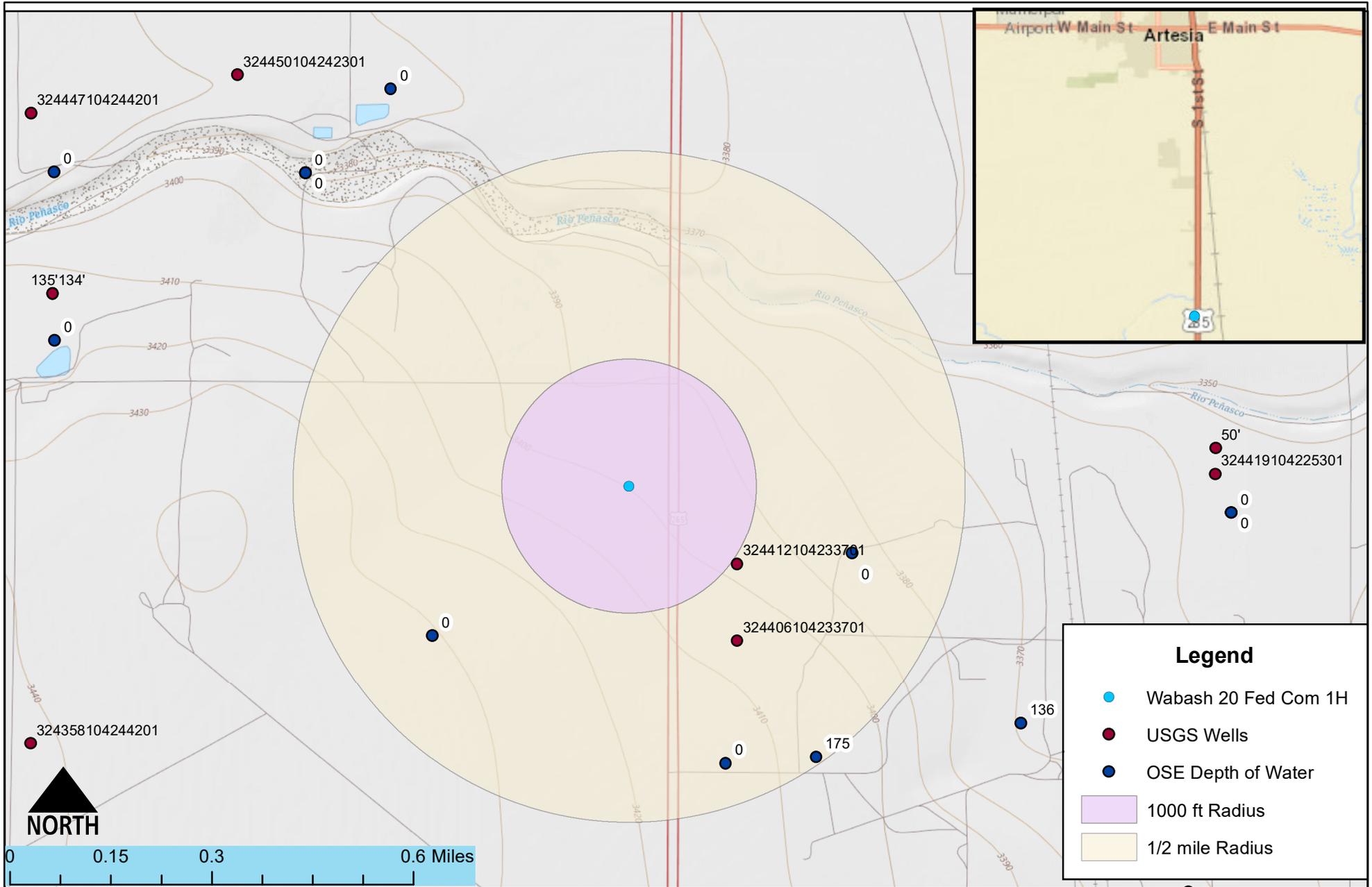
Appendix B: NMOSE Wells Report

Appendix C: Sampling Protocol

Appendix D: Laboratory Analytical Reports

Appendix E: Excavation Photo

FIGURES



Legend

- Wabash 20 Fed Com 1H
- USGS Wells
- OSE Depth of Water
- 1000 ft Radius
- 1/2 mile Radius

Vicinity and Well Head Protection Map
 Wabash 20 Fed Com 1H - Marathon
 S 20-T18S-R26E, New Mexico

Figure 1

Date Saved: 9/24/2018	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved				

Drawn	Heather Patterson
Checked	_____
Approved	_____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-7040
 www.soudermiller.com
 Serving the Southwest & Rocky Mountains



Legend

- Borehole Locations
- Estimated 17 ft Excavation

Initial Sample Location Map
 Wabash 20 Fed Com 1H - Marathon
 S 20-T18S-R26E, New Mexico

Figure 2

Date Saved: 10/10/2018	By: _____	Date: _____	Revisions	Descr: _____
	By: _____	Date: _____		Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved				

Drawn	<u>Heather Patterson</u>
Checked	_____
Approved	_____



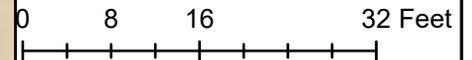
201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-7040
 www.soudermiller.com
 Serving the Southwest & Rocky Mountains

P:\5-Marathon MSA, 2019 (5E27950)\GIS\ARC\GIS\MARATHON_MIT.aprx



Legend

- Bottom Hole Locations
- Sidewall Locations
- 20' Excavation
- 5' Excavation



Site and Sample location Map
 Wabash 20 Fed Com 1H- Marathon Oil Permian
 Artesia, New Mexico

Figure 3

Revisions		
By: _____	Date: _____	Descr: _____
By: _____	Date: _____	Descr: _____

Copyright 2018-19 Souder, Miller & Associates - All Rights Reserved

Drawn	<u>LRB</u>
Date	<u>6/6/2019</u>
Checked	_____
Approved	_____



201 South Halaguena Street
 Carlsbad, New Mexico 88221
 (575) 689-7040
 Serving the Southwest & Rocky Mountains

TABLES

Site Information (19.15.29.11.A(2, 3, and 4) NMAC)		Source/Notes
Depth to Groundwater (feet bgs)	168	NMOSE
Horizontal Distance From All Water Sources Within 1/2 Mile (ft)	multiple	see Figure 1
Horizontal Distance to Nearest Significant Watercourse (ft)	1766	see Figure 1

Closure Criteria (19.15.29.12.B(4) and Table 1 NMAC)						
Depth to Groundwater		Closure Criteria (units in mg/kg)				
		Chloride *numerical limit or background, whichever is greater	TPH	GRO + DRO	BTEX	Benzene
< 50' BGS		600	100		50	10
51' to 100'		10000	2500	1000	50	10
>100'	X	20000	2500	1000	50	10
Surface Water	yes or no	if yes, then				
<300' from continuously flowing watercourse or other significant watercourse?	n	600	100		50	10
<200' from lakebed, sinkhole or playa lake?	n					
Water Well or Water Source						
<500 feet from spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	n					
<1000' from fresh water well or spring?	n					
Human and Other Areas						
<300' from an occupied permanent residence, school, hospital, institution or church?	n					
within incorporated municipal boundaries or within a defined municipal fresh water well field?	n					
<100' from wetland?	n					
within area overlying a subsurface mine	n					
within an unstable area?	n					
within a 100-year floodplain?	n					

Wabash 20 Fed Com 1H

Table 3.

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Proposed Action	BTEX mg/Kg	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	MRO mg/Kg	Total TPH mg/Kg	Cl- Laboratory mg/Kg
NMOCD Closure Criteria				50 mg/Kg	10 mg/Kg				100	600
Initial Sampling Event										
B1	6/26/2018	surface	excavate	4.47	<0.024	49	7600	5700	13349	310
	6/26/2018	2.5	excavate	--	--	<5.0	35	<50	35	--
	6/26/2018	5	excavate	--	--	33	260	100	393	--
	6/26/2018	7.5	excavate	--	--	320	3200	1000	4520	--
	6/26/2018	10	excavate	--	--	120	2700	960	3780	--
	6/26/2018	12.5	excavate	--	--	740	3,300	980	5,020	--
	6/26/2018	15	excavate	--	--	570	2,000	580	3,150	--
	6/26/2018	17.5	excavate	--	--	72	730	270	1072	--
B2	6/26/2018	20	excavate	--	--	130	180	51	361	--
	6/26/2018	surface	excavate	--	--	19	2000	3000	5019	--
	6/26/2018	2.5	excavate	--	--	100	390	170	660	41
	6/26/2018	5	in-situ	<0.23	<0.024	5.9	<9.8	<49	5.9	<30
	6/26/2018	7.5	in-situ	--	--	5.6	11	<50	16.6	--
6/26/2018	10	in-situ	--	--	<4.9	34	<50	34	--	
Closure Sampling Event										
BH1	4/17/2019	20	in-situ	<0.22	<0.024	<4.9	<9.9	<50	<64.8	470
BH2	5/22/2019	5	in-situ	<0.22	<0.024	<4.9	<10	<51	<65.9	<60
SW1	4/17/2019	surface - 20'	in-situ	<0.217	<0.024	<4.8	<9.7	<49	<63.5	<61
SW2	4/17/2019	5' - 20'	in-situ	<0.224	<0.025	<5.0	<9.9	<49	<63.9	180
SW3	4/17/2019	surface - 20'	excavated	<0.212	<0.024	<4.7	<9.7	<48	<62.4	880
	5/22/2019	surface - 20'	excavated	<0.219	<0.024	<4.9	<9.1	<46	<60	690
	6/6/2019	surface - 20'	in-situ	--	--	--	--	--	--	200
SW4	4/17/2019	surface - 20'	excavated	<0.219	<0.024	<4.9	<9.6	<48	<62.5	990
	5/22/2019	surface - 20'	in-situ	<0.222	<0.025	<4.9	<9.5	<48	<62.4	200
SW5	5/22/2019	surface - 5'	in-situ	<0.224	<0.025	<5.0	<10	<51	<66	<60
SW6	5/22/2019	surface - 5'	in-situ	<0.219	<0.024	<4.9	<9.6	<48	<62.5	71
SW7	5/22/2019	surface - 5'	in-situ	<0.222	<0.025	<4.9	<9.6	<48	<62.5	570

"--" = Not Analyzed

APPENDIX A
INITIAL & FINAL C141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources **JUN 29 2018**
Oil Conservation Division
1220 South St. Francis Dr. **DISTRICT II-ARTESIA O.C.D.**
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1819054736

OPERATOR

Initial Report Final Report

Name of Company <i>Marathon Oil Permian LLC 372098</i>	Contact <i>Callie Karrigan</i>
Address <i>5555 San Felipe Street, Houston, Texas 77056</i>	Telephone No. <i>405-202-1028 (cell) 575-297-0956 (office)</i>
Facility Name: <i>Wabash 20 Fed Com 1H</i>	Facility Type <i>Oil and gas production facilities</i>

Surface: Owner: <i>private</i>	Mineral: Owner: <i>federal</i>	API No. : <i>30-015-38568</i>
--------------------------------	--------------------------------	-------------------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	20	18S	26E	660	North	330	east	Eddy

Latitude *32.738666* Longitude *-104.396174*

NATURE OF RELEASE

Type of Release: <i>oil</i>	Volume of Release: <i>unknown</i>	Volume Recovered: <i>none</i>
Source of Release: <i>oil tank</i>	Date and Hour of Occurrence <i>unknown</i>	Date and Hour of Discovery <i>06/12/2018</i>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <i>Eddy County - Mike Bratcher and Shelly Tucker</i>	
By Whom? <i>Callie Karrigan</i>	Date and Hour <i>06/13/2018 3:50 pm</i>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
Not applicable.

Describe Cause of Problem and Remedial Action Taken.*
Following removal of two oil tanks from the battery, light staining on rock and the liner was observed. Staining also breached the liner.

Describe Area Affected and Cleanup Action Taken.*
The affected area is confined in containment within the foot print of the tank; however, the liner was breached. The release is currently being assessed by SMA and pending lab analysis results to develop a work plan for delineation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

<i>Callie Karrigan</i> Signature:	OIL CONSERVATION DIVISION	
	Approved by Environmental Specialist <i>[Signature]</i>	
Printed Name: <i>Callie Karrigan</i>	Approval Date: <i>7/19/18</i>	Expiration Date: <i>NIA</i>
E-mail Address: <i>cnkarrigan@marathonoil.com</i>	Conditions of Approval: <i>See attached</i>	
Date: <i>06/29/2018</i> Phone: <i>405-202-1028(cell) 575-297-0956 (office)</i>	Attached <input type="checkbox"/> <i>RP-4840</i>	

* Attach Additional Sheets If Necessary

Incident ID	nAB1819054736
District RP	2RP-4840
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	168 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: <i>Each of the following items must be included in the report.</i>
<input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
<input type="checkbox"/> Field data
<input checked="" type="checkbox"/> Data table of soil contaminant concentration data
<input checked="" type="checkbox"/> Depth to water determination
<input checked="" type="checkbox"/> Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
<input type="checkbox"/> Boring or excavation logs
<input checked="" type="checkbox"/> Photographs including date and GIS information
<input checked="" type="checkbox"/> Topographic/Aerial maps
<input checked="" type="checkbox"/> Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Incident ID	nAB1819054736
District RP	2RP-4840
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Callie Karrigan Title: HES Professional

Signature: *Callie Karrigan* Date: 6/19/2019

email: cnkarrigan@marathonoil.com Telephone: 575-297-0956

OCD Only

Received by: _____ Date: _____

Incident ID	nAB1819054736
District RP	2RP-4840
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Callie Karrigan Title: HES Professional

Signature: Callie Karrigan Date: 6/19/2019

email: cnkarrigan@marathonoil.com Telephone: 575-297-0956

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Bradford Billings Date: 11/6/2019

Printed Name: Bradford Billings Title: E.Spec.A

APPENDIX B
NMOSE WELLS REPORT



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 01884		ED		1	1	3	21	18S	26E	556741	3621792*	269	127		
RA 11480 POD1		ED		2	1	3	21	18S	26E	556958	3621808	454	199	175	24
RA 03618		ED			3	2	20	18S	26E	556037	3622093*	509	1838		
RA 04309		ED				1	21	18S	26E	557041	3622297*	615	180		
RA 08976		ED		2	3	3	21	18S	26E	556943	3621389*	703	225	120	105
RA 06029		ED			3	3	21	18S	26E	556844	3621290*	738	183	140	43
RA 06102		ED					21	18S	26E	557447	3621893*	921	202	136	66
RA 04283		LE		1	4	3	20	18S	26E	555538	3621384*	1143	158	125	33
RA 02786		CH		1	2	1	28	18S	26E	557148	3620987*	1151	250	60	190
RA 09763		ED		4	1	4	21	18S	26E	557748	3621592*	1273	240	140	100
RA 06828		CH				4	21	18S	26E	557851	3621491*	1402	130	105	25
RA 04287		ED		1	2	4	21	18S	26E	557951	3621792*	1432	170	140	30
RA 05241		ED			3	4	16	18S	26E	557644	3622903*	1463	200	100	100
RA 03181		ED		4	2	3	17	18S	26E	555726	3623199*	1478	200		
RA 04004		ED		3	2	2	21	18S	26E	557948	3622399*	1487	140		
RA 07654		ED			2	4	21	18S	26E	558052	3621693*	1546	180	170	10
RA 03181 REPAR-3	O	ED		1	1	4	17	18S	26E	555929	3623401*	1563	309	100	209
RA 03181 SUP	O	ED		1	1	4	17	18S	26E	555929	3623401*	1563	290	60	230
RA 03181 COMB	O	ED			2	3	17	18S	26E	555627	3623300*	1617	229	55	174
RA 04160		ED		1	4	1	29	18S	26E	555542	3620580*	1693	160	100	60
RA 07408		ED		2	4	4	21	18S	26E	558152	3621389*	1720	155	85	70
RA 09466		ED		3	3	1	22	18S	26E	558353	3621996*	1825	160	70	90
RA 03771		ED		3	1	3	22	18S	26E	558354	3621592*	1862	110	75	35
RA 11506 POD1		ED		1	3	3	22	18S	26E	558290	3621345	1865	160	78	82
RA 03340		ED			3	1	22	18S	26E	558454	3622097*	1931	100	60	40
RA 03580		ED			3	1	22	18S	26E	558454	3622097*	1931	1700		

*UTM location was derived from PLSS - see Help

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 11952 POD1			ED	4	2	2	28	18S	26E	558153	3620727	2038	170	90	80
RA 04701			ED		3	3	22	18S	26E	558456	3621290*	2040	80	55	25
RA 01296 S3			ED	1	3	3	15	18S	26E	558351	3623003*	2101	230	70	160
RA 01296 S5			ED	1	3	3	15	18S	26E	558351	3623003*	2101	223	35	188
RA 01446 CLW			ED	1	3	3	15	18S	26E	558351	3623003*	2101	165	42	123
RA 02800			ED	1	3	3	15	18S	26E	558351	3623003*	2101	102	30	72
RA 03599			ED	2	1	1	22	18S	26E	558552	3622599*	2123	1765		
RA 09709			ED		2	2	17	18S	26E	556428	3624113*	2158	235	110	125
RA 09286			ED	2	4	4	29	18S	26E	556550	3619778*	2179	300		
RA 03181 CLW	O		ED			1	17	18S	26E	555422	3623902*	2237	250	92	158
RA 02013			ED	2	2	2	17	18S	26E	556527	3624212*	2254	136		
RA 12265 POD1			ED	2	2	2	17	18S	26E	556509	3624232	2275	330	185	145
RA 08812 REPAR			ED		4	4	29	18S	26E	556451	3619679*	2279	350	150	200
RA 01446			ED		1	3	15	18S	26E	558450	3623307*	2348	175		
RA 11179 POD2		RA	ED	4	4	2	16	18S	26E	558180	3623696	2399	71	60	11
RA 03055			ED	1	2	1	27	18S	26E	558757	3620986*	2431	146	85	61
RA 04046			ED			4	28	18S	26E	557859	3619879*	2467	125		
RA 11179 POD1		RA	ED	2	3	2	16	18S	26E	558172	3623807	2475	74	60	14
RA 01462 #3			ED		3	3	09	18S	26E	556830	3624520*	2580	230		
RA 06131			ED		3	3	09	18S	26E	556830	3624520*	2580	225	90	135
RA 01474 REPAR			ED	1	1	1	33	18S	26E	556754	3619377*	2589	200		
RA 01474 SUP			ED	1	1	1	33	18S	26E	556754	3619377*	2589	210		
RA 11682 POD2			ED	4	2	2	16	18S	26E	558236	3623959	2631	98		
RA 03181 SUP REPAR	O		ED	1	1	4	18	18S	26E	554320	3623397*	2635	315	115	200
RA 03598			ED	1	3	2	22	18S	26E	559154	3622198*	2637	1815		
RA 04479			ED	2	4	4	08	18S	26E	556525	3624616*	2658	215	120	95
RA 10386	R		ED	2	4	4	08	18S	26E	556525	3624616*	2658	210	70	140
RA 03421			ED	1	2	2	16	18S	26E	557942	3624213*	2662	665	130	535
RA 03049			ED	1	4	4	08	18S	26E	556325	3624616*	2666	129	60	69

*UTM location was derived from PLSS - see Help

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 6	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column	
RA 03382			ED	1	3	3	09	18S	26E	556729	3624619*	2669	129			
RA 03181 CLW-3	O		ED		3	2	18	18S	26E	554417	3623702*	2738	334	134	200	
RA 05425			ED		4	4	28	18S	26E	558060	3619677*	2746	160	90	70	
RA 03181 CLW-2	O		ED		2	2	18	18S	26E	554816	3624106*	2747	258	115	143	
RA 04101			ED		3	3	3	08	18S	26E	555114	3624407*	2828	210		
RA 04784			ED				30	18S	26E	554252	3620259*	2839	205	190	15	
RA 03732			ED		4	2	4	08	18S	26E	556523	3624820*	2862	200	175	25
RA 05162			ED		3	1	3	09	18S	26E	556727	3624823*	2872	220	120	100
RA 01508			ED		3	2	3	18	18S	26E	553918	3623197*	2889	235		
RA 04136			ED			1	1	32	18S	26E	555246	3619273*	2974	152	90	62
RA 03326			ED			4	4	09	18S	26E	558041	3624518*	2974	75	40	35
RA 01469 2			ED		2	3	3	18	18S	26E	553733	3622993*	2980	300	150	150
RA 01469 REPAR			ED		2	3	3	18	18S	26E	553733	3622993*	2980	230	160	70
RA 01469 SUP			ED		2	3	3	18	18S	26E	553733	3622993*	2980	225	90	135
RA 01508 CLW			ED		2	3	3	18	18S	26E	553733	3622993*	2980	300		
RA 01462			ED			1	3	09	18S	26E	556828	3624924*	2982	163		

Average Depth to Water: **101 feet**

Minimum Depth: **30 feet**

Maximum Depth: **190 feet**

Record Count: 71

UTMNAD83 Radius Search (in meters):

Easting (X): 556527.94

Northing (Y): 3621957

Radius: 3000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2009 NOV -3 A 8:21

1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) RA-11480				OSE FILE NUMBER(S)									
	WELL OWNER NAME(S) George n.+Elizabeth J. Bergstrom				PHONE (OPTIONAL)									
	WELL OWNER MAILING ADDRESS 526 Coleman				CITY Carlsbad		STATE NM		ZIP 88220					
	WELL LOCATION (FROM GPS)		DEGREES LATITUDE 32		MINUTES 43		SECONDS 57.40 N		* ACCURACY REQUIRED: ONE TENTH OF A SECOND					
		LONGITUDE 104		23		31.60 W		* DATUM REQUIRED: WGS 84						
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS Well is about 1/4 mile off of the Artesia Hywy north of the old Branding Iron Steakhouse.														
2. OPTIONAL	(2.5 ACRE) 1/4		(10 ACRE) 1/4		(40 ACRE) 1/4		(160 ACRE) 1/4		SECTION 21					
					TOWNSHIP 18		<input type="checkbox"/> NORTH <input checked="" type="checkbox"/> SOUTH		RANGE 26					
	SUBDIVISION NAME				LOT NUMBER		BLOCK NUMBER		UNIT/TRACT					
HYDROGRAPHIC SURVEY						MAP NUMBER		TRACT NUMBER						
3. DRILLING INFORMATION	LICENSE NUMBER WD-1348		NAME OF LICENSED DRILLER Clinton Taylor				NAME OF WELL DRILLING COMPANY Taylor Water Well Service							
	DRILLING STARTED 7/12/09		DRILLING ENDED 7/15/09		DEPTH OF COMPLETED WELL (FT) 199		BORE HOLE DEPTH (FT) 210		DEPTH WATER FIRST ENCOUNTERED (FT) 175					
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT) 140							
	DRILLING FLUID: <input type="checkbox"/> AIR <input checked="" type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:													
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:													
	DEPTH (FT)		BORE HOLE DIA. (IN)		CASING MATERIAL		CONNECTION TYPE (CASING)		INSIDE DIA. CASING (IN)		CASING WALL THICKNESS (IN)		SLOT SIZE (IN)	
	FROM 0		TO 179		8 3/4		PVC		Spline		4 1/2		SDR 17	
179		199		8 3/4"		PVC		Spline		4 1/2		SCH 40		
4. WATER BEARING STRATA	DEPTH (FT)		THICKNESS (FT)		FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)						YIELD (GPM)			
	FROM 175		TO 199		24		Conglomerate+Layers of Sand+Gravel						+100	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA Air lift while developing.								TOTAL ESTIMATED WELL YIELD (GPM) More than 100.						

11/31/10
 FOR OSE INTERNAL USE *Domete* WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION 185.265.21.312		PAGE 1 OF 2



5. SEAL AND PUMP	TYPE OF PUMP: <input checked="" type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> JET <input type="checkbox"/> NO PUMP - WELL NOT EQUIPPED <input type="checkbox"/> TURBINE <input type="checkbox"/> CYLINDER <input type="checkbox"/> OTHER - SPECIFY:						
	ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT)		BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
		FROM	TO				
		199	20	8 3/4	3/8" Pea Gravel	3 Yards	Dump
20	Surface	8 3/4	20 percent Bentonite Slurry	2 Sacks	Tremie		

6. GEOLOGIC LOG OF WELL	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?	
	FROM	TO			<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	0	1	1	Soil	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	1	20	19	Caliche	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	20	37	17	Clay:pnk,sme fn gravel	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	37	40	3	Conglomerate:gry,tn,lt brn,calc	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	40	68	28	Clay:wht,silty,sndy in prt	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	68	84	16	Clay:off wht-sht,sme fn gravel	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	84	124	40	Clay:dull rd,pnk,sndy	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	124	130	6	Conglomerate:yel brn,lt brn,lmy	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	130	160	30	Clay:brn,silty-sndy	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	160	175	15	Clay:rd brn,vry sndy,small gravel	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	175	210	35	Layers of Conglomerate:brn,gry,tn,pnk,lmy with fn grn clr-rd sand and 1/8"-1/4" gravel	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
					<input type="checkbox"/> YES	<input type="checkbox"/> NO
				<input type="checkbox"/> YES	<input type="checkbox"/> NO	
				<input type="checkbox"/> YES	<input type="checkbox"/> NO	
				<input type="checkbox"/> YES	<input type="checkbox"/> NO	
				<input type="checkbox"/> YES	<input type="checkbox"/> NO	
ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL						

7. TEST & ADDITIONAL INFO	WELL TEST	METHOD: <input type="checkbox"/> BAILER <input type="checkbox"/> PUMP <input checked="" type="checkbox"/> AIR LIFT <input type="checkbox"/> OTHER - SPECIFY:
		TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	ADDITIONAL STATEMENTS OR EXPLANATIONS: Drilled to 210'. Started losing returns at 175'. Lost all returns at 190' and mixed more mud. Lost all returns again at 210'. Ran casing to 199' and gravel packed and grouted well. Developed with air.	

8. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 _____ SIGNATURE OF DRILLER	 _____ DATE

FOR USE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER	
LOCATION			PAGE 2 OF 2

APPENDIX C
SAMPLING PROTOCOL



Sampling Protocol

Representatives from SMA chose the Judgmental Sampling Method as described in EPA's Final Sampling Guidance for SW-846, 2002 to adequately quantify contaminant concentrations on the Wabash 20 Fed Com #1H Location. The utility of this particular method functions on the sufficient knowledge of the contaminant, which we possess. This design is also useful when identifying the composition of a release, which we have documented. In addition, this sampling design was chosen for this project because of the locations uniform soil type, the release being contained within a bermed area thus reducing the possibility of migration, and the several operational considerations (such as the liner within the battery and the construction of a new facility) that precluded the implementation of a different statistical design.

The soil samples were collected in laboratory supplied containers in accordance with this sampling protocol, immediately placed on ice and sent under standard chain-of-custody protocols to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. A total of fourteen (14) samples were collected for laboratory analysis for total chloride using EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

Sampling Analysis Field Quality Assurance Procedures

A unique sample numbering was used to identify each sample collected and designated for on-site and off-site laboratory analysis. The purpose of this numbering scheme was to provide a tracking system for the retrieval of analytical and field data on each sample. Sample identification numbers were recorded on sample labels or tags, field notes, chain-of-custody records (COC) and all other applicable documentation used during the project. Sample labels were affixed to all sample containers during sampling activities. Information was recorded on each sample container label at the time of sample collection. The information recorded on the labels were as follows: sample identification number; sample type (discrete or composite); site name and area/location number; analysis to be performed; type of chemical preservative present in container; date and time of sample collection; and sample collector's name and initials. All samples were packed in ice in an approved rigid body container, custody sealed signed and shipped to the appropriate laboratory via insured carrier service.

COC procedures implemented for the project provided documentation of the handling of each sample from the time of collection until completion of laboratory analysis. A COC form serves as a legal record of possession of the sample. A sample is considered to be under custody if one or more of the following criteria are met: the sample is in the sampler's possession; the sample is in the sampler's view after being in possession; the sample was in the sampler's possession and then was placed into a locked area to prevent tampering; and/or the sample is in a designated secure area. Custody was documented throughout the project field sampling activities by a chain-of custody form initiated each day during which samples are collected. Container custody seals placed on either individual samples or on the rigid body container were used to ensure that no sample tampering occurs between the time the samples are placed into the containers and the time the containers are opened for analysis at the laboratory. Container custody seals were signed and dated by the individual responsible for completing the COC form contained within the container.

APPENDIX D
LABORATORY ANALYTICAL
REPORTS



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 06, 2018

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Wabash

OrderNo.: 1806H93

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 14 sample(s) on 6/29/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1806H93

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-0

Project: Wabash

Collection Date: 6/26/2018 10:05:00 AM

Lab ID: 1806H93-001

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	310	30		mg/Kg	20	7/3/2018 1:38:53 PM	39028
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	7600	490		mg/Kg	50	7/2/2018 6:25:32 PM	38983
Motor Oil Range Organics (MRO)	5700	2500		mg/Kg	50	7/2/2018 6:25:32 PM	38983
Surr: DNOP	0	70-130	S	%Rec	50	7/2/2018 6:25:32 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	49	4.8		mg/Kg	1	7/2/2018 11:52:35 PM	38982
Surr: BFB	397	15-316	S	%Rec	1	7/2/2018 11:52:35 PM	38982
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/2/2018 11:52:35 PM	38982
Toluene	0.17	0.048		mg/Kg	1	7/2/2018 11:52:35 PM	38982
Ethylbenzene	1.2	0.048		mg/Kg	1	7/2/2018 11:52:35 PM	38982
Xylenes, Total	3.1	0.096		mg/Kg	1	7/2/2018 11:52:35 PM	38982
Surr: 4-Bromofluorobenzene	157	80-120	S	%Rec	1	7/2/2018 11:52:35 PM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1806H93**

Date Reported: **7/6/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-2.5

Project: Wabash

Collection Date: 6/26/2018 10:15:00 AM

Lab ID: 1806H93-002

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	35	9.9		mg/Kg	1	7/2/2018 6:50:33 PM	38983
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/2/2018 6:50:33 PM	38983
Surr: DNOP	109	70-130		%Rec	1	7/2/2018 6:50:33 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/3/2018 12:15:57 AM	38982
Surr: BFB	108	15-316		%Rec	1	7/3/2018 12:15:57 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1806H93**

Date Reported: **7/6/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-5

Project: Wabash

Collection Date: 6/26/2018 10:25:00 AM

Lab ID: 1806H93-003

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	260	10		mg/Kg	1	7/5/2018 10:50:12 AM	38983
Motor Oil Range Organics (MRO)	100	50		mg/Kg	1	7/5/2018 10:50:12 AM	38983
Surr: DNOP	122	70-130		%Rec	1	7/5/2018 10:50:12 AM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	33	4.9		mg/Kg	1	7/3/2018 12:39:18 AM	38982
Surr: BFB	286	15-316		%Rec	1	7/3/2018 12:39:18 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1806H93

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-7.5

Project: Wabash

Collection Date: 6/26/2018 10:35:00 AM

Lab ID: 1806H93-004

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	3200	100		mg/Kg	10	7/2/2018 7:40:14 PM	38983
Motor Oil Range Organics (MRO)	1000	500		mg/Kg	10	7/2/2018 7:40:14 PM	38983
Surr: DNOP	0	70-130	S	%Rec	10	7/2/2018 7:40:14 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	320	5.0		mg/Kg	1	7/3/2018 1:02:38 AM	38982
Surr: BFB	1560	15-316	S	%Rec	1	7/3/2018 1:02:38 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1806H93**

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-10

Project: Wabash

Collection Date: 6/26/2018 10:45:00 AM

Lab ID: 1806H93-005

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	2700	100		mg/Kg	10	7/2/2018 8:05:15 PM	38983
Motor Oil Range Organics (MRO)	960	500		mg/Kg	10	7/2/2018 8:05:15 PM	38983
Surr: DNOP	0	70-130	S	%Rec	10	7/2/2018 8:05:15 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	120	5.0		mg/Kg	1	7/3/2018 1:25:56 AM	38982
Surr: BFB	845	15-316	S	%Rec	1	7/3/2018 1:25:56 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1806H93**

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-12.5

Project: Wabash

Collection Date: 6/26/2018 10:55:00 AM

Lab ID: 1806H93-006

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	3300	100		mg/Kg	10	7/2/2018 8:30:13 PM	38983
Motor Oil Range Organics (MRO)	980	500		mg/Kg	10	7/2/2018 8:30:13 PM	38983
Surr: DNOP	0	70-130	S	%Rec	10	7/2/2018 8:30:13 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	740	92		mg/Kg	20	7/3/2018 5:09:02 PM	38982
Surr: BFB	292	15-316		%Rec	20	7/3/2018 5:09:02 PM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1806H93

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-15

Project: Wabash

Collection Date: 6/26/2018 11:05:00 AM

Lab ID: 1806H93-007

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	2000	49		mg/Kg	5	7/5/2018 11:14:45 AM	38983
Motor Oil Range Organics (MRO)	580	250		mg/Kg	5	7/5/2018 11:14:45 AM	38983
Surr: DNOP	90.4	70-130		%Rec	5	7/5/2018 11:14:45 AM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	570	46		mg/Kg	10	7/3/2018 5:32:38 PM	38982
Surr: BFB	357	15-316	S	%Rec	10	7/3/2018 5:32:38 PM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1806H93

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-17.5

Project: Wabash

Collection Date: 6/26/2018 11:15:00 AM

Lab ID: 1806H93-008

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	730	10		mg/Kg	1	7/5/2018 11:39:17 AM	38983
Motor Oil Range Organics (MRO)	270	50		mg/Kg	1	7/5/2018 11:39:17 AM	38983
Surr: DNOP	119	70-130		%Rec	1	7/5/2018 11:39:17 AM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	72	4.7		mg/Kg	1	7/3/2018 2:35:42 AM	38982
Surr: BFB	540	15-316	S	%Rec	1	7/3/2018 2:35:42 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1806H93**

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B1-20

Project: Wabash

Collection Date: 6/26/2018 11:25:00 AM

Lab ID: 1806H93-009

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	180	9.9		mg/Kg	1	7/2/2018 9:44:40 PM	38983
Motor Oil Range Organics (MRO)	51	50		mg/Kg	1	7/2/2018 9:44:40 PM	38983
Surr: DNOP	115	70-130		%Rec	1	7/2/2018 9:44:40 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	130	4.7		mg/Kg	1	7/3/2018 2:58:59 AM	38982
Surr: BFB	705	15-316	S	%Rec	1	7/3/2018 2:58:59 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1806H93**

Date Reported: **7/6/2018**

CLIENT: Souder, Miller & Associates

Client Sample ID: B2-0

Project: Wabash

Collection Date: 6/26/2018 11:35:00 AM

Lab ID: 1806H93-010

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	2000	99		mg/Kg	10	7/5/2018 12:03:52 PM	38983
Motor Oil Range Organics (MRO)	3000	490		mg/Kg	10	7/5/2018 12:03:52 PM	38983
Surr: DNOP	0	70-130	S	%Rec	10	7/5/2018 12:03:52 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	19	4.7		mg/Kg	1	7/3/2018 3:22:16 AM	38982
Surr: BFB	228	15-316		%Rec	1	7/3/2018 3:22:16 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1806H93

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B2-2.5

Project: Wabash

Collection Date: 6/26/2018 11:45:00 AM

Lab ID: 1806H93-011

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	41	30		mg/Kg	20	7/3/2018 2:16:06 PM	39028
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	390	9.8		mg/Kg	1	7/5/2018 12:28:26 PM	38983
Motor Oil Range Organics (MRO)	170	49		mg/Kg	1	7/5/2018 12:28:26 PM	38983
Surr: DNOP	122	70-130		%Rec	1	7/5/2018 12:28:26 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	100	4.6		mg/Kg	1	7/3/2018 3:45:34 AM	38982
Surr: BFB	580	15-316	S	%Rec	1	7/3/2018 3:45:34 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1806H93

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B2-5

Project: Wabash

Collection Date: 6/26/2018 11:55:00 AM

Lab ID: 1806H93-012

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	7/3/2018 2:28:31 PM	39028
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/2/2018 10:59:07 PM	38983
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/2/2018 10:59:07 PM	38983
Surr: DNOP	107	70-130		%Rec	1	7/2/2018 10:59:07 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	5.9	4.9		mg/Kg	1	7/3/2018 4:08:47 AM	38982
Surr: BFB	124	15-316		%Rec	1	7/3/2018 4:08:47 AM	38982
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	7/3/2018 4:08:47 AM	38982
Toluene	ND	0.049		mg/Kg	1	7/3/2018 4:08:47 AM	38982
Ethylbenzene	ND	0.049		mg/Kg	1	7/3/2018 4:08:47 AM	38982
Xylenes, Total	ND	0.098		mg/Kg	1	7/3/2018 4:08:47 AM	38982
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	7/3/2018 4:08:47 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Client Sample ID: B2-7.5

Project: Wabash

Collection Date: 6/26/2018 12:05:00 PM

Lab ID: 1806H93-013

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	11	10		mg/Kg	1	7/2/2018 11:23:55 PM	38983
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/2/2018 11:23:55 PM	38983
Surr: DNOP	107	70-130		%Rec	1	7/2/2018 11:23:55 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	5.6	5.0		mg/Kg	1	7/3/2018 4:32:06 AM	38982
Surr: BFB	114	15-316		%Rec	1	7/3/2018 4:32:06 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1806H93

Date Reported: 7/6/2018

CLIENT: Souder, Miller & Associates

Client Sample ID: B2-10

Project: Wabash

Collection Date: 6/26/2018 12:15:00 PM

Lab ID: 1806H93-014

Matrix: SOIL

Received Date: 6/29/2018 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	34	9.9		mg/Kg	1	7/2/2018 11:48:41 PM	38983
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/2/2018 11:48:41 PM	38983
Surr: DNOP	108	70-130		%Rec	1	7/2/2018 11:48:41 PM	38983
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/3/2018 4:55:20 AM	38982
Surr: BFB	118	15-316		%Rec	1	7/3/2018 4:55:20 AM	38982

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806H93

06-Jul-18

Client: Souder, Miller & Associates

Project: Wabash

Sample ID	MB-39028	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	39028	RunNo:	52452					
Prep Date:	7/3/2018	Analysis Date:	7/3/2018	SeqNo:	1720782	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-39028	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	39028	RunNo:	52452					
Prep Date:	7/3/2018	Analysis Date:	7/3/2018	SeqNo:	1720783	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.9	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806H93

06-Jul-18

Client: Souder, Miller & Associates

Project: Wabash

Sample ID	LCS-38983	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	38983	RunNo:	52394					
Prep Date:	6/29/2018	Analysis Date:	7/2/2018	SeqNo:	1718754	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	70	130			
Surr: DNOP	5.0		5.000		100	70	130			

Sample ID	MB-38983	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	38983	RunNo:	52471					
Prep Date:	6/29/2018	Analysis Date:	7/5/2018	SeqNo:	1720546	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		117	70	130			

Sample ID	MB-39016	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	39016	RunNo:	52471					
Prep Date:	7/2/2018	Analysis Date:	7/5/2018	SeqNo:	1720885	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		104	70	130			

Sample ID	LCS-39016	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	39016	RunNo:	52471					
Prep Date:	7/2/2018	Analysis Date:	7/5/2018	SeqNo:	1720928	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.8	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806H93

06-Jul-18

Client: Souder, Miller & Associates

Project: Wabash

Sample ID MB-38982	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 38982		RunNo: 52429							
Prep Date: 6/29/2018	Analysis Date: 7/2/2018		SeqNo: 1718684		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		99.8	15	316			

Sample ID LCS-38982	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 38982		RunNo: 52429							
Prep Date: 6/29/2018	Analysis Date: 7/2/2018		SeqNo: 1718685		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	75.9	131			
Surr: BFB	1000		1000		104	15	316			

Sample ID MB-39008	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 39008		RunNo: 52464							
Prep Date: 7/2/2018	Analysis Date: 7/3/2018		SeqNo: 1720264		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		90.2	15	316			

Sample ID LCS-39008	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 39008		RunNo: 52464							
Prep Date: 7/2/2018	Analysis Date: 7/3/2018		SeqNo: 1720265		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	15	316			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806H93

06-Jul-18

Client: Souder, Miller & Associates

Project: Wabash

Sample ID MB-38982	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 38982		RunNo: 52429							
Prep Date: 6/29/2018	Analysis Date: 7/2/2018		SeqNo: 1718718		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID LCS-38982	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 38982		RunNo: 52429							
Prep Date: 6/29/2018	Analysis Date: 7/2/2018		SeqNo: 1718719		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.2	77.3	128			
Toluene	0.96	0.050	1.000	0	95.6	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	94.9	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	96.9	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID MB-39008	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 39008		RunNo: 52464							
Prep Date: 7/2/2018	Analysis Date: 7/3/2018		SeqNo: 1720312		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID LCS-39008	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 39008		RunNo: 52464							
Prep Date: 7/2/2018	Analysis Date: 7/3/2018		SeqNo: 1720313		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975 FAX: 505-345-4107
 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1806H93

RcptNo: 1

Received By: Erin Melendrez 6/29/2018 8:45:00 AM

EM

Completed By: Erin Melendrez 6/29/2018 11:25:47 AM

EM

Reviewed By: *Jy 6.29.18 LB: [Signature]*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

LB

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Not Present			

Chain-of-Custody Record

Client: SMA-Custody

Mailing Address:

Turn-Around Time:

Standard Rush 5 day

Project Name:

Project #:

Wabashi

Phone #:

email or Fax#:

Project Manager:

Austin Weyant

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation

NELAP Other

Sampler:

UM

On Ice: Yes No

EDD (Type)

Sample Temperature: 23.100CF=3

Date Time Matrix Sample Request ID

<u>6/21/18</u>	<u>10:03</u>	<u>Soil</u>	<u>B1-0</u>	<u>402</u>	<u>1806H93</u>	
	<u>10:16</u>		<u>B1-2.5</u>		<u>-001</u>	
	<u>10:25</u>		<u>B1-5</u>		<u>-002</u>	
	<u>10:35</u>		<u>B1-7.5</u>		<u>-003</u>	
	<u>10:45</u>		<u>B1-10</u>		<u>-004</u>	
	<u>10:55</u>		<u>B1-12.5</u>		<u>-005</u>	
	<u>11:05</u>		<u>B1-15</u>		<u>-006</u>	
	<u>11:15</u>		<u>B1-17.5</u>		<u>-007</u>	
	<u>11:25</u>		<u>B1-20</u>		<u>-008</u>	
					<u>-009</u>	

Container Type and #

Preservative Type

HEAL No.

BTEX + MTBE + TMBs (8021)

BTEX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAHs (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCBs

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

Analysis Request

Remarks:

Received by: [Signature] Date: 6/28/18 1300
 Received by: COURIER Date: 08/15
WABASH ENV Date: 10/21/18

Navaman oil
lot 2

Date: Relinquished by:

Date: Relinquished by:

6/21/18 [Signature]

Chain-of-Custody Record

Client: SMA-Carl's bad

Mailing Address: _____

Phone #: _____

email or Fax#: _____

QA/QC Package: Standard Level 4 (Full Validation)

Accreditation NELAP Other _____

EDD (Type) _____

Turn-Around Time: Standard Rush Sday

Project Name: _____

Project #: Wubush

Project Manager: Austin Wuyant

Sampler: CCM

On Ice: Yes No

Sample Temperature: 2.3-1.0(CF)=1.3

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
6/28/18	11:35	Soil	B2-0	467		8061H73
	11:45		B2-2.5			-01310
	11:55		B2-5			-01411
	12:05		B2-7.5			-01512
	12:15		B2-10			-01613
						-01714

Received by:	Date	Time
<u>[Signature]</u>	6/28/18	1300
<u>[Signature]</u>	6/29/18	0845

Relinquished by: [Signature] Date: 6/28/18 Time: 1300

Relinquished by: [Signature] Date: 6/29/18 Time: 0845

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>							

Remarks: Wubush oil
2 of 2

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 31, 2019

Heather Patterson
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL:
FAX

RE: Wabash

OrderNo.: 1905C44

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905C44

Date Reported: 5/31/2019

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 3

Project: Wabash

Collection Date: 5/22/2019 3:30:00 PM

Lab ID: 1905C44-001

Matrix: SOIL

Received Date: 5/24/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	690	59		mg/Kg	20	5/30/2019 2:38:02 PM	45269
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/29/2019 12:20:31 PM	45217
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/29/2019 12:20:31 PM	45217
Surr: DNOP	87.9	70-130		%Rec	1	5/29/2019 12:20:31 PM	45217
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/29/2019 1:36:29 AM	45180
Surr: BFB	90.4	73.8-119		%Rec	1	5/29/2019 1:36:29 AM	45180
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/29/2019 1:36:29 AM	45180
Toluene	ND	0.049		mg/Kg	1	5/29/2019 1:36:29 AM	45180
Ethylbenzene	ND	0.049		mg/Kg	1	5/29/2019 1:36:29 AM	45180
Xylenes, Total	ND	0.097		mg/Kg	1	5/29/2019 1:36:29 AM	45180
Surr: 4-Bromofluorobenzene	98.0	80-120		%Rec	1	5/29/2019 1:36:29 AM	45180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905C44

Date Reported: 5/31/2019

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 4

Project: Wabash

Collection Date: 5/22/2019 2:45:00 PM

Lab ID: 1905C44-002

Matrix: SOIL

Received Date: 5/24/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	200	60		mg/Kg	20	5/30/2019 2:50:26 PM	45269
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/29/2019 12:42:26 PM	45217
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/29/2019 12:42:26 PM	45217
Surr: DNOP	101	70-130		%Rec	1	5/29/2019 12:42:26 PM	45217
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/29/2019 1:59:13 AM	45180
Surr: BFB	86.3	73.8-119		%Rec	1	5/29/2019 1:59:13 AM	45180
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	5/29/2019 1:59:13 AM	45180
Toluene	ND	0.049		mg/Kg	1	5/29/2019 1:59:13 AM	45180
Ethylbenzene	ND	0.049		mg/Kg	1	5/29/2019 1:59:13 AM	45180
Xylenes, Total	ND	0.099		mg/Kg	1	5/29/2019 1:59:13 AM	45180
Surr: 4-Bromofluorobenzene	91.6	80-120		%Rec	1	5/29/2019 1:59:13 AM	45180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905C44

Date Reported: 5/31/2019

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 5

Project: Wabash

Collection Date: 5/22/2019 2:00:00 PM

Lab ID: 1905C44-003

Matrix: SOIL

Received Date: 5/24/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	5/30/2019 3:02:51 PM	45269
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/29/2019 1:04:24 PM	45217
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	5/29/2019 1:04:24 PM	45217
Surr: DNOP	111	70-130		%Rec	1	5/29/2019 1:04:24 PM	45217
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/29/2019 2:21:51 AM	45180
Surr: BFB	87.2	73.8-119		%Rec	1	5/29/2019 2:21:51 AM	45180
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	5/29/2019 2:21:51 AM	45180
Toluene	ND	0.050		mg/Kg	1	5/29/2019 2:21:51 AM	45180
Ethylbenzene	ND	0.050		mg/Kg	1	5/29/2019 2:21:51 AM	45180
Xylenes, Total	ND	0.099		mg/Kg	1	5/29/2019 2:21:51 AM	45180
Surr: 4-Bromofluorobenzene	91.1	80-120		%Rec	1	5/29/2019 2:21:51 AM	45180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905C44

Date Reported: 5/31/2019

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 6

Project: Wabash

Collection Date: 5/22/2019 2:15:00 PM

Lab ID: 1905C44-004

Matrix: SOIL

Received Date: 5/24/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	71	60		mg/Kg	20	5/30/2019 3:40:04 PM	45269
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/29/2019 1:26:21 PM	45217
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/29/2019 1:26:21 PM	45217
Surr: DNOP	84.5	70-130		%Rec	1	5/29/2019 1:26:21 PM	45217
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/29/2019 2:44:24 AM	45180
Surr: BFB	87.4	73.8-119		%Rec	1	5/29/2019 2:44:24 AM	45180
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/29/2019 2:44:24 AM	45180
Toluene	ND	0.049		mg/Kg	1	5/29/2019 2:44:24 AM	45180
Ethylbenzene	ND	0.049		mg/Kg	1	5/29/2019 2:44:24 AM	45180
Xylenes, Total	ND	0.097		mg/Kg	1	5/29/2019 2:44:24 AM	45180
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	5/29/2019 2:44:24 AM	45180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905C44

Date Reported: 5/31/2019

CLIENT: Souder, Miller & Associates

Client Sample ID: SW 7

Project: Wabash

Collection Date: 5/22/2019 2:30:00 PM

Lab ID: 1905C44-005

Matrix: SOIL

Received Date: 5/24/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	570	61		mg/Kg	20	5/30/2019 3:52:28 PM	45269
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/30/2019 6:39:08 PM	45217
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/30/2019 6:39:08 PM	45217
Surr: DNOP	77.7	70-130		%Rec	1	5/30/2019 6:39:08 PM	45217
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/29/2019 3:06:59 AM	45180
Surr: BFB	89.4	73.8-119		%Rec	1	5/29/2019 3:06:59 AM	45180
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	5/29/2019 3:06:59 AM	45180
Toluene	ND	0.049		mg/Kg	1	5/29/2019 3:06:59 AM	45180
Ethylbenzene	ND	0.049		mg/Kg	1	5/29/2019 3:06:59 AM	45180
Xylenes, Total	ND	0.099		mg/Kg	1	5/29/2019 3:06:59 AM	45180
Surr: 4-Bromofluorobenzene	96.4	80-120		%Rec	1	5/29/2019 3:06:59 AM	45180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905C44

Date Reported: 5/31/2019

CLIENT: Souder, Miller & Associates

Client Sample ID: BH 2-5'

Project: Wabash

Collection Date: 5/22/2019 3:00:00 PM

Lab ID: 1905C44-006

Matrix: SOIL

Received Date: 5/24/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	5/30/2019 4:04:53 PM	45269
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/29/2019 2:10:24 PM	45217
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	5/29/2019 2:10:24 PM	45217
Surr: DNOP	78.5	70-130		%Rec	1	5/29/2019 2:10:24 PM	45217
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/29/2019 3:29:29 AM	45180
Surr: BFB	91.5	73.8-119		%Rec	1	5/29/2019 3:29:29 AM	45180
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/29/2019 3:29:29 AM	45180
Toluene	ND	0.049		mg/Kg	1	5/29/2019 3:29:29 AM	45180
Ethylbenzene	ND	0.049		mg/Kg	1	5/29/2019 3:29:29 AM	45180
Xylenes, Total	ND	0.098		mg/Kg	1	5/29/2019 3:29:29 AM	45180
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	5/29/2019 3:29:29 AM	45180

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905C44

31-May-19

Client: Souder, Miller & Associates

Project: Wabash

Sample ID: MB-45269	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 45269	RunNo: 60279								
Prep Date: 5/30/2019	Analysis Date: 5/30/2019	SeqNo: 2038208	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-45269	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 45269	RunNo: 60279								
Prep Date: 5/30/2019	Analysis Date: 5/30/2019	SeqNo: 2038209	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.1	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905C44

31-May-19

Client: Souder, Miller & Associates

Project: Wabash

Sample ID: MB-45217	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 45217	RunNo: 60217								
Prep Date: 5/28/2019	Analysis Date: 5/29/2019	SeqNo: 2034524	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		108	70	130			

Sample ID: LCS-45217	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 45217	RunNo: 60217								
Prep Date: 5/28/2019	Analysis Date: 5/29/2019	SeqNo: 2034526	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	48	10	50.00	0	96.8	63.9	124			
Surr: DNOP	4.3		5.000		85.6	70	130			

Sample ID: 1905C44-006AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH 2-5'	Batch ID: 45217	RunNo: 60217								
Prep Date: 5/28/2019	Analysis Date: 5/29/2019	SeqNo: 2035497	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	50	10	50.30	0	98.9	53.5	126			
Surr: DNOP	2.7		5.030		53.8	70	130			S

Sample ID: 1905C44-006AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: BH 2-5'	Batch ID: 45217	RunNo: 60217								
Prep Date: 5/28/2019	Analysis Date: 5/29/2019	SeqNo: 2035498	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	59	9.5	47.66	0	125	53.5	126	17.7	21.7	
Surr: DNOP	3.3		4.766		68.3	70	130	0	0	S

Sample ID: LCS-45265	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 45265	RunNo: 60253								
Prep Date: 5/30/2019	Analysis Date: 5/30/2019	SeqNo: 2036201	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: DNOP	4.5		5.000		90.7	70	130			
------------	-----	--	-------	--	------	----	-----	--	--	--

Sample ID: MB-45265	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 45265	RunNo: 60253								
Prep Date: 5/30/2019	Analysis Date: 5/30/2019	SeqNo: 2036212	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905C44

31-May-19

Client: Souder, Miller & Associates

Project: Wabash

Sample ID: MB-45265	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 45265	RunNo: 60253								
Prep Date: 5/30/2019	Analysis Date: 5/30/2019	SeqNo: 2036212 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		97.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905C44

31-May-19

Client: Souder, Miller & Associates

Project: Wabash

Sample ID: MB-45180	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 45180		RunNo: 60215							
Prep Date: 5/24/2019	Analysis Date: 5/28/2019		SeqNo: 2034104		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.0	73.8	119			

Sample ID: LCS-45180	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 45180		RunNo: 60215							
Prep Date: 5/24/2019	Analysis Date: 5/28/2019		SeqNo: 2034105		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.3	80.1	123			
Surr: BFB	990		1000		99.2	73.8	119			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905C44

31-May-19

Client: Souder, Miller & Associates

Project: Wabash

Sample ID: MB-45180	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 45180	RunNo: 60215								
Prep Date: 5/24/2019	Analysis Date: 5/28/2019	SeqNo: 2034142	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	80	120			

Sample ID: LCS-45180	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 45180	RunNo: 60215								
Prep Date: 5/24/2019	Analysis Date: 5/28/2019	SeqNo: 2034143	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	106	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **SMA-CARLSBAD**

Work Order Number: **1905C44**

RcptNo: 1

Received By: **Yazmine Garduno** **5/24/2019 10:00:00 AM**

Yazmine Garduno

Completed By: **Desiree Dominguez** **5/24/2019 11:04:27 AM**

DD

Reviewed By: *LB* **5/24/19**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 7
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____
7mm 5-24-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.9	Good	Not Present			

Chain-of-Custody Record

Client: SMA Carlsbad

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation: AZ Compliance

NELAC Other

EDD (Type)

Turn-Around Time:

Standard Rush 5 day

Project Name:

Wabash

Project #:

Project Manager:

Heather Patterson

Sampler: MRS

On Ice: Yes No

of Coolers:

Cooler Temp (including CP): 5.4C + 0.1C = 5.5C

Container Type and #

Preservative Type

HEAL No. 1905044

-001

-002

-003

-004

-005

-006

Matrix

Soil

SW3

SW4

SW5

SW6

SW7

BHZ-5-1

Date

5/22 3:30

2:45

2:00

2:15

2:30

3:00

Date: 5/23 1400

Relinquished by: *MRS*

Received by: *[Signature]*

Date: 5/23/19 1400

Remarks: Marathon

Date: 5/23/19 1910

Relinquished by: *[Signature]*

Received by: *[Signature]*

Date: 5/23/19 1000

Via: *air carrier*

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl₂, F₂, Br₂, NO₃, NO₂, PO₄, SO₄

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

BTX / MTBE / TMB's (8021)

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 13, 2019

Heather Patterson
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-8801
FAX

RE: Wabash

OrderNo.: 1906466

Dear Heather Patterson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/8/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906466

Date Reported: 6/13/2019

CLIENT: Souder, Miller & Associates

Client Sample ID: SW3

Project: Wabash

Collection Date: 6/6/2019 9:00:00 AM

Lab ID: 1906466-001

Matrix: SOIL

Received Date: 6/8/2019 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	200	60		mg/Kg	20	6/12/2019 4:47:36 PM	45535

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906466

13-Jun-19

Client: Souder, Miller & Associates

Project: Wabash

Sample ID: MB-45535	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 45535	RunNo: 60593								
Prep Date: 6/12/2019	Analysis Date: 6/12/2019	SeqNo: 2050889	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-45535	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 45535	RunNo: 60593								
Prep Date: 6/12/2019	Analysis Date: 6/12/2019	SeqNo: 2050890	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Sample Log-In Check List

Client Name: **SMA-CARLSBAD**

Work Order Number: **1906466**

RcptNo: 1

Received By: **Isaiah Ortiz**

6/8/2019 10:00:00 AM

I-Ortiz

Completed By: **Leah Baca**

6/9/2019 2:07:33 PM

Leah Baca

Reviewed By: *JMM 6-10-19*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)

Adjusted? _____

Checked by: *DAD 6/10/19*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.4	Good	Yes			

**APPENDIX E
EXCAVATION PHOTO**

